Professor and Student Perspectives on Collaborative Writing at the Graduate Level

by

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Abstract

The purpose of this study was to determine professor and student knowledge of, attitudes towards, and experiences with graduate level collaborative writing in Canadian universities. Data were gathered from professors and students in Engineering, Business, Education, Biology, English, and History. A mixed methods approach using two surveys and eighteen interviews was employed to explore four research questions. The surveys were analyzed deductively. Interviews were analyzed inductively and deductively. Results indicated that collaborative writing is practiced at the graduate level in a variety of ways. Professors and students described collaborative writing as mentorship, in the context of coursework, and as coauthorship for publication. In addition, a significant relationship was found between graduate students writing collaboratively and discipline. The relationship between professors assigning collaborative writing and discipline was also significant. Disciplinary differences were supported by and explored through interview data. Views in the academy seem to be shifting. Although solitary writing is the norm and highly valued in the humanities, participants in this study indicated an openness and desire to include collaborate writing in their graduate level experiences. In fields where collaborative writing is the norm, participants noted areas to address in order to increase its effectiveness. This study has implications in the areas of pedagogical change, technology, and the mandate of higher education.

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Chapter 1: Introduction

Writing is overwhelmingly viewed as being a solitary activity, especially in academic settings. Traditionally, university institutions are structured hierarchically in which academic success is assessed and achieved through individually completed tasks (Ashton-Jones & Thomas, 1990; Ede & Lunsford, 2000; Gere, 1987; Griffin & Beatty, 2010; Herard, 2005; Pasternak, Longwell-Grice, Shea, & Hanson, 2009; Phillips, Sweet, & Blythe, 2009; Tynan & Garbett, 2007). In North America, recent growing emphasis on plagiarism and ownership of text or research ideas reflects a broader societal value placed on individual work (Lyon, 2009). At the same time, global reality has created both the tools and a greater need for effective communication. As issues of diversity and economic viability or sustainability become more salient, the value of true collaboration becomes more apparent (Lobera, 2008; Taylor, 2008). Collaboration in writing presents unique challenges, however, that may prevent professors from assigning collaborative writing tasks to students. In addition, due to the traditional emphasis on individual effort, collaborative writing may not even be in the range of options that a professor considers or has available.

Preparing graduate students for participation in academic research and teaching settings is one of the goals of graduate programs. Although individual work is more typically assigned, collaborative writing has a solid history in academia. Building on seminal work by Bruffee (1984), Gere (1987), LeFevre (1987), and Ede and Lunsford (1990) (also identified by Durst, 2006) in the field of composition research, collaborative writing researchers and practitioners have established a body of literature forming a

theoretical foundation and from which best practices can be inferred. Informed by theorists from a number of disciplines, the prevalent theory underlying collaborative writing is the social construction of knowledge.

Vygotsky's (1978) notion that learning happens in particular contexts through interaction with others and mediated by tools provides a framework for explaining and investigating what happens in collaborative writing. Moreover, his theories on the zone of proximal development (Hedegaard, 1996; Wells, 1999) in which a more expert other helps a novice to accomplish tasks she or he could not complete alone are seen enacted in the scaffolding that has been found to happen in collaborative writing (Al-Jamhoor, 2005; Benton, 1999; Nixon, 2007). Likewise, Bakhtin's (1981,1984/1994) sophisticated notions of multivoiced, historically and culturally imbued language and dialogism also serve to understand the building of knowledge as individuals write together. Bakhtin's constructs allow for analysis of the situational constraints and opportunities of the interaction of collaborative writers. As Gere (1987) points out, however, the social nature of writing collaboratively does not exclude the possibility of individual writing, either within the collaborative writing project or on a solo project.

Common in the theory on collaborative writing is the essential idea of community. Whether called communities of practice (Wenger, 1998), discourse communities (Gee, 2000; Palmeri, 2004; Taggart, 2007), or collaborative groups (Gere, 1987; Pasternak et al., 2009), writers working together encounter conflict that will require language to negotiate paths towards resolution or new challenges. As with any community, power dynamics influence individual contributions, and knowledge of social norms (Gee, 1989)

or literacy practices (Street, 2003) within that group make it easier for members to choose how to interact.

The idea of community in a classroom has been criticized as naïve (Forman, 1991; Foster, 1995). Community implies mutuality and collectivity, values that align with North American democratic ideals; therefore, associated pedagogies seem naturally to fit the educational enterprise in democratic societies. However, Foster asserts that theorists such as Clark, Gere, and Bruffee fail to tease out the inherent difficulties in forming communities in the context of the existing power structures of the broader community. Issues of inequities due to class, race, gender, or other reasons are not explored but may effect inclusion and exclusion or function within a community (Forman, 1991; Foster, 1995).

Foster (1995) wonders whether these communities, even should they develop collaboratively, become hegemonic, imposing a seemingly benign status quo. In these instances, diversity and difference of opinion may be lost in acculturation to community norms and discourse. Foster highlights the work of Gilligan, Belenky, and other feminist scholars as problematizing the unquestioned notions of community as good and addressing the possibility for developing community by retaining rather than obliterating plurality. The views of Belenky (Ashton-Jones & Thomas, 1990) do offer collaboration and cooperation as opportunities to explore difference, at least in terms of gender and competition. A view to developing community by honoring plurality is more amenable to critical theory which advocates for the inclusion of voices not typically heard in academic discourse.

Other scholars use Bakhtin's idea of utterance and Burke's theory of dialectic to encourage the view that conflict engenders exploration of ideas and novel solutions to problems (Forman, 1991). Conflict needs to be balanced with cooperation. Differentiating between conflict over content and personality can be helpful (Benton, 1999). Atwood (1992) notes that individuals writing together can confront "the other" (p. 22) overtly, and use the collaborative process to break down assumed dichotomies and stereotypes. Recognizing the tensions that may arise from issues of power, leadership, negotiation, and authority in diverse groups is critical (Forman, 1991). For faculty writing with students, power and privilege must be acknowledged and responsibly used (Greenwood, Brydon-Miller, & Shafer, 2006). For example, writing with faculty offers students opportunities to present and publish that they might not easily access otherwise. As well, the relationships that develop between faculty and students working together on writing projects offer a dimension not always found in academic programs. However, opportunistic and unethical faculty members may take advantage of student ideas, work, and trust to further their own careers.

Benefits of collaborative writing are many. In formal education settings, collaborative writing is viewed as a way of preparing students for work and engagement in society. The underlying assumption is that in order to accomplish a task together, students will learn to get along, thereby improving their social, verbal, and written communication skills (Alves & Pereira, 2005; Jones, 2003). Moreover, collaborative writers can experience gains regarding process, content knowledge, and product (Butler, 1995; Dunn, 1996; Fung, 2010; Graham & Perin, 2007). Teachers see collaborative writing as a way of bringing quieter students into conversations with their peers

(Topping, Nixon, Sutherland, & Yarrow, 2000), as providing scaffolded learning (Jones, 2003), or as contributing to a cooperative classroom community (Fung, 2010). English language learners and students from varied cultural backgrounds experience gains from well-planned collaborative writing (Al-Jamhoor, 2005; Chiang, 2002: Nixon, 2007; Porras-Hernandez, 2001; Wigglesworth, & Storch, 2009). In addition, a major benefit of collaborative writing is writers' increased knowledge of themselves and others regarding the craft of writing, knowledge construction, and culture.

Academics who choose to write together view collaborative writing as complementing individual strengths, broadening their knowledge bases, providing support in often competitive and isolating environments, and forging long-term friendships (Ashton-Jones & Thomas, 1990; Emdin & Lehner, 2007; Herard, 2005; Pasternak, et al., 2009; Ritchie, 2007; Tynan & Garbett, 2007). In the workplace, serial collaborative writing undertaken by dividing tasks and moving the shared document from one writer to the next makes it possible for bigger projects to be completed, involving appropriate expertise at different junctures (Beaufort, 2006). Ede and Lunsford (1990) in their study spanning seven professions identified eight elements of collaborative writing that related to job satisfaction. These included shared and clearly articulated goals; mutual open and respectful regard among members; control over text; opportunity to respond to modified text; credit received; mutually created process for resolving conflict; organizationally imposed restraints (such as time deadlines); and status of the project in the organization.

Despite potential benefits, however, students may not always appreciate assigned collaborative writing and may see it as unrewarding group work in which labor is not

shared and work poorly credited (Sutton, 2002). In the workforce, anonymous authors

may not recognize their work in the final product or may have authored most of a piece

without credit (Beaufort, 2006). Depending on instructors' underlying reasons for

assigning collaborative writing in their classrooms or writers' reasons for choosing to

engage in collaborative writing, the goals of improving verbal and written

communication skills for participation in society may or may not be reached.

Undoubtedly collaborative writing necessitates negotiation and knowledge that is

constructed socially; however, individuals contribute differently to collaborative writing

experiences, and when conflict is not resolved, acrimony may result.

> Writing collaboratively and autobiographically with others is risky because of the
>
> personal vulnerability it engenders, and because miscommunication in this context
>
> might impair not only the research outcome but also one's sense of being heard,
>
> respected, and cared about. Factors like a commitment to respectful communication,
>
> a sense of trust, and a solid preexisting friendship or working relationship can help
>
> smooth the interpersonal bumps (Lapadat et al., 2010, p. 80)

Yet conflict or dissent when focused on ideas can stimulate learning and written content

that indicates complex thinking (Chiang, 2002; Durst, 2006; Ede & Lunsford, 1990;

Howard, 2000).

Recent interest in collaborative writing is evident, for example in the number of

articles published by faculty writing collaboratively (Griffin & Beatty, 2010; Lingard,

Schryer, Spafford, & Campbell, 2007; Pasternak et al., 2009; Ritchie & Rigano, 2007;

Tynan & Garbett, 2007). In addition, interest in the topic is indicated by professors

creating opportunities for collaborative work. For instance, the use of wikis that

structurally imply the necessity for collaboration in writing is proliferating (Coutinho & Bottentuit Junior, 2009; Coyle, 2007; Kessler, 2009; Liu, 2010; McPherson, 2006; Wheeler & Wheeler, 2009). Little is known about the degree of collaborative writing in those instances and in what way the collaborative writing experiences shape student learning.

Engaging in collaborative writing appears to offer a viable alternative to solitary scholarship, research, and writing. In the areas of Business, Engineering, and Education, examples of collaborative writing in the classroom are apparent. Less information is available on whether collaborative writing is used in other areas such as the humanities and physical sciences. For graduate students, writing collaboratively has the potential to increase opportunities for knowledge construction, social and emotional support, and disciplinary writing skill development. How this potential is being realized is one element of this study in which I examine professor and student conceptualizations of collaborative writing and their experiences thereof in various departments in Canadian universities.

My interest in collaborative writing has grown out of experiences of writing collaboratively in academic settings and my interest in human relationships. At a social level, I am acutely conscious of the societal norms of individualism, institutional traditions entrenched in hierarchy, and overarching pervasive beliefs and behaviors regarding difference. Acknowledging the limitations of overemphasis on individualism, understanding resistance to deeply entrenched academic norms and the associated costs, and recognizing the need for action to follow critical reflection, a study in collaborative writing seems an ideal means through which to explore avenues for a functionally democratic society. By conducting this study, I explored the possibility of illuminating

creative approaches to or disadvantages of engaging in collaborative writing. Perhaps participants would provide insight to barriers to implementing collaborative writing or harmful practices while writing collaboratively.

My experiences of writing collaboratively began in my master's program and were carried into my subsequent work projects. As a writing tutor and writing tutor program coordinator, I became acutely aware of the intricacies of writing as an activity. Fascinated by the communicative and relational nuances involved in discussing writing or writing with others, I, along with my peers in a doctoral cohort, engaged in a number of collaborative writing projects that also involved self-study and reflection (Ens, Boyd, Matczuk & Nickerson, 2011). Thus, my experiences of the challenges and benefits of collaborative writing provided lively tension to and resonance with the literature in the field. Formally examining the perceptions and experiences of collaborative writing at the graduate level built on this interest. This study in part answered, and in part contributed to my curiosity regarding pedagogical change at individual and institutional levels.

Purpose of the Study

The purpose of this study was to explore professor and student perceptions of collaborative writing at the graduate level. More specifically, the intent was to determine the extent to which graduate program participants were aware of collaborative writing as an option and what constituted their knowledge of collaborative writing.

Research Questions

Using a mixed methods approach, data on experiences of and attitudes towards collaborative writing were gathered guided by the following research questions:

1. What are professor and graduate student experiences of collaborative writing?

2. What are professor experiences of assigning collaborative writing to graduate

students?

3. What are professor and graduate student attitudes towards collaborative writing?

4. What are perceived benefits and challenges of collaborative writing?

These questions were investigated in a mixed-methods study using a QUAN → qual

design (Hanson, Creswell, Clark, Petska, & Creswell, 2005) in which quantitative

approaches are used to gather and interpret data which are further explained through

qualitative research. In the first phase, surveys were offered to graduate students and

faculty working with graduate students in six fields of study. In the second phase, follow-

up interviews explained the descriptive data gathered through the surveys. The purpose of

the interviews was to attempt to explain themes or patterns across respondents rather than

exploring specific respondent responses.

Significance of the Study

This study holds significance for several reasons. Recent interest in graduate

students writing collaboratively is evident in studies published after 2000. Researchers in

the disciplines of Engineering, Education, and Business have described the professional

and academic use of collaborative writing through the literature (Engineering: Kreth,

2000; Nelson, 2003; Business: Bosley & Morgan, 1994; Galegher & Kraut, 1994;

Mabrito, 1999; Rice, 2007; Schneider & Andre, 2005; Sigmar, Hynes, & Cooper, 2010;

Education: Coutinho & Bottentuit Junior, 2007; Ens et al., 2011; Lapadat, 2009;

Sweetland, Huber & Whelan, 2004; Wang, 2010). In the absence of published research

literature on collaborative writing practices in Biology, English and History, with few

exceptions, (Biology: Thompson et al., 2009; English: Sullivan, 1991) these disciplines

were included to discover whether collaborative writing is practiced in these areas and how it is understood. This investigation adds to a growing body of research, extending it to include instances of collaborative writing in English, Biology, and History and allowing for a more cross-disciplinary understanding of perceptions of collaborative writing in Canadian graduate programs.

In addition, greater understanding of professor and student attitudes towards and experiences with collaborative writing at the graduate level provides insight to professors on how to change their practice. This knowledge can also inform graduate students who may be unaware of or resistant to collaborative writing tasks. Finally, collaborative writing offers one way to build knowledge, partnerships, and respect in a world where global interconnectedness has increasing power and consequences. Given higher education's role to contribute to human and social development, increasing potential for dialogue that examines "ideologies, philosophies, and epistemologies of knowledge and learning" (Taylor, 2008, p. 90) is important. Genuine dialogue can be fostered if power and hierarchy are acknowledged and challenged as needed. Encouraging students to write collaboratively provides opportunity for learning through dialogue in ways that can be extended beyond graduate school, in local and global circumstances.

Scope of the Study

In keeping with the theoretical framework of this study, the context determines the applicability of the findings. Thus, findings from this study cannot be generalized in the way that results of a quantifiable study may to similar populations. However, due to the level of detailed description offered by subjects and as transparent as possible reporting of analysis, findings can be used to reflect on writing experiences of graduate students in

academic settings different from those described in this paper, considering which factors

may generalize and which may be unique to the new setting. This transferability is in

keeping with the concept of applicability, as it is understood in qualitative research

methods (Draper, 2004). Thus findings should be relevant to graduate program

participants in North America. Findings from the qualitative analysis of interviews

provide rich description which can likewise inform those working in their particular

graduate program settings.

Terms Important to this Study

The rich and diverse theorizing and practical uses for collaborative writing can be

seen in its definition. Although definitions abound, no one definition of collaborative

writing has been agreed upon throughout the literature (Forman, 2004; Hill, 2003; Lowry,

Curtis, & Lowry, 2004). Ede and Lunsford (1990) offer a broad definition of

collaborative writing as "any writing done in collaboration with one or more persons" (p.

15) and then identify different modes of collaborative writing. In their study of

collaborative writing of 200 members each of seven professions, Ede and Lunsford

distinguish between hierarchical and dialogic collaborative writing. They note that all

writing, by its nature socially constructed, is collaborative. Moreover, collaborative

writing projects may include hierarchical or dialogical approaches at different points.

Simply put, hierarchical collaborative writing structures writing with clearly delineated

tasks and responsibilities, often overseen by a leader. Dialogic collaborative writing

involves the writers in all aspects of the writing.

Ritchie and Rigano (2007) define the hierarchic collaborative writing of academics

they interviewed as cooperative and lead writing. In cooperative writing, the lead writer

merges the different sections and voices and is usually the first listed author. Lead writing, by contrast, has one contributor writing the first draft; this role is rotated among collaborative writers for coauthored papers. Ritchie and Rigano explored composing side by side in collaborative writing that followed a more dialogic process. Their process more closely resembles the interactive collaborative writing that Couture and Rymer (1991 in Plowman, 1993, p. 151) distinguish from group writing. In group writing any part of or whole piece is written by the team whereas interactive writing necessitates writers to interact with each other during the writing process. The interaction is intrinsic to the collaborative writing in the latter.

Studying the work of early career collaborative researchers, Tynan and Garbett (2007) define collaborative writing according to vertical or horizontal models. The vertical model offers a hierarchy through which experts can guide novices. In contrast, the horizontal model necessitates democratic input from writers in partnership.

Ens et al. (2011) acknowledged that in creating their working definition of collaborative writing, issues of level of involvement as well as ownership and authorship were raised. Their definition emphasized joint commitment, process, negotiation, and emotional support regarding content, structure, style, and process. It also hinted at the dilemma with authorship and ownership of text. Collaborative writing was stressed as activity rather than as the product resulting from a shared process. Their approach fits into the comprehensive definition offered by Lowry et al. (2004).

Ownership and creative and intellectual property are societal and personal constructs. For some, these concepts relate to responsibility, economic reward, and career advancement (Andrew & Caster, 2008; Greenwood et al., 2006; Nahrwold, 2001). Within

the academic institution, the notion of intellectual property is starkly contrasted to

postmodern theories of heteroglossia, dialogism, and multivoicedness, creating

apparently irreconcilable contradictions (Nahrwold, 2001). At the departmental level,

decisions may be made more according to individual case characteristics as would fit a

postmodern view; however, at the institutional level, "modernist, bureaucratic,

meritocratic hiring, promotion and tenure procedures" (p. 224) persist.

At the individual level, ownership can be experienced as a joint activity rather than

a commodity. For these writers, difficulty in determining which words belong to whom

indicates a highly integrated process of collaborative writing (Andrew & Caster, 2008;

Ashton-Jones & Thomas, 1990; Ens, 2010; Taggart, 2007). For other collaborative

writers, putting the name to the writing indicates a given author's willingness to take

responsibility for the ideas presented in the product. For participants in one

collaboratively written project by Greenwood and community members (Greenwood et

al., 2006), adding their names was an intimidating prospect because they might be held

accountable for ideas expressed. For cowriters of a doctoral dissertation, adding their

names had ethics and copyright implications.

The difficulty of identifying ownership becomes amplified by technology. As

Brown (2009) notes, "The Web exposes the difficulties of intellectual property by making

it difficult to determine where 'my' text ends and where 'your' text begins" (p. 239).

Both Bruns (2009) and Brown (2009) talk about the ever-changing nature of knowledge

and identity on the web. For Bruns, the fluidity of identity relates to the various and

possibly intersecting online communities or projects a single person may be involved

with and the different ways s/he shapes and is shaped by them. Brown finds the notion of

ethos apt, the *becoming* which identifies individuals rather than fixed characteristics. "If we are willing to recognize that identities are ever-shifting and thus that texts are never easily linked to 'the author,' then any direct link between text and origin becomes impossible" (p. W241). A text rarely represents a writer's beliefs or thoughts in an enduring way. Furthermore, Brown reminds the reader of Derrida's observance that there exists no original utterance. Brown explains:

> However, citationality complicates any discussion of plagiarism, intellectual property, or textual origins, and the Web brings such complications to light. In a digital space of citational and textual overdrive where texts are sampled, mashed up, cobbled together, and circulated at staggering speeds, we are reminded that linking texts with origins is extremely difficult. (p. W242)

An interesting tension between concerns about plagiarism at the institutional level and increasing blurring of ownership regarding creative works posted online exists. A related and increasingly pertinent tension lies between the traditional ideas about authorship and credit, deeply ingrained in academia, and a more bottom-up approach to knowledge building found in online collaborative writing (Ward, 2009). Teachers and instructors are in the challenging position of upholding traditional views through institutional mandates and possibly personal conviction while students as a whole appear more comfortable with boundary crossing and borrowing.

Examining the definitions together reveals a number of common factors that can be seen on a continuum of collaborative writing experiences. The hierarchical vs. dialogical, vertical vs. horizontal, and group vs. interactive can been seen as moving from autocratic to democratic, power over another to shared power, and low interaction to high

interaction among group members. Writers contribute to a product but with various degrees of involvement with the whole process or product. For this study, collaborative writing is simply defined as a process and product involving more than one writer: That is, it is the activity of writing together and also the product of that coordinated action.

Alphabetical Definition of Terms

Attitude: An individual or group disposition towards a person, concept, or thing. Synonyms would be perspective, orientation, or stance. Regardless, attitude as considered in this study represents the emotional and cognitive position an individual takes on the object (person or thing) in question as understood through that individual's oral or written communication.

Collaborative writing: A process and product involving more than one writer: i.e., it is the activity of writing together and also the product of that coordinated action.

Communities of Practice: Coined by Wenger (1998), communities of practice are comprised of individuals intent on learning together towards common purposes. As such, they share language, actions, values, and other cultural markers that identify their practice.

Community: A group of individuals deliberately negotiating norms, patterns of relationship, and practices according to commonly held purposes.

Conflict: Disagreement, disharmony, difference, or lack of consensus regarding personality, belief, substance, or procedure.

Dialogic: Based on Bakhtinian theory, the adjective is used to describe a language function. Very simplified, language is dialogic, having the qualities of a conversation in which ideas and opinions are communicated with the intent of reaching agreement.

Implied in the conversation are multiple dialogues, internal and external to an individual, which inform and create situated meaning (Clark, 1990).

Dialogic collaborative writing: A mode of writing together where process, particularly dialogue, is favored over product. Process and roles are often more fluid than structured, and power among writers is more likely distributed horizontally than vertically, as the importance of multiple voices is stressed (Ede & Lunsford, 1990).

Discourse community: 1. A group of people who share a Discourse as defined by Gee. (See *Discourses*.) 2. "A group of people who are unified by similar patterns of language use, shared assumptions, common knowledge, and parallel habits of interpretation" (Deans, 2003, p. 136 as cited in Taggart, 2007).

Discourses: "Ways of being in the world, or forms of life which integrate words, acts, values, beliefs, attitudes, social identities, as well as gestures, glances, body positions, and clothes" (Gee, 1989, p.178).

Diversity: Individual and social differences among people including but not limited to ability, race, gender, age, sexual orientation, language, religion, class, and culture.

Expert: Someone who is highly competent in a given practice. The individual is knowledgeable about content and process, practiced and accomplished in the latter to the point where she or he can articulate and model ideas and processes for another, whether equally competent or novice in the practice.

Group: More than one person functioning as a unit towards a common purpose.

Hegemony: An often insidious imposition of ideas of the dominant class on other classes who are unsuspecting or unaware of the imposition.

Hierarchical collaborative writing: A mode of writing together that emphasizes a vertical power structure with clearly structured tasks and processes (Ede & Lunsford, 1990).

Novice: Someone who is new to a practice. The individual is new to both content and process, for example needing to learn a specific genre of writing and related processes typical to that genre's conventions.

Serial cooperative writing: The production of a written document by more than one writer working in consecutive stages on one version with a lead writer organizing the process and editing the final draft.

Chapter 2: Literature Review

In this chapter, I briefly introduce the theory underlying the present study and summarizes relevant research studies. Much has been written about collaborative writing including resources on how to teach using collaborative writing in the classroom (Howard, 2000; Rentz, Arduser, Meloncon, & Debs, 2009; Speck, 2002; Viggiano, n.d.). Drawing from that large body of writing, the purpose of this literature review is to highlight recent research in the field, specifically as it relates to collaborative writing activity at the graduate level. To that end, following a brief section on theory, relevant studies will be reviewed in two sections: Faculty and Collaborative Writing, followed by Graduate Students and Collaborative Writing. In each section, the selected studies are summarized and themes threading through the literature are highlighted.

Theory

The theory that knowledge is socially constructed underlies this study. The social construction of knowledge is the prevalent view in early research on collaborative writing (Ede & Lunsford, 1990), a prevalence that has continued as confirmed by the literature reviewed for this study. Not surprisingly, Vygotskian theory is referenced frequently. Instrumental in shaping pedagogy is Vygotsky's (1978) assertion that it is through interaction with others, mediated by tools, and in particular contexts that learning happens. In studies with children as well as university students, the idea of the expert other helping a student learn in the zone of proximal development has been used to understand the learning that happens during collaborative writing (Al-Jamhoor, 2005; Benton, 1999; Jones, 2003; Nixon, 2007). The idea of the knowledgeable other bringing a

novice into a learning community has also been used at the graduate level (Alves & Pereira, 2005; Ens, Boyd, Matczuk & Nickerson, 2011; Wigglesworth & Storch, 2009).

Also influential in understanding the processes of knowledge construction underlying collaborative writing are Bakhtin's (1981,1984/1994) sophisticated articulations of multivoiced, historically and culturally imbued language and dialogism. As Ede and Lunsford (1990) note, Bakhtin's dialogic theory of language challenges the notion of a single author as the language the author uses itself is construed by multiple voices and comprised of concurrent multiple meanings. "Bakhtin's notion of heteroglossic language implies a polyphonic self, one that can never constitute the single 'voice' traditionally ascribed to the author" (p. 92). It follows that writing can be seen as essentially collaborative in bringing together the voices in composing text.

Although collaborative writing itself has a much longer history, scholarship and research interest in collaborative writing has its beginnings in the foundational work of Bruffee in the mid-1980s on collaborative learning (Durst, 2006; Forman, 1991). Hill (2003), in researching the history of collaborative writing in literary creation, notes the growing body of scholarship in the 1980s as contributing to *awareness* of collaboration rather than as *introducing* it as a novel mode of writing. Referencing Speck, Johnson, Dice, and Heaton's (1999) annotated bibliography of works on collaborative writing, Hill (2003) notes,

> This discourse reflects the growing popularization of explicitly collaborative writing. It reflects a shift in attention toward collaboration rather than a change in the prevalence of collaborative writing itself. Since academic communities have developed a discourse around collaborative writing and have shifted their gaze

away from individualized writing processes, collaborative writing's effects,

importance, and ubiquitous nature are being recognized at an unprecedented degree.

(p. 7)

Also reflecting a wider interest in group efforts, research in cooperative learning in the

1980s and 1990s added to the collective understanding of collaborative writing (Dale,

1997; Ede & Lunsford, 1990).

Researchers examining cooperative and collaborative learning differ in underlying

epistemologies, that is, they view knowledge differently (Ede & Lunsford 1990;

Matthews, Davidson, Cooper, & Hawkes, 1995). According to Ede and Lunsford, early

research in cooperative learning was conducted in Psychology and Education, operating

from positivistic, behaviorist, and empiricist assumptions. Collaborative learning was

studied in English and Composition, emphasizing the creation of knowledge through

social interaction in particular discourse communities, but still often emphasizing the

individual. Early theorizing in collaborative writing, on the other hand, tended to

emphasize the collective.

Research and theorizing about collaborative writing has continued to use knowledge

gained from the various disciplines (Forman, 2004; Lowry, Curtis, & Lowry, 2004).

Despite the epistemological and genre differences reflected in the research, Lowry et al.

contend that universal components of collaborative writing practice contribute to an

underlying structure that can be articulated, which they attempt to do in their taxonomy.

Forman, however, suggests that this taxonomy will not be readily accepted by those

operating from various epistemological backgrounds or research orientations. Just as

many disciplines inform the theory of collaborative writing, many approaches to defining

and operationalizing it become necessary.

Collaborative Writing Defined

There are many definitions of collaborative writing, some that contradict others,

which makes surveying the practice of collaborative writing at the graduate level

challenging. Hill (2003) and Lowry et al. (2004) provide in-depth accounts of the

background and history of the concept and its definitions. Hill's (2003) final

undergraduate project provides a socio-historic, technological and legal analysis of

collaborative literary creation and control. Hill begins his historical and theoretical

explanation with Farkas' fourfold definition of collaborative writing from technology

which focuses on the activity of the writers.

1. two or more people jointly composing the complete text of a document;

2. two or more people contributing components to a document;

3. one or more person modifying, by editing and/or reviewing, the document of one

or more persons; and

4. one person working interactively with one or more person and drafting a

document based on the ideas of the person or persons. (Farkas, 1991, p. 14 as cited

in Hill, 2003, p. 3)

This fourfold definition aligns with Ede & Lunsford's (1990) seminal work in

which they broadly define collaborative writing as "any writing done in collaboration

with one or more persons" (p. 15). As do other scholars, they assert that because writing

is socially constructed, it is inherently collaborative. However, in examining the

collaborative writing experiences of professionals, Ede and Lunsford refined their broad

definition by identifying different modes of collaborative writing. The two most common

modes they identified were hierarchical and dialogic. Collaborative writing projects

undertaken by 200 members each of seven professions included the two modes at various

junctures. Following their definition, *hierarchical collaborative writing* is often managed

by a leader and is characterized by clearly delineated tasks and responsibilities. In

dialogic collaborative writing, writers are involved in all aspects of the writing,

emphasizing the dialogue in a fluid process of shifting roles.

Using similar categorization, Tynan and Garbett (2007) in their study of early

career collaborative researchers use vertical and horizontal models to define collaborative

writing. The hierarchy in the vertical model is amenable to experts as they guide novices

through a common project. In contrast, the horizontal model necessitates democratic

input from writers in partnership (Tynan & Garbett, 2007).

Ritchie and Rigano (2007) interviewed 24 academic researchers on their

experiences of writing with others. To describe their writing, Ritchie and Rigano used the

terms *cooperative* and *lead writing*. Both fall into Ede and Lunsford's (1990) hierarchic

collaborative writing definition with variations having to do more with type and timing of

input. Cooperative writing involves a lead writer responsible for creating a cohesive

whole from contributions of the other writers who then also is usually listed as first

author. Lead writing, by contrast, involves one writer composing the first draft with

others amending various versions. For collaborative writers who coauthor numerous

papers, the lead role is rotated. Experimenting with their own collaborative writing,

Ritchie and Rigano explored a more dialogic process of composing side by side. Bodily

present, they communicated continuously as their writing gained shape.

The side-by-side dialogic process of Ritchie and Rigano (2007) resembles

interactive collaborative writing described by Couture and Rymer (1991, cited in

Plowman, 1993, p. 151). The interaction of writers throughout the writing process is

intrinsic to the collaboration in interactive writing. This is distinguished from *group*

writing in which any part of or whole piece is written by the team. Also writing

dialogically, Ens, Boyd, Matczuk, & Nickerson (2011) constructed their definition of

collaborative writing together, expressing a commitment to process, dialogue, emotional

support, and collaborative writing as an activity. In generating the definition, the authors

struggled with issues of involvement, ownership, and authorship. Their approach

exemplifies the emphasis on process indicated by Ede and Lunsford (1990) in dialogic

collaborative writing and as such valuing "creative tension inherent in multivoiced and

multivalent ventures" (p. 133).

Writing from the vantage point of business management, Lowry et al. (2004)

acknowledge the interdisciplinary nature of collaborative writing, reviewing the literature

to include a host of articles that examine the topic from various lenses. They echo Ede

and Lunsford (1990) in suggesting that a lack of common understanding creates

difficulties for research, particularly in discussing what people do when they write

collaboratively. To address the challenge, Lowry et al. have created a taxonomy that

provides helpful clarity to the task of defining the collaborative writing activity. Their

definition reads:

> CW is an iterative and social process that involves a team focused on a common
>
> objective that negotiates, coordinates, and communicates during the creation of
>
> a common document. The potential scope of CW goes beyond the more basic

act of joint composition to include the likelihood of pre- and posttask activities,

team formation, and planning. Furthermore, based on the desired writing task,

CW includes the possibility of many different writing strategies, activities,

document control approaches, team roles, and work modes. (p. 75)

This definition allows for the complexity inherent in collaborative writing and includes

the most important elements common to collaborative writing tasks: its social process

with a common aim; the communicative interaction that happens during the process; the

executive and organizational tasks undertaken to facilitate the joint writing; and the non-

static strategies, activities, and roles that go along with collaborative writing.

Lowry et al. (2004) follow the general definition by defining other key terms such

as *CW document control modes*, and then expanding on the components, giving the

reader a clear sense of the possibilities within each element. For example, *group single*

authoring is explained as one writer writing for the team through coordinated consensus;

sequential writing, a variation of group single authoring, moves the document from one

writer to the next as each completes his/her task. They note that although sequential

writing is common, it has disadvantages which include reduced social contact and

consensus, potential confusion regarding versions, unevenly weighted control in favor of

the final writer, and lack of cohesion or sufficient explication of sections.

Lowry et al. (2004) also list common synonyms of collaborative writing as

"coauthoring, collaborative authoring, collaborative composing, collaborative editing,

group writing, group authorship, joint authoring, shared-document collaboration, team

writing" (p. 75). Similarly, Nahrwold (2001) in her background to her dissertation on

collaborative writing at the graduate level found that writers in composition research used

the term *collaboration* to refer to collaborative writing, work, research practices, scholarship, practices, research groups, learning, pedagogy, and reading. Other synonyms were coauthorship and multiple authorship. The terms were seldom defined. These lists indicate the reasons why people while discussing collaborative writing together may believe they are talking about the same thing when in fact they have drastically different processes and end results in mind. An example from the table of terms in Lowry et al. illustrates this potential misunderstanding: Cooperative writing is listed as synonymous with collaborative writing, and although they may in fact look the same in practice, in theoretical work (Ede & Lunsford, 1990), they are differentiated at an epistemological level.

Considering the many definitions together suggests the usefulness of noting the common factors that can be seen on a continuum of collaborative writing experiences. In terms of process, at one end lie examples where power to make decisions about and change text is top-down versus shared, such as the hierarchical vs. dialogical, vertical vs. horizontal, and group vs. interactive. Thus power can been seen as moving from autocratic to democratic, power over to shared power, and low interaction to high interaction among group members. Writers are involved in varying degrees with the whole process or product. The appropriateness of a given collaborative writing approach depends on task purpose and timeline as well as the culture in which the writing occurs. The values and beliefs of contributing writers also affect the process. Thus, for this study, collaborative writing is simply defined as a process and product involving more than one writer: i.e., it is the activity of writing together and also the product of that coordinated action.

Studies and Reports on Collaborative Writing

To provide insight into the collaborative writing at the graduate level, this literature review includes two sections on studies examining collaborative writing of faculty and graduate students. In the section on collaborative writing and faculty, two areas are considered. First, the experiences of faculty writing together are considered. Second, studies examining faculty writing with graduate students are summarized. As one career path for graduate students includes working as academic faculty, looking at the experiences of faculty as reported in the literature helps to anticipate future writing activities of graduate students. In addition, faculty experiences of writing collaboratively are examined to inform our understanding of faculty who may assign collaborative writing to graduate students or who undertake collaborative projects with graduate students as cowriters. Their own experiences of collaborative writing may affect how they interact with graduate students. These accounts also shed light on collaborative writing assignments and pedagogy at the graduate level. In the section on collaborative writing of graduate students, studies reported help to understand what kinds of collaborative writing activity is currently taking place in graduate studies. Taken together, these accounts offer a backdrop to the present study.

Search Methods

This literature review is based on my reading in the area of collaborative writing over a three-year span, thus it is difficult to exhaustively list search strategies and identify all choices regarding inclusions and exclusions. My searches were conducted using the following databases: Canadian Thesis Portal, ERIC, Proquest Dissertations and Theses,

Sage Fulltext, EBSCOhost, and Google Scholar. I also benefited from membership in

EARLI SIG through the *Journal of Writing Research.*

Additional searches were conducted in databases related to History, Biology,

Engineering, English, and Business. As recommended by UM libraries, The America:

History & Life database was chosen for searching in the discipline of History. A search in

the area of Business examined titles through Proquest, selecting the following databases:

ABI/INFORM Dateline, ABI/INFORM Global, ABI/INFORM Trade & Industry. Some

sources had already been accessed through the Education databases; those that were new

were added to the review.

Faculty and Collaborative Writing

The few studies of faculty engaged in collaborative writing reported in the

published literature are summarized below. The summaries of the studies are organized

into the following areas: research on faculty writing together and research on faculty

writing with students.

Faculty writing together. Studies of faculty writing together are grouped according

to the following headings: authorship, writing process, and reflections on collaborative

writing ventures.

Authorship. Two studies (Hamann, Pollock, & Wilson, 2009; Hildebrandt, 2004)

examine authorship and collaborative writing. The first looks at scholarship in the area of

political science to find patterns of authorship including multiple authors, offering a sense

of faculty collaborations in this area. The second focuses more on issues of authorship in

terms of authority and writing relationship.

Hamman et al. (2009) examined a decade's worth of publications in two journals for their study on authorship patterns in the scholarship on teaching and learning (SoTL) in political science. The researchers looked at authors by rank, gender, program, and whether articles were singly or collaboratively written, among other variables. Relevant to the present study, these authors found that more of the published SoTL research articles were collaboratively written than articles on other topics in their discipline. In addition, multiauthored SoTL articles were more likely to be generated in PhD departments.

Hildebrandt (2004) was interested in the process of coauthoring and negotiation of coauthority in academic writing in her qualitative study in the Faculty of Education at one university. She interviewed three professors, one instructor, and one graduate student who had experience coauthoring, not necessarily with each other. She augmented interviews with field notes and analyzed the data thematically. The analyzed data revealed themes of identity, similarity, and complementary relationships. Participants developed a different collaborative identity than their solitary writerly identity and many gained insight into their ideas and processes in their interaction with their collaborators. In seeking writing partners, participants seemed drawn to others with similar beliefs or ideas but valued complementary differences contributed to better collaborative writing experiences. In addition, findings related to product in that participants indicated coauthoring resulted in "stronger text" (p. 21).

Participant comments in Hildebrandt's (2004) study pointed to the importance of talk in negotiating roles, power, and authority and creating text. Trust and commitment to the coauthoring relationship were needed for these negotiations. If the relationship was

sound, issues of power were positive. Hildebrandt concluded that participants constructed their collaborative identities based on their relationships and their available strategies and skills. The development of these identities was linked to participants' awareness of own identity, of writing process and academic conventions. In working towards a final product, participants used this knowledge to create a manuscript with one authorial voice.

    Writing process. Authors in two of the selected studies (Benton, 1999; Kim & Eklundh, 2001) examined aspects of the collaborative writing process. They had different purposes, but like Hildebrandt (2004), in examining their topic the authors reported interactions as writers created texts together.

    Looking specifically at the reviewing processes of 11 academics, professors and graduate students, through interviews, Kim and Eklundh (2001) sought to learn what strategies writers used when collaborating with others online. They were most interested in communication regarding revision. They noted the level and type of writers' interaction regarding editing and revising each others' text as well as the technology used, specifically regarding commenting functions and change representation. Regarding cooperative strategies for writing, they found that document management was more often in one person's control than shared; that writing usually proceeded asynchronously, with synchronous work more commonly occurring at the reviewing stage; that small writing groups were more common than larger ones; one writing tool, MS Word, FrameMaker, and Latex, was chosen before writing; and that the most important factor for successful collaboration was a good network environment. In terms of reviewing practices, Kim and Eklundh found that most writers commented on a paper versus digital copy of the document; writers tended to make changes without informing other writers or

accompanying the changes with general comments; writers tended not to change others'

online writing; and the number of reviewers decreased as the document became close to

final version. In addition, they made a number of conclusions regarding specific uses of

technology.

Benton (1999) for his dissertation researched the cognitive and affective dimensions

of five teams of academic and professional writers through interviews. Through his case

studies, he reported benefits of collaborative writing to include mentoring, team building,

and generating a team voice. In addition, he found that conflict could be minimized

through "effective early planning; clear definitions of roles, goals, audience, and purpose;

acceptance of constructive criticism; strategic use of face-to-face meetings and e-mail;

flexibility in the event that writing conditions change; and ability to distinguish personal

from substantive conflicts" (p. viii). Results also indicated that participants felt their

product was better than it would have been were it individually written and that writing

together provoked new ideas.

Reflections. In reading some articles of faculty writing collaboratively, it was

difficult to determine whether the authors had conducted a formal study on which they

were reporting, or whether they were using the task and genre of the academic article to

structure a more informal reflection. As such, this section summarizes the studies and

articles in which reflection was key.

Collaborative memory work was the methodology employed by Tynan and Garbett

(2007) to reflect on their experiences as coresearchers. They wrote from the standpoint of

early career researchers, a marginalized group in the academic institution, often

struggling within a context where individual scholarship is valued and competition is

stiff. Seeing their collaborative writing as an empowering alternative to the prevailing individual and potentially isolating pursuits, their reflection resulted in a number of conclusions. They focused their memory work on writing, in third person, narratives of their first collaboration. Their analysis included reading these narratives to each other and identifying common themes and meanings, a process that included feelings of vulnerability and anxiety. However, through the reflection, they identified benefits of their collaboration which included complementary skills, knowledge and working styles, (similar to Hildebrandt, 2004), motivation, confidence, and academic support. They grew in ability to defend their ideas by articulating them to each other. What helped their writing process was commitment to task and each other, mutual respect, and ability to negotiate. They appreciated writing side-by-side and creating one voice.

Pasternak, Longwell-Grice, Shea, and Hanson (2009), early career researchers in the humanities, joined cross-disciplinary writing groups to find support from colleagues experiencing similar challenges. In their article, they analyzed reasons and motives for engaging in collaborative writing groups. Facing time constraints, heavy teaching loads, and struggles with publishing similar to those reported by Tynan and Garbett (2007), Pasternak et al. (2009) used their writing groups to grow as writers. In addition to the benefits of mentorship and possibility for improved product, these writers found value in learning new disciplinary styles, negotiating criticism from the writing group and outside sources, and becoming more empathetic to their students as writers.

In their reflexive account informed by their earlier study of 24 academic Education researchers, Ritchie and Rigano (2007) investigated the nature of their own collaborative academic writing. Having found in their previous study that the idea of writing side-by-

side was alien to study participants, they became interested in exploring their own processes through the use of metaphors. They wanted to know whether applying metaphors could be useful to collaborative writers in creating research reports; thus, they attempted to apply the *piano duet* metaphor to their own experience. Telling their story of their writing experience offered the potential to transform their understanding of self and other in the writing relationship: "As Bakhtin (1981) theorized, the dialogic properties of our interactional oral and written discourse offer transformative power in this culture-constitutive and self-reflexive process" (p. 127).

Ritchie and Rigano (2007) found that the piano duet metaphor needed to be modified to fit their collaborative writing practice. The metaphor became a reflective device to generate discussion which created new writing possibilities. Another finding they noted was that times of reflection between side-by-side sessions constructing text were vital to session productivity. The anticipated barriers of self consciousness and limited time ended up not playing a role. However, control of the keyboard became an influential factor: The person keying in text exerted more control of text construction. As a result, they began to use two keyboards for ease of role reversal. They attributed the lack of self consciousness to their long history of writing together and the good use of time as minimizing the time pressure. Further to the issue of time, they found that side-by-side writing was less efficient than turn writing or lead writing. However, they also stated that the experience or writing side-by-side was "a highly charged emotional and intellectual experience for both" (p. 132), contributing to the synergy or solidarity that arises from successful collaborations that has been noted by other researchers.

Reflecting on their roles as researchers, Lapadat, Mothus, and Fisher (2005) used collaborative writing to explicitly examine the role relationships in their classroom research on a literacy-based intervention project. In their project, they chose to collaboratively write their classroom observations, believing that the result would allow a polyvocal account. In the process, they found their multifaceted roles as researchers problematic. Further using collaborative writing, in this case to reflect on their roles, they found that power, values, and moment-to-moment realities affected their role decisions and created their researcher identities. For example, power shifted according to what individuals chose to value, and the power to influence classroom dynamics was noted. In their conclusion, rather than summarizing their findings, they purposefully left their juxtaposed reflections to speak for themselves and pointed instead to the value of explicitly exploring with each other their researcher roles. The explicit exploration led to the exposure of underlying values, feelings accompanying perceived status, and how these affected the research, their roles, and their identities.

Similarly, Lingard, Schryer, Spafford, and Campbell (2007) used collaborative writing to critique their personal narratives to explore the complex negotiations inherent in their interdisciplinary health research. Individual and team identity were in tension throughout their qualitative research project and using a multivocal approach to record their investigation helped them to understand their positions and the ideological impetus and organizational influence behind them. Team members wrote personal narratives and discussed them as a group in person and through email over six months. The authors' reflections on the politics of identity in their group resulted in three lessons. First, conflict could produce collective understandings if writers combined their perspectives towards a

common focus. However, if they ignored the interdisciplinary tensions caused by organizational structure or by ideological approaches, team coherence was threatened. Second, tacit rules governing group research processes needed to be made explicit to incoming members. Otherwise, process would interfere with knowledge production as time was spent in newcomers trying to determine how to participate rather than participating. Third, values behind the deliberate choices in crafting a manuscript needed to be made explicit as decisions about audience, voice, story, and genre are political.

Faculty writing with students. Four articles reported situations in which faculty wrote with graduate students (Lapadat, 2009; Lapadat et al., 2010; Maher, Timmerman, Feldon, & Strickland, 2013; Sakellariadis et al., 2008). Sakellariadis et al. used collaborative writing to examine participants' identities and in their article reflect on the role of technology in their collaborative interactions. Lapadat (2009) used collaborative writing in two classes of a qualitative research methods course. It appears that the published article (Lapadat et al., 2010) is the coauthored final product of the first class reported on in her 2009 article. Maher et al. (2013) studied the factors that affect the occurrence of coauthorship between faculty and doctoral students.

Sakellariadis et al. (2008) wrote collaboratively to explore identity construction through collective biography. Voluntary participants of the writing group included staff and students of which a smaller number worked together on writing about their relationship to technology in the collaborative writing process. Initial meetings resembled those of a reading group in that members identified readings, shared them with others, read them, and discussed them at subsequent meetings. After a year, collaborators also participated in a day-long workshop on Outsider Witness Practices and Collective

Biography (p. 1206). Over the following year, they explored technological spaces to write collaboratively, still meeting face-to-face once a month, which required a commute of over a hundred miles for some. Individual and collaborative writings were collected through email, online, and in hard copy, and minutes were written of each meeting. In the process, participants grappled with issues regarding technology and the nature and identity of the collaborative group. For example, writers ranged in their comfort with technology from uncomfortable to adept, and many experienced difficulties such as rejected passwords and incompatible programs. Other experiences related to feeling exposed when posting on the Internet, feeling constrained by the technology, and disliking the lack of awareness of who was reading posts. In one face-to-face meeting, more regular contributors confronted the silence of some individuals, which resulted in some members leaving the group and the trust of others feeling shaken.

However, for those that remained in the group, the benefits of writing together for over three years were worth the pain or difficulty that members experienced along the way (Sakellariadis et al., 2008). Participants reported gaining a greater self-awareness regarding technology and writing process in developing their group identity. As a group, their collaborative writing consisted of individual writing, group discussion, and group editing in an iterative process. The collective identity of the group weathered the floundering trust; that they could continue was attributed to the energy and creativity that came from their face-to-face meetings. Mutuality, connection, and creativity were words used by three of the writers to describe what spurred them on. As for their collective identity, writers spoke of weaving their voices together, of collating contradictory voices, and of extending each other. As one writer stated, "The task is no longer about which

writing is whose, because nobody knows, but rather about stripping the writing back to its bones and then finding where it fits and why" (p. 1216).

Lapadat's (2009) study is one of few examples of a professor writing with graduate students. Her study spanned two classes of a qualitative research course. Lapadat's aim was to involve students in conducting qualitative research, "learning by doing" (p. 955) as they came to the class with a wealth of experience in reading academic research studies. In her first class reported in the study, she focused on learning *what*, i.e., content, and *how*, i.e., process, regarding qualitative methods, as well as *doing it*, i.e., engaging in a personal and meaningful way with that knowledge. In her second such class, Lapadat used the *doing it* portion of the methodological approach and added analysis using NVivo 7 software.

Members of Lapadat's (2009) first reported class engaged in autobiographical memory-work, combining collaborative autobiography with the feminist methodology of memory-work. The latter is "based on a hermeneutic social constructivist epistemology. The approach grounds theory in collectively recollected experience, is consensual and nonhierarchical, and has an explicit aim of empowering the coresearchers" (p. 960). Developed by Haug (1987) in Germany, this methodology allows participants to "construct themselves into existing structures" (p. 961) making it suitable for becoming part of an academic culture. For her first class, the research involved three phases in which students wrote individual reflections, read and discussed these as a group, and then wrote responses and analyses, both together and individually. A final product, a coauthored article for publication in an academic journal, represented an optional activity and was not part of the course requirements.

The second class of the same course that Lapadat (2009) reported on used narrative inquiry for the collaborative research study, again having individuals write individual autobiographies submitted for group analysis, discussion, and interpretation. Combining individual and group processes, much of the writing was done individually, interspersed with group discussion and shared analysis. Not all students opted to join in the final coauthored piece for this second class.

In terms of group composition, in Lapadat's (2009) first class, the seven graduate students and course instructor (Lapadat) wrote together. They represented a culturally and disciplinary diverse group with students being part of graduate programs in "education, counseling, psychology, community health, social work, and library science" (p. 962). However, they had all previously been formally exposed to research methods. In her second class, 18 culturally diverse graduate students who were part of a counselling cohort, 17 of whom were women, took part in the research. They had already established good relations and were professional practitioners in health care, education, or social work. Lapadat reported being conscious of her position of power as instructor, and thus with the first class, she deliberately strove to deemphasize her power and privilege by giving decisions over to students. With the second class, she reported demonstrating this power in her choice of research focus due to time constraints. Interestingly, her research report did not indicate how students were graded in either class; presumably grading will also have affected participation and dynamics.

Members of Lapadat's (2009) first reported research class must have developed trust; they started with reservations, chose their stories carefully, and then risking exposure, found the process therapeutic. The group developed a sense of empathy and

caring. Through the collaborative research project, members experienced personal, social, and intellectual transformation despite having started out as strangers to each other. The emphasis in Lapadat's article was less on the trust in each other's writerly identities, however, as in co-researchers looking for commonalities in their stories as they strove to create a space for dialogue that could shape social change. However, in her second reported class, the preexisting level of trust shared by group members who were already well known to each other resulted in compromise to the anonymity usually associated with participants' contributions to qualitative research. For example, although group members used code names for their contributions, they openly identified their author status by using nicknames known to each other. The collaborating writers had the kind of trust normally seen as something to strive for in a collaborative writing venture. For the professor, this became a challenge to ethical standards for qualitative research that the writers were undertaking together.

Because the writers in Lapadat et al.'s (2010) study used memory work in conjunction with collaborative writing, their process also resulted in shared learning and better personal understanding. Seven graduate students and their professor for a qualitative research methods course participated in memory work as a research method for which they received the university ethics board's approval. Memory work was developed by Haug in 1987 with explicitly feminist aims. Since that time, it has been used by research groups as a method for conducting collaborative research with a variety of foci. The research focus for Lapadat et al. was "a life challenge" (p. 81) and was initiated by individual writing of personal memories following guidelines developed by Onyx & Small (2001, as cited in Lapadat et al., 2010, p. 81). Lapadat et al. found that the

writing helped to externalize difficult concepts and sharing the writing created

performance of the memories. Furthermore, as a result of the cycles of dialogic

collaboration, members of this group used their vulnerabilities to further trust, caring, and

better understanding of themselves and each other. They concluded that collaborative

autobiography had value as "a route to insight, a way to build community, and a means to

democratize research" (p. 78).

Through faculty narratives, Maher et al. (2013) identified and examined factors that

affected whether faculty and doctoral students coauthored. The authors contextualized

their study with assumptions that scientific reasoning skills are developed through writing

and that students' scholarly identity can be developed and strengthened through

coauthoring. Thus faculty mentor students into their disciplinary discourse communities.

Noting the growing trend beyond the sciences, the authors sought to identify contextual

factors that facilitate coauthoring between faculty and doctoral students. Interviews with

19 STEM doctoral advisors of which 5 were female provided the data for the study. Two

investigators used Glaser's constant comparison approach to analyze the data. Five

interconnected themes emerged: "Norms of the Discipline, Resources, Faculty Goals for

Students, Faculty Goals for Themselves, and Institutional Expectations" (p. 127).

The authors (Maher et al., 2013) found that faculty followed disciplinary norms that

included the expectation of coauthorship for publication. Many had been socialized into

this practice; subsequently, they socialized their students in the same way. The

importance of the resources of funding, time, and skills or attributes was also frequently

mentioned although not all resources in all faculties. For example, in mathematics,

funding was less of a factor in coauthorship. For some participants, writing together was

seen as efficient and at times the only way to conceive of a project being possible, especially in cases where students also wrote with their peers. However, time was also in demand with competing responsibilities. Also affecting time were level of student research and writing skills. Participants saw coauthorship as preparing students for the workplace and as such valued the collaboration that it necessitated. They also saw coauthorship with students as meeting their own goals of increased status as researchers and of meeting institutional expectations. A reputation for mentorship offered faculty status within the institution. And finally, for some participants, institutional expectations to publish were met through coauthorship.

Discussion of Studies of Faculty

When looking at the studies related to faculty and collaborative writing a number of themes stood out. Themes included benefits of writing collaboratively, group cohesion, ownership and attribution, and the use of metaphors. These themes will be briefly highlighted below.

Benefits of writing collaboratively. Many of the authors in the reviewed studies stated benefits of writing collaboratively as faculty members. In some articles, better knowledge of their writing processes was a result for individuals writing collaboratively (Hildebrandt, 2004; Sakellariadis et al., 2008) that is supported by earlier collaborative writing literature (Straw, Atkinson, Baardman & Sadowy, 1996). Some writers, rather than seeing this knowledge as an outcome, quickly incorporated complementary approaches into a more efficient working together, assigning each other suitable tasks (Tynan & Garbett, 2007).

Furthermore, writers reported satisfaction with product, believing it was better written than if individually produced (Benton, 1999). Ritchie and Rigano (2007) indicated that while their side-by-side collaborative writing took more time than other writing, their product was "substantially more reflexive than otherwise possible" (p. 130). Similar gains from writing together are also pointed out in articles. For example, Phillips, Sweet, and Blythe (2009) contend that individuals writing for each other can develop critical thinking skills and "broaden, sharpen, and deepen one's own disciplinary knowledge" (para 6). Pasternak et al. (2009) also reported value in learning new disciplinary styles and negotiating criticism from the writing group and outside sources, growing as writers in the collaborative setting.

The positive relationships were a benefit of collaborative writing reported by many. For Tynan and Garbett (2007), both female academics, collaborative writing resulted in intangible outcomes such as "strengthened confidence in a praxis and a warm, professional regard for each other" (p. 417), buffering a sense of isolation and diffusing competitive expectations faced as emerging academics. Writing side-by-side was for Ritchie and Rigano a "highly charged emotional and intellectual experience" (p. 132) creating a dynamic synergy. Their solidarity resulted in a desire to continue writing together, a sentiment that was echoed by Griffin and Beatty (2010).

According to Phillips et al. (2009) who have coauthored over 700 pieces, benefits of collaborative writing "include increased productivity, mentoring opportunities, professional development, and collegial networking" (para 3). The relationship between mentoring and collaborative writing was also noted by others (Benton, 1999; Griffin &

Beatty, 2010; Maher et al., 2013; Pasternak et al., 2009; Ritchie & Rigano, 2007; Straw, et al., 1996).

A benefit for many writers related to voice. For some, honoring multiple voices was important whereas for others, achieving a unified voice was optimal. For Lapadat et al. (2005), a benefit of the writing collaboratively was retaining the "polyvocality" (p. 16). Griffin and Beatty (2010) sought to honor a unified voice as equal contributors to a text. Sakellariadis et al. (2009) spoke of weaving together voices as well as losing a sense of individual voice in the power of the whole.

Group cohesion. Writers commented on factors affecting dyad or group cohesion. For example, value should be given to each writer's contribution despite the difficulty in establishing equality of contributions. Lacking respect for individual contribution, group composition might have to change (Benton, 1999; Phillips et al., 2009; Sakellariadis et al., 2009). In addition, collaborative writing involves vulnerability, and self-esteem can be challenged (Phillips et al., Sakellariadis et al, 2009; Tynan & Garbett, 2007). Individualism or competitiveness can squash the project, and a willingness to learn from each other and value the other's strengths is fundamental to the success of the experience (Straw et al., 1996, Phillips et al., 2009). Conflict could produce collective understandings if writers worked towards a common focus (Lingard et al., 2007). However, if writers ignored the hierarchical or ideological tensions, team coherence was threatened. In the collaborative writing experiences of Straw et al. (1996), trust, respect, and mutual commitment to the project were integral to the success of the venture. Sharing the workload and valuing the process were also important. These characteristics were also

noted by Griffin and Beatty (2010) and Hildebrandt (2004). Trust and respect were also cited as fundamental to the research of Lapadat et al. (2005).

The use of metaphors. In the studies reviewed, a number of faculty writing together used metaphors to describe the collaborative writing process. Ritchie and Rigano (2007) used the metaphor of writing as piano duet to explore writing side-by-side. Sakellariadis et al. (2008) used metaphors of weaving, quilting, and carving to understand voice in the collaborative writing process. Lapadat et al. (2005) described their verbatim (not resequenced) presented text as "a layered sandwich of our three voices" (p. 2). In aiming to understand their coresearcher role relationships, they also used metaphors, trying to make sense of their research focus. Griffin and Beatty (2010) talked about matching wine with food to "convey the mutual co-construction of meaning of [their] lived experiences that emerged through this creative writing process" (p.178). In addition to their metaphor, the authors in their literature review offered detailed descriptions of writer pairings and process, citing some of the same articles as found for this study (e.g., Benton, 1999; Ritchie & Rigano, 2007; Lowry et al., 2004) and then offered their own detailed account.

Graduate Students and Collaborative Writing

In this section, studies of graduate students and collaborative writing will be summarized. Studies are marked in the reference section with an asterisk. The studies are divided into the following sections: doctoral writing groups, research writing teams, research using surveys, collaborative writing in courses, and technology. Following the summaries of the studies, a discussion of the research taken together will highlight relevant topics to the proposed study.

Doctoral writing groups. Four papers included in this review concerned the

collaborative writing of doctoral students (Clark, Jankowski, Springer, & Springer, 2000;

Ens et al., 2011; Ferguson, 2009; Maher et al., 2008). The activities reported by writers in

these groups suggest an acculturation to academic practices that differ from most

undergraduate experiences, most obviously that of research and writing to publish.

Another common thread among these studies is the reporting on the interaction that took

place between writers, engendering growth in self awareness, subject area knowledge,

and critical reflection on writing process and product.

Students in the two doctoral writing groups described by Maher et al. (2008) joined

voluntarily, but their process of deciding expectations and size evolved rather than being

determined at the outset as Ferguson's (2009) doctoral group. In reflecting on their

experiences within the writing groups, Maher et al. (2008) used the notion of identity as

understood in the context of communities of practice (Alani et al., 2008; Wenger, 1998 in

Maher et al.). They indicated that both individual and group identity changed as the

groups progressed. As the students learned how to offer more in-depth and critical

feedback to each other on writing, they also become more confident in their (scholarly)

identities as "members of a writing community" (p. 268), namely, an academic writing

community. Part of the developing confidence and acculturation to thesis writing and

writing for publication was learning the writing skills and a metalanguage to discuss the

process with others. An example of group members' increased sense of belonging to

academic communities was their movement into conference presentations and journal

article publications.

Maher et al. (2008) concluded that their writing together led them to see writing as an essentially public and shared activity rather than private and implicit process. The writers expressed increased confidence in critiquing each others' work and their transference of this critical eye to their own writing. As a result of self-critique and feedback from group members, individual writing became clearer as noted by certain supervisors. Some participants also noted their ability to position themselves in their work and develop authoritative voice. Others found increased attention to sentence level revisions or structural shifts in their writing to strengthen the force of their arguments.

This same growth in confidence was expressed in Clark et al. (2000) who identified the shared successes with publication and more importantly the sense of capability as an important piece that is often missed in academic curricula. Clark et al.'s writing group began from an invitation to the entire graduate program in marriage and family counseling at that institution. The four doctoral students that elected to join met every other week for two hours to improve their writing skills through experiential learning in their doctoral program in marriage and family therapy. Their initial meetings established common goals and also engendered discussions which "began to take on a life on their own" (p. 51). For these writers, planned agendas did not work though the regular meetings were important. The students realized early in the process that sharing writing produced anxiety and feelings of vulnerability. Identifying the prevailing academic culture of competition as one factor contributing to those feelings, group members decided to take a stance of sharing and support to directly challenge the norm.

For students in the doctoral thesis writing groups described by Ferguson (2009), the peer relationship was horizontal and a perspective that was not linked to success or

failure in a doctoral program was welcomed. Participants not only joined groups

voluntarily, level of participation was also optional. To ensure optimal functioning,

chosen readings were relevant to students' thesis writing, and the groups established

expectations at the first meeting to increase individual commitment. Heterogeneity in

terms of discipline was perceived as beneficial to participants' writing by most group

members. Receiving feedback from a variety of disciplinary viewpoints helped students

"clarify and strengthen material for a more diversified readership" (p. 291) and

challenged them to stretch beyond their usual scope of understanding of the ideas they

were expressing. Participants anticipated being able to communicate with diverse

audiences and to collaborate with individuals from other areas in the future as a result of

their experiences with the writing group. Participation was supported by small group size

as well. For these writers, the small group size made the project easier to manage and

helped to increase the rapport and trust.

The trust that developed in Ens et al.'s (2011) writing relationships helped in

allowing the writers to gain knowledge of each others' and their own writing process as

well as their ability to communicate and write. Having been assigned collaborative

writing in their doctoral course in language and literacy, the four students elected to do a

self-study to reflect on their experiences of writing together. Two pairs worked primarily

on two papers, each writer taking a lead role on one paper. The four together met face-to-

face to discuss ideas, the writing, and the process. Three writers knew each other from

their master's program; one was a newcomer to the group. Data for the self-study

included meeting minutes, individual reflections, emails, and memos which two of the

four analyzed for themes. Their study was reported on at a symposium and prepared for

publication, allowing the writers to continue their email and face-to-face interaction for revision. One writer communicated with journal staff and made proofreading changes.

In the Ens et al. (2011) experience, some improvement in written product was perceived to have resulted from the group interaction. "The ongoing feedback was felt to have improved the clarity and composition of the papers" (p. 74). Aside from better knowledge of the writing process and of their own writing styles, the authors reported engaging in knowledge construction through dialogue and forming writing friendships that would likely endure to future mutually undertaken projects. Similarly to Eyman, Sheffield, & DeVoss (2008), Ens et al. (2011) ended their paper with the challenge to include more research about and collaborative writing in doctoral programs.

Research writing teams. Five of the reviewed studies looked at experiences of graduate students on research teams (Andrew & Caster, 2008; Bjornsdottir & Svensdottir, 2008; Eyman et al., 2008; Moore, 2004; Sweetland, Huber, & Whelan, 2004). They highlight benefits and uses of collaborative writing at the graduate level in conducting research. Two of these (Bjornsdottir & Svensdottir, 2008; Moore, 2004) used collaborative writing as an appropriate tool for participatory research in which social change was a desired result. Their foci were sustainable education and inclusive research respectively, but collaborative writing was a strong feature in each.

Andrew (Andrew & Caster, 2008), reflecting on her experience of collaborating with a professor, situated her paper in terms of a learning continuum. She noted,

> Writing a paper for a class with the intention of receiving a grade and working on
> an article with the hopes of publication are two very different experiences.
> However, with increasing expectations of academic publication for graduate

students, they are not far apart on a continuum of development of professionalism.

(p. 2)

Graduate student writing can thus be seen as part of a developmental path with

collaborative writing offering one way of experiencing the acculturation. Andrew

(Andrew & Caster, 2008) found many benefits to writing an article for publication with

her professor but stressed that of finding her own voice in the process. She benefited from

the apprenticeship into the discourse community of their field through open and collegial

relations characterized by trust and mutual commitment to the project. She also reported

some findings regarding process. The project was conceptualized and researched

together, both writers having similar goals; Andrew subsequently wrote much of the text

with Caster crafting and polishing words to create the final product. Andrew concluded

that the collaborative writing process helped her to build confidence with both her

research-based writing and sense of self as scholar.

One study (Sweetland, et al., 2004) illustrated the asymmetry in terms of power or

status that can occur in collaborative writing situations. For example, the student

researcher contributing to a team whose members had varied levels of experience and

professional designation encountered different levels of power among the relationships.

The purpose of Sweetland, et al.'s research was to better understand the process of

collaboration in their research. They chose to focus their analysis on a fragment of their

recorded research conversations. Using narrative interlapping, they probed the idea that

smoothness in the group was not necessarily a strength; rather, "contexts…where fear,

silence, and difference cannot be voiced or explored, eventually smother our knowing

and sense of self" (p. 48). The reported tension focused on power and identity and professional ethics codes as contributing to the silencing of difference.

Throughout their study, Sweetland et al. (2004) shared stories in conversation with each other; in this process they stressed the importance of respect and trust. Facing difference and exploring silence were seen as the way to new understanding. Identity was not seen as fixed, but as fluid, allowing each author to reconsider the narratives and attendant vulnerability and emotion. The authors stressed the possibility of relational sharing of stories as an alternative to perpetuating the dominant story characterized by dualism and separateness of school landscapes that they experienced. The writers found that through their shared stories, they better understood their collaboration, themselves, and each other.

Eyman et al. (2008) described the formation of sustainable research networks as a joining of networks with communities of practice. Combining the self-interested participation of networks along with an intentional commitment of group members within a community of practice, possibilities for knowledge construction, capacity, and individual growth arose that could not have existed without the group. In the authors' case, the DigiRhet.net collective started out in a course with undergraduate and graduate student participants, but only graduate students joined the collective. Research questions stemmed from course participation and three variables ended up scaffolding the group's work: community, critical engagement, and practical application. Through their course, group members had already shared collaborative writing experiences. Participants intentionally formed a community which created a space beyond the classroom to pursue their scholarly work. For members of the research collective in Eyman et al's (2008)

study, the strength of the collaboration lay in both "filling gaps or providing additional skill sets" (p. 53) as well as learning from each other. Depending on the project and stage of writing, different researchers and scholars would contribute their knowledge or expertise.

To facilitate cohesion and establish identity, members of the DigiRhet.net collective (Eyman et al., 2008) developed a group name and mission, and they set up structures such as an email list and wiki to share work. The authors assert that the focus and structure in the early stages were pivotal to the group's robust nature. Taking a positive approach towards conflict, Eyman et al. proposed that "community foments through challenge and productive resistance—the type of tension that only exists among intellectually open individuals in a context of mutual respect and value" (p. 54). However, in their case study report, they did not provide examples of how this took place in their own collective. Nonetheless, they offer suggestions for how to engage critically within collaborative ventures, including the directive to "acknowledge that the researchers' subject positions may influence a tendency to overlook important factors, such as addressing issues of race, class, and gender" (p. 55).

Eyman et al (2008) began their case study report on their research network with a bold criticism of graduate level practice. Identifying a gradual shift towards socially constructed knowledge production and away from individual production typical of academic hierarchies, they stated:

> At the graduate level, however, there is a kind of schizophrenic practice enacted—
> we see, acknowledge, and even study (and research) the innately collaborative
> process of knowledge construction *while simultaneously* being assessed as singular

authors whose work must maintain the fiction of the originary genius. Explicit collaboration is acceptable in small doses, but the milestones of the graduate educational process—the primary coursework, the portfolio, the comprehensive exam, the dissertation—must always be completed by the individual. (p. 49)

They contrasted this with professional and scholarly work which is done collaboratively. They ended their article with the assertion that collaborative writing has a place at the graduate level. "We would encourage graduate programs to develop cultures and support structures that value collaboration and suggest that the formation of research networks that align with programmatic goals should be a central facet of graduate education in the humanities" (p. 56).

Perhaps the most obvious example of difference in the studies on collaborative writing is Bjornsdottir and Svensdottir's (2008) reflection on their collaborative writing experience. The authors locate their study in the realm of *inclusive research*. Inclusive research puts together the two research traditions of emancipatory and participatory research. The two authors, one a "self-advocate with learning disabilities" (p. 263) and one a graduate student, had known each other for three years, but at the time of writing the article they had been meeting as coresearchers for a year. For six of those months, weekly meetings ranged from a few minutes to a few hours. An important point of the coparticipation was the increased power that came with inclusion: Each could exercise power of issues of inclusion/exclusion and ownership. Their collaboratively written article was a part of a greater research collaboration involving six participants. Working together on their research project using life history revealed to the authors their commonality and thus they became less preoccupied with their differences.

The collaborative writing, although clearly named as one of the joint activities that strengthened their research collaboration (Bjornsdottir & Svensdottir, 2008), was not the focus of the research report. Rather, the collaborative writing seemed to be one of many ways in which the relationship between the two grew. In addition, the authors professed to be aiming for a "joint voice" (265) in the product of their collaboration. Due to the division of activities described and the language of the paper, however, the reader is left with the impression that the text represents the language of the first author as she purposefully writes using academic language which will hopefully secure both authors symbolic capital in academia. The authors found their project limited in its inclusiveness due to "doctoral guidelines and language" (p. 265). For example, academic language that meets the norms of research communities uses terms and theoretical constructs that were inaccessible to study participants/collaborators. Furthermore, of the six collaborators in the larger research project, only two understood English, yet that was the language of publication. The authors pointed out that alternative forums or formats for dissemination were possible, but outside of academic purview.

Moore's (2004) dissertation examined collaborative writing as part of an in-depth case study of the University of British Columbia to ascertain how the educational component of the Sustainable Development Policy was being addressed. She used activist-oriented research which she identified as participatory action research plus collaborative inquiry. Her study included a collaborative writing project, faculty and student workshops, and in-depth interviews.

Moore's (2004) writing group was initiated through an invitation sent to selected people who might be willing to tell their stories and reflect on their experiences of

initiating sustainability education programs at the University of British Columbia. Using collaborative writing aligned with her chosen research methodology of participatory action research. Difficulties arose with the scheduling of meetings and the busyness of participants. For the academics in the writing group, participation in a collaborative venture was low priority as it was not easily published in academic journals and thus would less likely find reward from the institution for career advancement. Another challenge was structuring the project so that every member was involved.

For the writers in Moore's (2004) group, many conversations and instances of collective and individual writing resulted in many versions of text and visions of a final product. At times, dealing with the iterations was unwieldy. However, writers chose to allow quotations and excerpts to stand alone as they represented expert opinions and accounts of lived experiences. In the main text, on the other hand, writers sought to achieve one voice. Through this strategy of text presentation, the writers believed they improved the end product: "By mixing our voices as the main text and quotations we believe the end product is richer and more provocative than a standard process whereby different authors write different sections of the text" (p. 110).

One of the barriers Moore identified to creating sustainable education programs was "…competitive and disciplinary environment of the institution, unclear priorities and decision-making structures and misdirected criteria for evaluating progress" (ii). In her section on collaboration, however, Moore (2004) did not rule out the place for competition, but emphasized that collaboration allowed for sharing of common purpose and should be seen in the practice of academics, not just in their published articles. Accordingly, she encouraged collaboration across disciplines, particularly engendering

dialogue about values and approaches to problem solving that encouraged a multiplicity

of solutions representing both/and thinking as opposed to either/or approaches. The value

of Moore's dissertation to a discussion of collaborative writing, aside from her chapter

concerning the topic, is its placement of collaborative writing in the wider context of the

academic institution, challenging the traditional practices that reinforce negative practice.

Moore (2004) in the recommendations in her dissertation provides suggestions for

creating sustainability education. These directly challenge the lack of collaborative

options by addressing how and what is graded, entrance requirements to graduate

programs, and what scholarly behaviors are awarded with monetary or other acclaim. She

includes challenging grades admissions to graduate programs, suggesting that interviews,

essays, and community involvement present alternative considerations.

Research using surveys. Three studies (Kreth, 2000; Nahrwold, 2001; Rice &

Huguley, 1994) used surveys to investigate areas of interest regarding collaborative

writing at the graduate level. Of the three, the survey by Rice and Huguley offers the

most insight to collaborative writing experiences of graduate students. Nahrwold's

dissertation looks at the broader institutional context for collaborative writing and Kreth's

survey offers some insight to the role of collaborative writing as one aspect of

Engineering students' experiences in learning the discourse practices of the workplace.

Nahrwold (2001) in her dissertation sought to investigate how collaborative

scholarship was valued by conducting a survey of 150 graduate programs (MA, MS,

PhD) in rhetoric/composition and technical/professional communication. She used two

theoretical frameworks to examine multiauthored scholarship: 1) postmodern and 2)

critiques of postmodernism as naïve and misguided. She was interested in graduate

program guidelines, hiring practices, and tenure/promotion guidelines, analyzing how

print and online collaborative scholarship were discussed in each. She concluded that

both theories and practices are in transition resulting in what appear to be irreconcilable

contradictions but which, she asserted, presented positive dialects and possibility of

change. She suggested that faculty, who were after all adept at negotiation, could

instigate this change. Specifically, they could change policies from within by undertaking

collaborative writing themselves and gradually changing the ethos of their own

department, pushing policy to adapt to practice. In addition, faculty could explain the

nature of multi authored work to promotion and tenure committees. Senior faculty could

help junior faculty change the rules by supporting their collaborative work. Faculty could

submit alternative forms of scholarship in the tenure portfolio to raise awareness of

committees that such scholarship is being undertaken.

A survey (Kreth, 2000) of recent Engineering graduates regarding their experiences

of writing during their co-op terms offered some insight to the role of collaborative

writing in learning the discourse of the workplace for engineers. In one survey question,

the researchers asked whether students had opportunities to writing collaboratively in the

workplace, and if so, to what extent. Only 7% of respondents said they frequently wrote

collaboratively with a much larger 59% never writing collaboratively during their co-op

terms. Kreth suggested that one reason for the lack of collaborative writing lay in the

stable relationships needed to do so, relationships that take time to develop. She also

suggested that collaborative writing in the workplace might involve long-term

commitments that co-op students could not make and that a certain level of knowledge

and workplace culture expertise was required. Three voluntary letters appended to

completed surveys by students indicated the importance of writing to career success and the inadequacy of the preparation offered through composition courses. Kreth cautioned against generalizing the results of her study; however, the results may inform research and practice, for example, tying academic writing assignments more closely to workplace practice and researching the nature and extent of collaborative writing in workplace contexts.

Group process was the focus of the study on collaborative thesis writing of graduate students in Logistics and Acquisition Management in the Air Force Institute of Technology (Rice & Huguley, 1994). Through a survey of two years of graduates (n=350) who had written collaborative theses, 21 open-ended and closed questions solicited responses to illuminate writing processes, group processes, and student perceptions of advantages and disadvantages of writing their theses together. Of the respondents, there were 257 males and 43 females. The authors reported survey results regarding collaborative writing process (six activities), group process, and advantages and disadvantages of collaboratively writing theses. In terms of writing process, respondents indicated that nearly half their time was spent on gathering information and drafting, with the rest of their time evenly spread over the remaining four activities. Some activities were more likely to take place alone than with the other writer/s: Nearly two thirds of respondents' time was spent writing alone. Over half the students cited drafting as a solitary activity whereas brainstorming and organizing and planning were more often done as a team. Often individual drafting was followed with collaborative revisions and editing.

Survey respondents (Rice & Huguley, 1994) commented on the amount of work and time that was required to agree and coordinate actions and ideas, suggesting that productivity depended on compatible writing styles and ability to resolve conflict. The researchers asked graduates to rank Ede and Lunsford's (1990) organizational strategies in terms of frequency of use. The most frequently used was team work at the planning and editing stages with each member drafting individually in the middle stages. However, some students added to the strategies provided, reporting "extensive team activity throughout the process" including drafting (p. 165). Finally, advantages of writing collaboratively were listed as "Increased productivity. Enriched mutual perspectives. Enhanced interpersonal relationships" (p. 166). Disadvantages were "Conflict. Time management and scheduling. Imbalanced work distribution" (p. 166). Those who benefited from the collaborative writing cited the importance of "synergetic interactions" to produce good writing among other positives. Of the respondents, about two-thirds felt the collaborative writing had contributed to their satisfaction with their graduate education.

Collaborative writing in courses. Groups of four or five were used in the collaborative writing assignment to write an original research article in the graduate course of 17 students studying qualitative data analysis (Duemer et al., 2004). The authors do not state how groups were formed. The purpose of Duemer et al.'s case study using a phenomenological approach was to identify leadership skills in the context of graduate students' collaborative writing. The researchers used an atomistic approach to analyze the data across individual characteristics. In examining their interviews of 14 students in one graduate qualitative data analysis class, the authors reached conclusions

regarding the success of collaborative writing groups. They identified four themes of

effective group leadership: "interpersonal skills, group management, time management,

and expertise" (p. 722). The authors noted that leadership changed within a given group

depending on the particular task. Also, leaders were valued by group members for their

expertise and their ability to ascertain group members' potential for contribution. For

these writers, time constraints kept group members focused and reduced time spent in

resolving differences, thus avoiding conflict. The motivation of group leaders aided the

efficient process as well.

In addition to their observations regarding leadership, Duemer et al. (2004)

concluded that more research on collaborative ventures in doctoral programs needed to be

undertaken in order to improve learning, practice, and pedagogy at that level. To increase

chances for the success of collaborative writing groups, the authors made some

recommendations. They suggested that professors of doctoral students limit groups to two

to three maximum. In this way the professor could remain aware of group dynamics and

assist with conflict management. In addition, adding peer evaluation would improve

individual accountability to the group and ownership in the joint task.

In Golden's (2000) graduate group counseling class, 33 students were assigned to

control (n=16) and experimental (n=17) groups participating in poetry therapy. Size was

less of an issue than the random assignment of students to groups. The only difference in

poetry therapy between groups was the addition of collaborative writing in the

experimental group so that Golden could isolate it as a variable affecting group cohesion

in a therapy environment. In a carefully designed study, Golden used a subscale of the

Group Environment Scale as pretest and posttest to measure group cohesion and used a t-

test to determine significance between their means for each group. Leaders used a non-directive style, facilitating the group weekly for six one-hour sessions. In poetry therapy, poetry broadly refers to any literature deemed internally coherent; for this study, the material was chosen carefully for its open endedness. Each class, in the control group, the poem was read and then responded to with individual writing. The individual writing was shared among class members. In the experimental group, sharing the individual writing was followed with collaborative writing which involved the leader soliciting one line each from class members to contribute to a group poem that was subsequently discussed and shared. Results indicated no significant differences between pretests of the two groups, but a significant difference ($p>032$) on posttest scores. Golden concluded that collaborative writing did increase group cohesion.

In Schindler's (2002) research with advanced graduate and doctoral students, the collaborative writing itself was seen as an important way to externalize internal processes of writing in order for Schindler to observe how writers determine their addressee (audience). In her "semi experimental study," three types of text were created by pairs who "knew each other well" (p. 2). As they worked together, the pairs were videotaped. Writers were familiar with scientific writing but unfamiliar with the genre demands of the assignments: In this article she reported on the assigned composition of computer game manuals. In describing the pairs, Schindler only mentions the fact that writers knew each other well and that at least one had knowledge of the computer game for which they were writing the manual. Although her study focused on writing strategies, the detailed dialogue offered in the research report offers a glimpse into the verbal interaction and

nonverbal communication that happens as collaborators negotiate choices, in this case with Schindler focusing on their choice of addressee.

As a byproduct of her research, Schindler (2002) concluded that collaborative writing was also an effective tool for teaching writing: "…because writers have to argue with each other, they have to find reasons for certain decisions, and they therefore, reflect their writing process more actively" (p. 12). Collaborative writing was also useful for teaching the concept of audience, especially effective as each writer was also a reader, learning and demonstrating the flexibility in changing perspectives required to imagine audience.

Technology. Online collaborative writing was the focus of five studies (Coutinho & Bottentuit Junior, 2007; Galegher & Kraut, 1994; Kasemvilas & Olfman, 2009; Meisher-Tal & Gorsky, 2010; Pittenger & Olson-Kellogg, 2012). Exploring the potential of programs designed to make the creating and sharing of information public and widely available has become of increasing interest to researchers. These studies support the observations of researchers illustrating the changing practices as a result of Internet capabilities.

The oldest study in this section (Galegher & Kraut, 1994) despite its datedness in terms of technology, reflects an ongoing question for researchers: How does the mode affect the collaborative writing experience, particularly the interaction among group members. Voluntary study participants comprised 67 groups of three. Students were given two collaborative writing assignments under one of three conditions: computer only, computer and phone, or face-to-face communication. Given the complexity of the collaborative writing task, the researchers hypothesized that the computer only condition

would provide an obstacle to interaction, especially for those tasks that required negotiation or repeated communication. Data was collected through questionnaires and scores on completed projects.

Galegher and Kraut (1994) found that communication modality did not affect project performance, but it did affect participants' satisfaction with their work and with their fellow group members. While their results showed that the difficulty of communication was enhanced in the absence of "an interactive multiperson communication medium, such as face-to-face meetings" (p. 110), the authors also found that students adapted to the constraints, motivated to perform well in their tasks despite the added challenges. Current technology has many more options for online synchronous multiperson communication; at issue now is perhaps more the level of comfort participants have in relating in a virtual space versus face-to-face. For example, in the collaborative writing experience of Sakellariadis et al. (2008), in which graduate students, faculty, and others wrote together, lack of comfort with the technology became a barrier.

In a more recent study (Coutinho & Bottentuit Junior, 2007), postgraduate education students (n=16) in a graduate level research methods in Education course freely organized into groups. The students were asked to use the wiki to study one of the research methodologies presented in the course and write an essay on the chosen topic. Data on students' experience with the wiki was collected through the wiki itself as well as an online questionnaire at the end of their course which all participants completed. Only two of the students had previously used a wiki. According to Coutinho and Bottentuit Junior (2007) the quality of student essays written collaboratively on a wiki to fulfill a course assignment were

…really amazing and exceeded all expectations: each topic was organized in an interactive index format that facilitated the search for relevant information; posts were written in an academic format including relevant citations; a final extended bibliography was suggested for further research on the topic. (p. 1788)

However, Coutinho and Bottentuit Junior (2007) reported less favorable results for knowledge construction than other studies. The authors had expected learning in the zone of proximal development, but according to student responses to questions in the area of knowledge construction, peer interaction was not enough to make students learn more than they would on their own. The authors wondered whether more support from the instructor could have facilitated the knowledge construction. Thus, they concluded that although wikis offer a good repository for information and students reported enjoying working together, ways to support more effective collaborative online learning in a similar way would require further investigation.

Meisher-Tal and Gorsky (2010) based their investigation of wiki-based collaborative writing actions of 60 graduate students in a technical writing course in Israel. In a mandatory assignment, students were required to create a glossary of course concepts and were specifically asked to edit posts by classmates. Building on recent research on wikis as collaborative writing environments, the authors sought to establish a taxonomy of collaborative writing actions, improving on a 13-category taxonomy developed by Pfeil et al. in 2006. The final glossary consisted of 142 terms which had been edited 2986 times. The editorial actions (n=750) were categorized by a research assistant. Of editing actions, 59% were made within sentences and 41% on sentences. Of within sentence edits, 17% were lingual, 10% grammar, 24% wording, 13% link, and

36% concerned format. In addition, 90% of the students added text whereas only 28%

deleted text. The most common action was to add a sentence.

Meisher-Tal and Gorsky's (2010) findings reinforce previous qualitative studies by

indicating that students were reluctant to delete text from wikis. However, perhaps the

nature of the task was such that students found existing text acceptable and therefore not

requiring deletion. Of note, these authors found that only about 10% of the students made

most of the editing actions. A similar pattern is found in other online environments such

as Wikipedia wherein 2.5% of all users generate 80% of the content (Tapscott &

Williams, 2007, as cited in Meisher-Tal & Gorsky). In attempting to understand the

editing behaviors of Meisher-Tal and Gorsky's study participants, the researchers drew

on learning and personality theories such as field dependent and independent learning

(Witkin, Moore, Goodenough, & Cox, 1977) or the "Big Five" personality traits

(Goldberg, 1993; Thurstone, 1934).

Kasimvilas and Olfman's (2009) study also examined mandatory collaborative

writing on a wiki. They used a focus group to explore the writing behaviors of their

group. Nine students in a graduate Knowledge Management course were instructed to

write a textbook within the semester. Using MediaWiki, each was to write one chapter as

well as edit others' work. Though not identified by the authors as such, the task

represents hierarchical sequential writing (Ede & Lunsford, 1990). Students were

assigned the roles of writer, senior editor, and associate editor, which rotated among

students over time (Kasimvilas & Olfman). Findings included types of activity and

quality of product. Two of nine students generated 50% of the content in the

collaboratively written wiki text. The instructor graded quality of information generated

by students on usefulness, need for improvement, and how close the copy was to publishable in terms of typos and formatting. Results indicated that the average information score was 15.88 on a five-point scale from 1-17 where 15 meant effective but needs improvement and 17 meant already publishable. Some repetition of ideas occurred; it is likely that this was due to the hierarchical/sequential nature of the writing.

The course evaluation in Kasimvilas and Olfman's (2009) study indicated that students rated their learning content and organization of the course as less than somewhat satisfied. Professor ratings were also lower than usual. Three possible contributing factors were gleaned from student written comments. First, students lacked background knowledge on the content of the text they were to write. Second, the professor, not wanting to take over editing, offered scant feedback. Third, difficulty in tracking comments contributed to students feeling "a lack of control and accountability in such a collaborative setting" (p. 94). The results of this study point to the importance of scaffolding from the teacher. In addition, balancing the difficulty of learning the content, the substance of the textbook, and the difficulty of writing collaboratively in various roles was a factor influencing the success of this effort.

In their study incorporating collaborative writing, Pittenger and Olson-Kellogg (2012) explored the feasibility and effectiveness of using an online hypertext case scenario as an assessment tool for a doctoral-level pharmacotherapy course for physical therapy students. One purpose of the study was to determine whether collaborative writing within a wiki facilitated learning. To develop digital writing skills in a collaborative field, students used PBworks™ (wiki) and Google Sites™. The case study scenario offered a real world complex problem and engaged students as they worked

together. Collaborative writing was used as a pedagogical strategy, not only for assessment but also to model professional communication to students as they simultaneously learned content. Students were supported in their learning through paced online lectures with supporting material, practice opportunities, and daily feedback from licensed physical therapists who were doctoral candidates.

Ten groups of five students were assigned a unique case developed by the College of Pharmacy and the Program in Physical Therapy (Pittenger & Olson-Kellogg, 2012). Students were to identify the presenting issues, offer and justify therapy considering the pharmacotherapy risk. Student collaborative writing occurred on the wiki while the resulting hypertext documents for three levels of audience were to appear on the Google Sites. Data were collected through an entrance survey, course evaluation, scores and grades, reflection papers and focus group sessions. Course evaluation data showed that 81% of students who completed evaluation felt they learned what they had expected to or more than they had expected. Similarly high percentages of students rated other aspects of the experience, such as pace, workload, and importance of content, positively. Themes from the qualitative data included evidence of collaborative learning, how writing impacted learning (both helpful and difficult), authentic assessment fostered professional identity, and negative feedback via course evaluation and student reflection assignment. The negative feedback came exclusively from one group of five students. One recommendation of students was to remove the wiki as it increased workload to move between the sites and it was possible to write collaboratively on Google Sites. The authors concluded that the tool was feasible and effective as an educational strategy.

Discussion on Studies of Graduate Students

One purpose of the literature review was to ascertain what types of studies have recently been conducted on collaborative writing at the graduate level and how they add to current understandings thereof. Aside from two studies (Galegher & Kraut, 1994; Rice & Huguley, 1994), all sources considered here were published from 2000 onwards, suggesting a recent interest in the area. Two were dissertations (Moore, 2004; Nahrwold, 2001). The studies were undertaken with varying theoretical orientations. Many explicitly followed a theoretical framework based on the social construction of knowledge (Coutinho & Bottentuit Junior, 2007; Ens et al., 2011; Eyman, et al., 2009, Kasemvilas & Olfman, 2009; Maher et al., 2008; Moore, 2004; Pittenger & Olson-Kellogg, 2012). Two used some form of narrative inquiry such as life history (Bjornsdottir & Svensdottir, 2008) and autobiographical memory work (Sweetland, Huber, & Whelan, 2004). Most used qualitative methods with the exception of four studies that used surveys (Galegher & Kraut, 1994; Kreth, 2000; Nahrwold, 2001; Rice & Huguley, 1994) and four studies that used other quantitative methods (Golden, 2000; Meisher-Tal & Gorsky, 2010; Schindler, 2002). Pittenger and Oson-Kellogg (2012) used a mixed methods approach.

The programmatic and disciplinary contexts varied as well. In many reports, collaborative writing was studied as assigned in a particular course (Coutinho & Bottentuit Junior, 2007; Duemer et al., 2004; Ens et al., 2011; Eyman et al., 2009; Golden, 2000; Meisher-Tal & Gorsky, 2010, Pittenger & Olson-Kellogg, 2012; Rice & Huguley, 1994; Schindler, 2002). Many of the courses were in the Faculty of Education, and two were specifically on research methods (Coutinho & Bottentuit Junior, 2007; Duemer, et al., 2004). However, some studies reported groups that met outside of formal

courses (Clark, et al., 2000; Ferguson, 2009; Maher et al., 2008; Sweetland et al., 2004) suggesting the potential for collaborative writing to address a possible need that is currently unmet in graduate programs.

The focus of the research was either the collaborative writing itself, a particular aspect of collaborative writing, or desired learning outcomes that could be facilitated through collaborative writing. Some studies focused on the collaborative writing itself (Andrew & Caster, 2008; Ens et al., 2011; Ferguson, 2009; Golden, 2000; Maher et al., 2008; Rice & Huguley, 1994; Sweetland, et al., 2004). Others addressed specific aspects of the writing such as how writers conceptualize audience (Schindler, 2002), the development of leaders (Duemer et al., 2004), or how much Engineering students write during their co-op programs (Kreth, 2000). In one, the desired outcome was improved writing skills (Clark et al., 2000). In another, researchers wondered whether collaborative writing on a wiki effectively facilitated learning (Pittenger & Olson-Kellogg, 2012).

The studies of collaborative writing of graduate students also offered some recurring themes. What follows is a brief discussion of the following themes: knowledge construction, psychosocial support, acculturation to academic norms, academic constraints and technology.

Knowledge construction. Emphasizing writing process as "knowledge-creating" rather than "knowledge-recording" (Ferguson, 2009) was introduced to writers at earlier stages of their program which likely promoted the learning that happened in the doctoral writing groups. In another example, once students in Maher et al.'s (2008) doctoral writing groups shared a metalanguage of their writing, they were able to experience conceptual shifts in their writing and how the thinking was reflected in the phrasing of

research questions or use of particular sources. In addition, Ens et al. (2011) shared a

view of knowledge as socially constructed and reported experiencing the fruitfulness of

talk in this coconstruction of knowledge. Similarly, Clark et al. (2000) had such rich

conversations that they regretted not having videotaped them. They asserted that their

conversations extended their knowledge in ways that individual thought would not have

although the authors did not offer examples in their report. Doctoral students in the

pharmacology class studied by Pittenger and Olson-Kellogg (2012) talked about ways in

which sharing ideas with their peers helped to bring together perspectives and expertise

that would not have happened writing alone. In addition, through their interaction,

students developed their ability to offer constructive feedback and critical analysis. As

already mentioned, Coutinho and Bottentuit Junior (2007) reported less favorable results

for knowledge construction. Of interest regarding the proposed study, knowledge

construction may be related to other conditions of the collaborative writing such as

whether it is mandatory or voluntary, course based or outside of program requirements.

Psychosocial support. Graduate students in a number of studies expressed feelings

of lack of motivation and insecurity or vulnerability at the beginning of their

collaborative writing experiences (Clark et al., 2000; Ferguson, 2009; Maher et al., 2008).

Engaging in the group writing process helped students to dispel fear (Ferguson) and

increase confidence (Ferguson, Maher et al.). Sharing views and receiving feedback were

ways in which students experienced the support. For participants of Clark et al.'s group,

the regular meetings improved motivation, accountability, and productivity. For students

in Ens et al.'s (2011) study, insecurity was related to the complexity of the new

relationships as the authors began writing together; but at the same time, accountability to

the group was perceived as a source of motivation. The tension between vulnerability and support continued throughout the process for Ens et al. But as the writing proceeded, trust developed among the collaborators.

Developing friendships created a buffer for the isolation individuals experienced in their academic programs Maher et al., 2008. Similarly, one writer in Ens et al. (2011) mentioned the learning community of her writing group contrasted with the isolation she had felt in her master's program. For many of these doctoral students, through their developing relational knowing, they were able to establish trust and build knowledge. Clark et al. (2000) reported experiencing a "socially constructed knowing that has both emotional and rational components" (p. 53).

Acculturation to academic norms. For some graduate students, writing groups became a way of acculturating to academic norms at their level (Andrew & Caster, 2008; Clark et al., 2000; Maher et al., 2008). In Andrew's case, the collaborative writing was proposed by a professor, and she held fears that her voice would not be important or heard. In contrast, in writing with Caster, she not only learned how to prepare a manuscript for publication, she gained confidence in her own academic voice through the conversations and written drafts exchanged with Caster. Clark et al. (2000) specifically formed their group to learn discipline-appropriate writing skills. In the process of writing together, they also grew in their academic identities, supported by each other. Maher et al. (2008) experienced a very similar process.

Academic constraints. A number of studies indicated a tension between the collaborative writers and their academic environment. For some (Eyman et al., 2009; Ens et al., 2011), the emphasis on individual work in graduate studies seemed out of keeping

with their views of the social construction of knowledge and the possibilities inherent in

collaboration, both professionally and personally. Moore (2004) and Nahrwold (2001)

held similar views of the limitations in valuing individual work posed by the academic

institution. Finally, Bjornsdottir and Svensdottir, (2008) indicated that academic language

made research inaccessible to individuals. These writers had in common a view that

collaborative writing offered an alternative to individual approaches that was not only

beneficial to students but a recommended practice that the institution should value or

adopt.

     Technology. Using collaborative technologies does not guarantee dialogic

collaboration. Research using collaborative writing on wikis made visible writing actions

such as adding, deleting, or changing text written by others (Coutinho & Bottentuit

Junior, 2007; Kasemvilas & Olfman, 2009; Meisher-Tal & Gorsky, 2010). However, the

relationship between how writers collaborate using wikis and other collaborative writing

software or programs is needed to examine factors encouraging knowledge construction,

dialogue, and growth in writing skills that is reported in other studies of collaborative

writing. For example, how the assignment is construed and explained to students may

make a difference in students' level of interaction and commitment to the project.

Conclusions

     Early career researchers (Tynan & Garbett, 2007; Griffith & Beatty, 2010;

Pasternak et al., 2009) and graduate students (Ens et al., 2011; Ferguson, 2009; Maher et

al., 2008) articulate some of the same sense of isolation and need of support in academic

acculturation, using writing groups to grow as writers. Perhaps professors earlier in their

careers will create more opportunities for graduate students to write together, assigning

collaborative work in courses or writing with graduate students. In a related vein, identity—as tied to self as writer, academic, or researcher—was identified in many studies (Hildebrandt, 2004; Eymond et al., 2008; Lapadat et al., 2005; Lingard et al., 2007; Maher et al., 2008; Sakellariadis et al., 2008; Sweetland et al., 2004). Not surprisingly, exposing one's ideas to others, defending, and modifying them requires a vulnerability and trust that authors of these studies discussed (Andrew & Caster, 2008; Ens et al., 2011; Ferguson, 2009; Griffin & Beatty, 2010; Hildebrandt, 2004; Lapadat, 2009; Lapadat et al., 2005; Sakellariadis et al., 2008; Straw et al., 1996). This kind of interaction is closely tied with identity in the given context.

For graduate students, focused intellectual work in graduate studies is accompanied by emotions that can surface in collaborative writing projects. For authors of a number of studies (Benton, 1999; Ens et al., 2011; Maher et al., 2008; Tynan & Garbett, 2007; Sakellariadis et al., 2008), acknowledging affective and cognitive dimensions of the writing process was important. Accordingly, both dimensions of collaborative writing were of interest in analyzing survey responses and interview transcripts in this study.

Group composition was a factor in a number of studies (Ferguson, 2009; Ritchie & Rigano, 2007, Pittenger & Olson-Kellogg, 2012). Even in those studies that did not make an issue of group size, groups tended to be smaller ranging from dyads to groups of three to five. Larger writing groups were more common in studies where the task was to write on a wiki (Coutinho & Bottentuit Junior, 2007; Kasimvilas & Olfman, 2009; Meisher-Tal & Gorsky, 2010).

One reason for reviewing the literature was to gain a sense of what types of studies have recently been conducted in the area of collaborative writing of faculty and

collaborative writing of graduate students. Much of the reviewed research appears to involve reflection, often including narrative. These reflective, narrative studies seem to suit the examination of collaborative writing processes or identities of writers who have been working together for some time. In addition, much of the research on collaborative writing experiences is based on self-report. It seems that using collaborative writing as a reflexive tool has value. Research on collaborative writing on wikis lends itself better to quantitative analyses than do the reflections. Quantifying writing events that can be categorized in a taxonomy is possible due to the repository of all kinds of data on the wiki such as history of individual changes to text including dates, times, and details of the changes. Using wikis both for collaborative writing in graduate studies and as a way to research the writing activities of graduate students appears to be an area promising further insights. Finally, some of the reviewed research includes examining quality of product. If writing quality is of concern to students and faculty in graduate studies, exploring ideas related to criteria for quality writing in various disciplines and appropriate pedagogies for the given genres will be of interest.

As background to this study, the reviewed research illustrates the possibilities in conceptualizing and enacting collaborative writing. Discipline, genre, individual characteristics, power and relational dynamics, and academic expectations all affect the nature of the collaborative writing experience. The reviewed studies, however, do not represent a comprehensive view of what is happening in universities. This study, therefore, was conducted to offer a better picture of one region, Canada, and what professors and students report given their understandings of collaborative writing and their own participation in collaborative writing activities. Through this study, I examine

whether students are writing collaboratively. In addition, participant perspectives provide

insight as to whether professors and students know about the benefits and challenges

inherent in collaborative writing at the graduate level.

Chapter 3: Methods

The purpose of this study was to explore professor and student perceptions of collaborative writing at the graduate level to achieve a nationwide picture in Canada. Data were gathered from participants in six disciplines in order to determine knowledge of, attitudes towards, and experiences with collaborative writing. A mixed methods approach was employed to explore the research questions.

Research Questions

1. What are professor and graduate student experiences of collaborative writing?

2. What are professor experiences of assigning collaborative writing to graduate students?

3. What are professor and graduate student attitudes towards collaborative writing?

4. What are perceived benefits and challenges of collaborative writing?

Design

This study used both quantitative and qualitative techniques in a mixed methodological framework using a sequential explanatory design (Hanson, Creswell, Clark, Petska, & Creswell, 2005). The university's ethics board approved the study, including survey pilots and interview protocols. Given the prevalent framework of social construction of knowledge in the research on collaborative writing and the challenges offered by feminists and other critical theorists, this study on collaborative writing was influenced by these theories. The initial survey was analyzed deductively to describe and confirm the beliefs held about collaborative writing as well as practices reported. However, because the study included writers in disciplines typically unreported in research on collaborative writing, the results offered a number of apparent patterns and relationships requiring further investigation. It became important to open the inquiry

using questions that could probe why these patterns were emerging or confirm the

relationships found through quantitative data analysis. Thus, in the second phase of the

study, interview data from select professors and graduate students were collected and

examined inductively to gain a sense of reasons professors and students offered for

engaging or not engaging in collaborative writing and what their experiences entailed.

Although qualitative data were analyzed inductively, the categories that emerged

confirmed what researchers over the past 20 years have found regarding collaborative

writing.

Justification of Mixed Methods Approach

Historically, quantitative and qualitative approaches have been viewed as opposite,

with competition or conflict between proponents of each (Hanson et al., 2005; Luttrell,

2005; Onwuegbuzie & Leech, 2005; Scott, 2007). Each has been associated with

particular epistemologies and, as such, according to researchers' paradigmatic choices in

their disciplines, one is favored over the other. However, increasingly, researchers are

shifting to understanding the complementary possibilities of the methods and using

techniques of each judiciously (Dillon, O'Brien, & Heilman, 2000; Johnson, 2009; Morse

& Chung, 2003). Onwuegbuzie & Leech suggest this shift may be eased by discontinuing

the use of terms *quantitative* and *qualitative* and using the terms *exploratory* and

confirmatory to describe research methods. They call the new researcher employing a

combination of both methods the *pragmatist* researcher.

Dillon, O'Brien, and Heilman (2000) also refer to pragmatism; however, citing

Dickstein (1998), they locate pragmatism as a branch of philosophy with a 100-year

history. Viewing truth as defined through multiple perspectives and valuing inquiry

undertaken for useful ends, pragmatism sees meaning as inextricably linked to human experience and needs within particular contexts. The emphasis on useful ends of inquiry involves the "creation of a freer and more humane experience" (p. 18), though constrained by situational context.

In both qualitative and quantitative research, similarities abound. Both use research questions and observation to address the questions (Onwuegbuzie & Leech, 2005). Both use analytical techniques to interpret data and find meaning as well as techniques to verify data. In attempting to reduce the dimensionality of data, quantitative approaches use factor and cluster analysis while qualitative ones use thematic analysis. Both approaches also "seek to distinguish inductive and deductive work, and regard the one as feeding the other in a never-ending spiral" (Luttrell, 2005; p. 189). In the attempt to understand human behavior using these approaches in the social and behavioral sciences, researchers have similar goals but different ways of operationalizing the strategies to reach those goals (Onwuegbuzie & Leech).

Deductive and inductive methods are useful for different purposes; thus, using both helped to provide a more comprehensive view of collaborative writing at the graduate level. Deductive approaches have sometimes been aligned with quantitative approaches and inductive with qualitative, an oversimplification according to pragmatists (Onwuegbuzie & Leech, 2005). Typically in studies involving quantitative methods, research proceeds from theory to creating a hypothesis to testing that hypothesis. In educational research, so many factors influence the learning outcomes that it is not necessarily appropriate, nor is it sufficient in many cases to examine elements alone, solely relying on quantitative techniques. For example, considering statistics on writing

consultations in a writing centre, Carino and Enders (2001) noted that as the number of variables increased, knowledge became "murky" (p. 99), as constructs are hard to quantify. When complex relationships between elements need to be considered, such as in much educational research (Smeyers, 2008), qualitative methods can be helpful. Many qualitative methods require collecting data, sifting through it, coding, and noticing emerging themes or patterns (Bogdan & Knopp Biklen, 2007). Theory may guide initial data collection or it may enter at one of the stages of considering collected information.

This study on collaborative writing is best understood by thinking of research methods on a continuum that includes previously dichotomized approaches (Luttrell, 2005; Johnson, 2009; Onwuegbuzie & Leech, 2005). Luttrell points out that locating oneself on the continuum allows researchers to avoid masking some of the bitter debates that have shaped research practices and discourses. In addition, researchers can choose new hybrid approaches that suit the particular problem or phenomenon being examined (Hanson et al., 2005).

Context of the Study

This study was limited to English language Canadian universities that have graduate programs in Engineering, Business, Education, Biology, English, and History. Composition as a discipline and writing instruction in Canadian universities and American universities differ (Brooks, 2002), and as such focusing on Canadian perspectives emphasizes the descriptive nature of the study. However, composition is generally taught at the undergraduate level where national practices may differ whereas graduate studies follow similar patterns in Canada and the United States. Thus findings from this study may generalize to parallel American contexts. The literature reviewed in

Chapter 2 has indicated contexts found in many academic institutions which likely informed survey responses. Institutional policies and norms influence professional and instructional choices. In addition, previous knowledge and experiences of collaborative writing on the part of both professors and graduate students may have affected engagement with the survey. As became increasingly obvious in undertaking this study, disciplinary context potentially determines not only the genre in writing, but also may influence attitudes towards its place in graduate programs.

The setting for the pilot surveys of professor and student perceptions of collaborative writing was an academic campus in Winnipeg. Subsequently, I sent email invitations to participate in the modified surveys to Canadian university departments with graduate programs in Engineering, Business, Education, Biology, English, and History to describe on a larger scale views and experiences of collaborative writing at the graduate level. I conducted follow-up interviews to provide a deeper understanding of survey results. Interviewees selected telephone, Skype video or audiochat, email, or face-to-face modes of interview according to their preferences.

Study Participants for Quantitative Measures

Survey participants included professors and graduate students involved in the departments of Engineering, Business, Education, Biology, English, and History at Canadian universities. Professors who had regular duties and involvement with graduate students were invited to respond.

Independent Variables for Professors

Independent variables for professor surveys included field of study, rank, age, and gender. For field of study, disciplines were combined into three groups: science– Biology

and Engineering, professional– Business and Education, and humanities – English and History.

Dependent Variables for Professors

The constructs I measured were attitude toward collaborative writing and experiences of collaborative writing, which were embedded in the research questions. Dependent variables were based on an item-by-item analysis of the survey completed by professors. For example, I analyzed whether assigning collaborative writing was dependent on gender or discipline.

Independent Variables for Graduate Students

Field of study, gender, and degree level (master's or doctoral) comprised independent variables for analysis of the student survey.

Dependent Variables for Graduate Students

As with the professor survey, the constructs I measured were attitude toward collaborative writing and experiences of collaborative writing. Likewise, dependent variables were based on and item-by-item analysis of the survey completed by graduate students. However, specific variables differed from those used in analyzing the survey filled by professors due to different questions posed in the student survey. For example, I analyzed whether engaging in collaborative writing was dependent on gender or discipline.

Instrumentation for Quantitative Measures

An online survey of professors teaching graduate courses or advising graduate students and a separate online survey of graduate students were used to discover general patterns of attitudes towards and experiences with collaborative writing at the graduate

level in Canada. The survey for professors (see Appendix A for professor survey) consisted of 35 questions and the survey for graduate students (see Appendix B for student survey) consisted of 31 questions. Fewer questions were asked of respondents who reported having no experiences of writing collaboratively. Questions were posed in the following formats: check appropriate response, check all that apply, yes/no, likert scale, and open response. Closed-ended questions tend to increase response rates (Barribeau et al., 2005); however, a limited number of open-ended questions allow for more detailed response and create respondent interest (Gillham, 2008).

Profile information collected from participants included department, gender, age, program (Master's or PhD), previous degrees, academic rank, years teaching university courses, years teaching graduate students, and number of graduate students advised. Profile questions were designed to gain a picture of attributes of professors who write collaboratively or assign collaborative writing and those who do not as well as of graduate students who do or do not write collaboratively.

For both surveys, questions were formulated with attention to fatigue effect, response order effect, and acquiescence (Krosnick, 1999). The questionnaire began with items meant to put respondents at ease and familiarize them with the topic of collaborative writing and the aims of the study. In addition, the wording and type of questions were chosen with sensitivity to survey breakoff behaviors (Peytchev, 2009), a consideration that was informed by respondent behaviors and explanations from the survey pilot.

One way to address potential fatigue is to support a respondent's likelihood of responding to questions by making sure questions are understood (Krosnick, 1999) and

not all of the same type. Both split or unfolding questions (Barribeau et al., 2005) were used to make more difficult or layered concepts accessible to respondents. Split or unfolding prompts present the general concept or question and then probe for more detail. In my attempt to construct these questions, inadvertently, a few questions ended up being confusing to respondents. In a few cases, the general question seemed too ambiguous to respondents or seemed to be soliciting information already asked for in earlier questions. In addition, the surveys used open and closed ended questions, varying the format in order to decrease the temptation to choose all the same option (all first choices, all middle point on a scale), which is one indication of *satisficing* (Krosnick, 1999). Satisficing is the behavior of respondents in choosing the easiest option in a range of question types rather than considering each option, reflecting on personal beliefs and behaviors, and then choosing the appropriate, optimal, or accurate response.

Labeling of rating-scale points identified each point on the scale rather than only the beginning and end point, thereby improving both reliability and validity (Krosnick & Berent, 1993; Peters & McCormick 1966, as cited in Krosnick, 1999). Krosnick (1999) in reviewing the research on survey methods found other advantages to careful labeling, including increased validity if labels represented what respondents perceived to be similar increments between points.

The survey instruments were piloted in Winnipeg with two professors and three graduate students at one university. Piloting the survey questions helped to address the reliability and validity of the instrument (Gordon & McNew, 2008). The goal was for respondents to be able to answer the questions in approximately 15 minutes to decrease chances of abandonment. The surveys were revised according to responses to the pilot,

for example, noting difficulty with comprehension or hesitance in answering questions to adjust word choice, question order, expansion or inclusion of questions (Gillham, 2008). Some suggestions for the professor survey that I heeded were to use a bigger font size, to offer an option such as "does not apply" for forced responses, and to increase the number of options possible to select in other questions. Some suggestions for the student survey that I implemented were to make the open response text boxes larger, to take off the option to save the page and continue, and to clarify the wording in a number of questions and to delete others.

After both surveys were piloted, the revised protocols were reviewed by a panel of experts, further addressing validity. Best efforts were made to ensure construct validity, for example, by clearly defining the term collaborative writing, posting the definition on each survey page, and carefully attending to pilot survey participants' responses as well as expert panel feedback to the instruments. Invitations to participate in the modified surveys were sent to English Canadian universities with graduate programs in Engineering, Business, Education, Biology, English.

Procedures for Quantitative Measures

The quantitative data for this study were collected in the fall of 2011 after receiving approval on the proposed study from the university's ethics board. The survey instrument was piloted in October 2011 at one university in Winnipeg with two professors and three graduate students. Participants for the pilot were selected based on responses to invitation emails (see Appendix C) sent to one university's department heads and administrative assistants of Engineering, Business, Education, Biology, English, and History to distribute to professors and students active in graduate studies. The pilot survey was

administered in person, either at a computer lab on the university's campus or in a private office, to monitor nonverbal responses of respondents and attend to immediate reactions, questions, or suggestions.

A comprehensive list of potential participating programs for survey completion was created using Internet sources on graduate programs. As a starting point, I used the Association of Universities and Colleges of Canada (AUCC) website to determine which English language Canadian universities had graduate programs in the desired disciplines. Thereafter, contact information for specific universities and departments was obtained by going directly to university websites and following links or using given search options. In some cases, initial requests were returned with new contact information that I subsequently followed up on. The total population of professors and graduate students in the targeted departments who met the criteria of this study is not a fixed number as students graduate or drop out of programs and faculty retire, change careers or take on different responsibilities in lieu of graduate student advisorship and teaching. Thus, it is not possible to accurately calculate population size. From the list generated above, I emailed the various department heads or deans, copying the email to their administrative assistants if contact information was available, to invite professors and graduate students to participate in the surveys (see Appendix D for survey invitation email). In total, I emailed 264 initial contacts from 50 different institutions. Of the 264 contacts, 75 were from Engineering departments, 49 from Education, 47 from Business, 34 from English, 30 from History, and 28 from Biology. It is not possible to determine the number of professors or students who then received the study invitation via the initial contacts.

A probability sample is difficult to obtain using this route. Nonetheless, I considered representation issues of the sample in the design of the instruments. Important to obtaining useful information from a survey using a non-probability sample is having sufficient response (Babbie, 1990 in Van Selm & Jankowski, 2006). In addition, to avoid sampling error in which not all members of a population are included, concerted effort to invite all potential respondents of the population was made. The value of responses from all perspectives was stressed in the invitation email so as to discourage the likelihood of nonresponse from individuals with no prior interest or experience in collaborative writing. To further address sampling error, design of the instrument and wording of the questions aimed to improve response rates and measurement accuracy. Response rates were also encouraged by simplifying the process by providing potential respondents with the survey site link in the invitation email rather than requiring them to email me in order to obtain the link (Wright, 2005). Another way to improve response rate is to appeal to the interest of potential respondents and offer a summary of results as a respectful gesture of thanks for their participation (Gordon & McNew, 2008). As such, a summary of survey results was posted on my webpage that was created on the University of Manitoba server http://home.cc.umanitoba.ca.

Survey questions for the pilot were designed to elicit responses regarding major areas related to collaborative writing as identified in the literature review and were amended, as already noted, based on feedback from the piloted surveys. Measurement validity was thus bolstered by paying close attention to respondent comments regarding the wording of the questions (Krosnick, 1999). Revised protocols were also read by experts in the field to improve validity. Surveys were designed and survey questions were

entered into Fluidsurveys and posted. After approximately seven days, a reminder email (see Appendix E for email text) was sent to the initial contacts. Providing reminders is one way to improve response rates (Van Selm & Jankowski, 2006; Gillham, 2008). The survey was left open for approximately one month, from November 23 to December 23, after which it was inaccessible to potential respondents. Users were permitted to save their survey and continue it later. They could also edit completed surveys. In addition, users could download their responses in pdf format. A number of studies have found that response rate is fast for online surveys: Respondents finished the surveys within four days to two weeks of receiving the email invitation (Van Selm & Jankowski, 2006).

During the time that the surveys were posted, I received a surprising number of emails from professors, students, and administrative staff. For example, a few potential respondents posed questions or comments relating to technological challenges with the survey. Others wondered about the definition of collaborative writing, offered reasons for not sending out the survey, gave feedback on the survey questions, and in other ways showed interest in the topic of collaborative writing. I responded to questions and comments promptly by return email and addressed problems as quickly as possible.

Study Participants for Qualitative Measures

Participants for the qualitative phase of the study included professors and graduate students involved in Engineering, Business, Education, Biology, English, and History at Canadian universities. Professor participants only included those with experience working with graduate students. Professors and students chosen for the second phase indicated their willingness to participate in interviews on the last page of the respective

survey by offering their email address. In two of six cases, professors who had *not*

completed the survey volunteered to be interviewed.

Instrumentation for Qualitative Measures

Interviews of select professors and graduate students comprised a second set of

instruments. After analyzing survey data, I formulated interview questions (found in

Appendices F and G) based on areas with potential for further exploration or explanation.

Questions were limited in number and open ended so as to allow participants to address

the issues freely rather than feeling constrained by options provided by the interviewer.

The interviews provided an explanatory function; thus, questions created based on survey

responses were submitted to the university's ethics board for approval that was received

before proceeding.

Procedures for Qualitative Measures

As already mentioned, the university's ethics board approved the proposed study.

The interview protocols were submitted as an amendment to the original proposal

application and were also approved by the ethics board. Based on the outcomes of the

surveys, follow-up interviews were thus conducted. Potential participants indicated on the

surveys their willingness to be interviewed (see Appendix H for interview invitation

email, Appendix I for interview consent form). Representatives from each of the six

fields were chosen so that disciplinary differences could be considered.

Choice of participants was dependent on survey responses. From the combined

survey results it was clear that disciplinary differences were evident in collaborative

writing practices. Therefore, interviewing professors and graduate students from the

different disciplines could be enlightening. Subjects were purposely selected and

interviews were conducted in a medium specified by the respondent so as to ensure his or

her comfort with the mode. A few participants requested interviews by email, with

attached questions requiring a written response. One requested a face-to-face interview.

About equal numbers preferred to conduct the interview by telephone (7) or using Skype

(8). Before reading the interview questions, I read the script to introduce interviews to

ensure their knowledgeable participation (see Appendix J).

Six interviews were undertaken with select professors. Professors were chosen from

those who volunteered their participation in response to the invitation on the last page of

the survey. In addition, to attempt to balance discipline and gender, one participant from

each of the six areas was chosen; in total, three were male and three female. However, a

female participant who agreed to complete the questions by email did not respond after

receiving the questions. Subsequently, I sent a letter of invitation to the given faculty at a

local university, soliciting participation from a faculty member active with graduate

students. The volunteer was male who had not completed the online survey. That he had

not filled the survey was not concerning because the interviews were not designed to

follow-up on specific respondents but rather to explain general patterns.

In addition to professor interviews, twelve graduate students arranged interview

times and modes. The twelve students represented the six disciplines, but it was more

difficult to equally represent disciplines and gender due to availability and timing issues.

I chose six participants who reported having had collaborative writing experiences at the

graduate level and six who reported they had not. The graduate student participants who

had experiences of writing collaboratively at the time of the survey included five females

and a male. Of these, two were from English, one from Business, two from Education,

and one from Engineering. The six who had not experienced collaborative writing at the time of the survey included two males and four females. Of these, one was from History, three from Biology, and one from Education.

I transcribed the interview data as soon as possible after the interviews took place. At the time of transcription, interviewees were assigned numbers. Thereafter, I wrote summary profiles on each interviewee. On these profiles, which were saved separately from transcripts, I designated pseudonyms to participants. In addition, as soon as they were completed, I sent transcriptions to the respective participants for member checks. Only a few responded with changes that were subsequently made to the transcripts. Changes were minor: In a few cases participants added information that had been unclear due to audio recording quality. In others, participants asked to delete statements that incidentally had little bearing on the research questions.

Data Analysis

Survey data were exported to SPSS. In addition, through Fluidsurveys, reports of percentages and counts were produced with graphic representation, which I exported into Microsoft Word. Another researcher and I separately and together analyzed the SPSS data. Descriptive statistics for the items on the survey were formulated. Relationships among independent and dependent variables were explored (Chromy & Abeyasekara, 2005). Using the Pearson Chi-Square test, relationships were tested for significance. In addition, data from open-ended questions were aggregated, inductively coded, (Buckingham & Saunders, 2004) and analyzed for patterns of response.

Along with another researcher, I coded the interview data (Bogdan & Knopp Biklen, 2007). Primarily, data were openly coded in order to explore reasons behind

survey responses and to suggest explanations for survey findings. Sharing the general inductive approach for analyzing qualitative data outlined in Thomas's (2006) article, we used independent parallel coding. An advantage of this approach is the improved trustworthiness of the resulting analysis. A potential difficulty lay in the possibility of each researcher operating from different theoretical assumptions to interpret and ascribe meaning to the data units (Bogdan & Knopp Biklen, 2007). In this case, the researchers had worked together on previous studies and had a shared understanding of the framework. The basic approach of independent parallel coding (Thomas, 2006) was to identify core meanings relevant to the research questions, organize these meanings according to theme, and then describe the most important themes, using broader categories as necessary. Thus, once we had separately coded raw interview data, we met to agree on themes and categories. We agreed on many of the major topics, but we differed on how some details were interpreted.

The value in the conversation lay in determining the main thrust and interesting deviations within the data and how those confirmed or challenged existing knowledge on collaborative writing. It was easy to agree on the importance of participant references to disciplinary differences and how professor and student responses differed regarding their views on mentorship. As with the analysis of open survey questions, the categories of analysis were considered in light of the research questions and reported accordingly. Recurring and overlapping categories were addressed, therefore, in answer to the given research question. Similarly, themes were used as explanatory headings and interwoven in the reporting. Because the research questions were so broad, it was possible to include the range of themes.

As is often the case with qualitative research, in writing the results, I returned to the research literature and in a recursive manner, refined categories as the pieces fit together. In this process, I conducted another literature search to explore writing on mentorship at the graduate level, specifically regarding writing and if possible in the disciplines related to this study.

Limitations

The study had a number of limitations. First, it was not possible to determine the total numbers of graduate students and faculty who have written collaboratively and those who have not. Thus statistical results are not generalizable. However, the surveys' usefulness lies in the descriptive patterns that resulted from participant responses. Second, respondent rates affected survey results. The graduate student survey was completed by 100 respondents who identified that they had engaged in collaborative writing and 83 respondents who identified that they had not engaged in collaborative writing. However, the professor responses were skewed: Only three of the total 61 professors who completed the survey indicated that they had not engaged in collaborative writing, thus biasing the sample.

Whether or not professors themselves had engaged in collaborative writing may have not only influenced their interest in responding to the survey, but also the kinds of responses they offered. For example, a professor who has had positive experiences of writing collaboratively may express the value of the activity by indicating the increased ease of marking (e.g., one mark for four writers versus four marks for four writers) as opposed to indicating the difficulty in evaluating collaborative efforts. Furthermore, some professors see the value of collaborative writing for learning how to become better

researchers or writers (Lapadat, 2009; Pasternak, Longwell-Grice, Shea, & Hanson, 2009), for knowledge construction (Coutinho & Bottentuit Junior, 2007; Wang, 2010), and for social support networks (Pasternak et al., 2010; Tynan & Garbett, 2007). Their responses may differ greatly from professors who hold the views that writing is an individual pursuit (Sullivan, 1991); competition is a good way to produce excellence in scholarship; and intellectual property and academic integrity may be jeopardized within shared learning activities. Professors who have not written collaboratively, are not aware of its possibilities, or are ideologically opposed to the idea of collaborative writing, and thus may have chosen not to access the survey thus biasing the sample.

Chapter 4: Results

The purpose of this study was to explore professor and student perceptions of collaborative writing at the graduate level in order to achieve a nationwide picture. Data were gathered in order to determine knowledge of, attitudes towards, and experiences with collaborative writing. A mixed methods approach using two surveys and eighteen interviews was employed to explore the research questions. Two researchers analyzed the quantitative data from the surveys and two researchers analyzed the two types of qualitative data: the open-ended survey comments and the interview responses.

The results chapter is divided into three sections: professor data, graduate student data, and summary. The first two sections contain profile data followed by results informing each of the four research questions, incorporating thematic analysis and discussion where appropriate. The topic of technology follows the results that directly addressed the research questions. The questions are as follows:

1. What are professor and graduate student experiences of collaborative writing?

2. What are professor experiences of assigning collaborative writing to graduate students?

3. What are professor and graduate student attitudes towards collaborative writing?

4. What are perceived benefits and challenges of collaborative writing?

In each section, research questions are posed as headings. Most sections conclude with discussion and connections to related literature.

Professor Data

Eighty-seven professors accessed the online survey of professors. Of these responses, 61 surveys were completed (70% completion rate). In the first section of the

survey (see Appendix A) professors were asked to identify their field of study, rank, age, and gender. Further questions were posed to get a sense of time in the academy, time teaching, and time spent working with graduate students in the event that patterns would follow relating to any aspect of collaborative writing in graduate studies. In addition, questions about technology use were aimed at illuminating the connection between technology use and collaborative writing experiences. Responses regarding technology are reported under the technology heading. Questions soliciting attitudes towards collaborative writing concluded the profile section of the survey, and these responses are reported under the heading regarding attitudes.

Professor Participant Profiles

Figure 1 shows the breakdown of professor respondents by field of study. Most of the 61 professors who completed the survey came from Biology (n=20, 33%) and Education (n=14, 23%). Articles on collaborative writing in Education are not uncommon in the research literature; however, although multiauthored works are common in the field of Biology, collaborative writing as a subject does not have high visibility in the literature. The relatively high response from biology professors is thus interesting. The
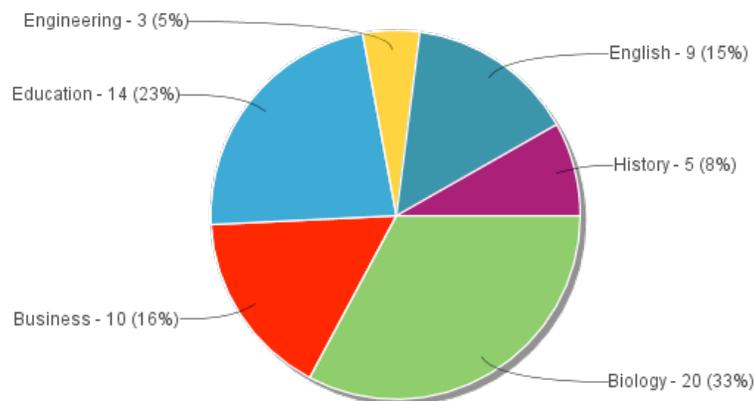
Figure 1: Professors by Field of Study

lowest numbers of respondents were from History (n=5, 8%) and Engineering (n=3, 5%).

The low response from History professors is less surprising than that of Engineering

professors. Based on the literature review, collaborative writing is common in

Engineering but virtually absent in History.

In terms of rank, most respondents identified as associate professors (n=31, 51%),

or full professors (n=21, 34%). Figure 2 shows the breakdown of rank. These results are

reasonable given that it is more likely that professors with higher rank will work with

graduate students.
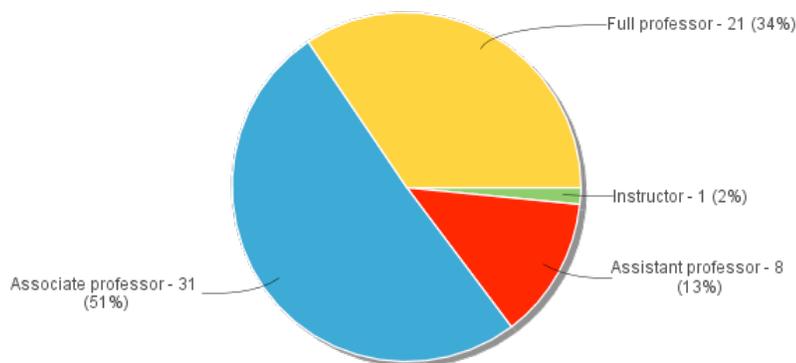
Figure 2: Professor Rank

As for age, the highest numbers of respondents were from the 41-50 years age

category (n=22, 36%) and 51-60 (n=20, 33%). The next highest number of respondents

came from the over 60 age group (n=12, 20%). Again, these numbers make sense when

considering the graduate studies focus; however, it is interesting that the response from

the 41-50 age group is so high. Almost equal numbers of males (32) and females (29)

responded.
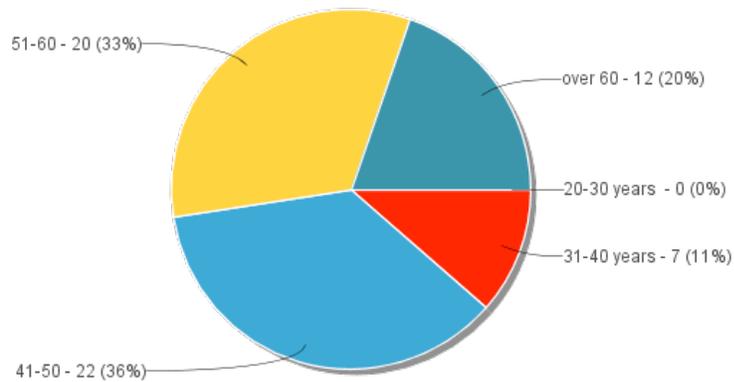
Figure 3: Professor age in years

In terms of teaching experience, most faculty respondents were experienced in academic instruction. Table 1 summarizes data on teaching and graduate advisor experience.

Table 1

Experience Teaching and Working with Graduate Students

Years' experience teaching graduate students	Percentage	Count
1-5	25%	15
6-15	43%	26
16-30	23%	14
31-40	8%	5
over 40	2%	1
Total		61
Number of graduate students advised	Percentage	Count
1-5	33%	20
6-15	33%	20
16-30	13%	8
31-40	11%	7
over 40	10%	6
Total		61

The bulk of respondents reported having taught courses for 6-15 years (48%) or 16-30 years (31%). Respondents were also experienced teachers of graduate students with only 25% reporting fewer than five years of experience teaching graduate students. Similarly, faculty members reported having many years of experience advising graduate students

In terms of their technology use, the majority of professor responses suggested at least a basic level of comfort with the technologies listed. Over three quarters of respondents reported regularly using MS Word with track changes, with just over a third using Word for teaching. Smaller numbers used other technologies such as SMART board or wiki for teaching. (Table 12 on page 67 shows the results relating to technology).

In the second phase of the study, I interviewed six professors, one from each discipline represented on the survey. Of the six professors I interviewed, two were female and associate professors; four were male and full professors. Only one professor was between the ages of 41-50. The others were over 51 with two over 60. All had been with a university for 16-30 years. All six had written collaboratively themselves; however, four had assigned collaborative writing to graduate students whereas two, those in English and History, had not. I interviewed no professors who had not written collaboratively because no survey respondents who had indicated that they had not written collaboratively identified their willingness to be interviewed. I use pseudonyms in all my references to the interviewed professors.

Pamela was a 60+-year-old Associate Professor in Education in a university in Eastern Canada. She had been teaching graduate students for 16-30 years and had advised graduate students for 6-15 years. She was comfortable with technology, regularly using a

Blackberry or other personal device, a cell phone, and MS Word with track changes. She

had not tried a wiki or blog but did use Collaborate/Blackboard, and was the only

interviewed professor who spoke of her online teaching in conjunction with collaborative

writing.

Pamela assigned collaborative writing to graduate students. She reported that the

first time she assigned collaborative writing to students, she did so because she benefitted

from own collaborative writing experiences and thought students could too. In addition,

she was trying to make teaching more engaging and wanted to try group work in classes.

When assigning collaborative writing, Pamela did talk to students about process, for

example, assumptions, diverse backgrounds, how to handle conflict, and offered tips on

how to listen actively.

Elizabeth was in her 50s and an Associate Professor in English in a university in

Central Canada. Like Pamela, she had been part of the university culture and taught

classes as well as graduate students for 16-30 years. She had advised over 60 graduate

students. Elizabeth described herself as having a medium comfort level with technology.

She had tried a blog, but she found it was not very welcomed by students. She did not use

a Blackberry, cell phone, or any of the other technologies listed on the survey

questionnaire. Elizabeth's experience of writing collaboratively had been positive;

however, she had not assigned collaborative writing to her students.

Arthur was a Full Professor in Biological Sciences at a large university in Western

Canada. Between 51-60 years old, he had been in the university setting for 31-50 years.

He had taught classes and graduate students for 16-30 years and had been advisor for 16-

30 students. Arthur had tried MS Word with track changes and Google Docs, but he had

not tried using a Blackberry, cellphone, wiki, SMART board, or blog. Arthur had

extensive experience of writing collaboratively, having coauthored most of his more than

100 research papers. Generally he wrote with others to experience support from a mentor

or colleague. Collaborative writing was both positive and negative for Arthur: Synergy

developed between active participants in some cases, and in others, participation was

given lip service only, resulting in negative experiences.

When Arthur assigned collaborative writing to his graduate students, the purposes

included to synthesize literature from the field, disseminate research results, write up

results for conferences, write up lab experiments, teach genre specific writing, teach

writing process, encourage positive peer interaction among students, increase quality of

student learning, and increase their motivation for writing. These assignments were not

graded, but he assessed their work on the quality of the product and individual

contribution.

Charles was a Full Professor in History at a university in Central Canada. Between

41 and 50 years old, he had been involved with a university for 16-30 years and had

taught courses and graduate students for 6-15 years, acting as advisor to over 40 students.

Charles appeared to use little technology as he had tried MS Word with track changes and

Google Docs but had not tried a Blackberry, cell phone, wiki, SMART board, nor Blog

and did not report regularly using any of the technologies listed on the survey.

Charles believed that collaborative writing could foster thinking from multiple

perspectives. In addition, he agreed with the statements that collaborative writing is

difficult to grade and non representative of student ability. In terms of his own

collaborative writing experiences, Charles had written a journal essay for publication

with a student. In this experience, he wrote collaboratively rather than individually in order to involve someone with different expertise. Charles did not assign collaborative writing to graduate students, mainly due to his difficulty with potentially unequal contribution.

Tom was a male Full Professor in Business at a university in Western Canada. Over 60 years old, he had been involved with a university for 33 years, had taught courses for 35 years, and taught graduate students for 33 years. He had been advisor to over 40 students. Tom was comfortable using technology, having tried all and regularly using much the technology options listed on the survey. He reported that he had not used SMART board much and had only used wiki for consulting, but not on campus. He had both written collaboratively extensively and assigned collaborative writing.

James was a Full Professor in Mechanical and Manufacturing Engineering in a large university in Western Canada. Between 51 and 60 years old, he had taught classes for 16-30 years but had only taught graduate students for less than five years. During that time, he has advised between 16 and 30 graduate students. James had tried using a wiki and Google Docs and used Word with track changes. He had not tried using a Blackberry, cellphone, SMART board, or blog.

James summarized his collaborative writing experiences as bringing together complementary skills with clear delineation of responsibilities. James also assigned collaborative writing to graduate students. The first time he assigned collaborative writing, he did so for ease of marking and because he benefitted from experiences of collaborative writing and thought students could too. In addition, he was hoping to make teaching more interesting or engaging and wanted to try group work. He noted also that

collaborative writing projects could be more challenging in scope than individual assignments. His purposes for the collaborative assignments included to synthesize literature, to present research findings at a conference, and to write up lab results from experiment conducted together.

Research Question 1: What are Professor Experiences of Collaborative Writing?

Survey and interview data are interspersed throughout this section. Because most professors who participated in the study *had* experiences of writing collaboratively, data from professors who had *not* written collaboratively are presented first, followed by those who had. Relying heavily on interview data, I then describe professor experiences of writing with graduate students, followed by professor experiences writing with colleagues. In looking at professor experiences writing with colleagues, I was wondering whether their own experiences influenced their pedagogical choices at the graduate level. Examining their experiences writing with graduate students helped to describe one way collaborative writing is occurring in Canadian graduate studies.

The survey was meant to invite responses from professors who *do* and who *do not* engage in collaborative writing. A disproportionate number of respondents reported having written collaboratively professionally with 58 of 61 (95%) answering *yes* and 3 of 61 (5%) answering *no*. Thus, in this section, the results for professors answering *no* are presented first, followed by those for the professors answering *yes,* which represent the bulk of this section. Interview data supplements both sections but more is reported in the latter section as all interviewed professors had experiences of collaborative writing.

Professors who had *not* written collaboratively professionally. As already mentioned, this study features almost entirely data from professors with experiences of

collaborative writing. Only three of 61 survey respondents identified that they had not written collaboratively professionally. Of those, all three indicated that they had been offered the opportunity to write collaboratively. However, they did not explain why they chose not to write collaboratively (an optional response question).

Despite having no personal experiences of collaborative writing, one professor had assigned collaborative writing to graduate students; another was using collaborative writing with undergraduate students; and the other stated that he would consider using collaborative writing with undergraduate students. The fact that professors who had no experience of collaborative writing were willing to assign it signaled potential for pedagogical change and thus was of interest to me in designing subsequent interview questions for this study. To further explore the relationship between professors' own experiences of writing collaboratively and their decisions to use collaborative writing with graduate students, one interview question stated "What do you think is the relationship between a professor's own experiences of collaborative writing and his or her choices to include or exclude it from graduate students' experiences?"

In response to the follow-up question, interviewed professors, who all *had* experience writing collaboratively, connected their own experiences of collaborative writing with the likelihood of their assigning it, but they focused on different aspects of their experiences. Pamela (Education) responded out of her own experiences of writing collaboratively: "I think [the connection is] probably huge. For me it's huge. I mean, I can't imagine somebody assigning it if they haven't done it themselves."

Four other professors thought back to their experiences as graduate students and the actions of their professors to respond to the question. Elizabeth (English) connected her

willingness as a professor to write collaboratively with Heather, a graduate student, to the

milieu she encountered in graduate studies, the "collaborative ethos of my other mainly

female graduate student peers and that feminist methodology matrix…the young feminist

professors in our department who just taught me that and even modeled it in the way they

taught their classes." Also referring to the practice of his professors, Charles (History)

noted that a large part of his wariness towards collaborative work came from his

experiences as a graduate and doctoral student. He explained,

> My supervisor, although he wrote a few books with other authors, I think they were
>
> more cooperative than collaborative. He was very much a 'go off and do your work
>
> and come back to me when it's finished' sort of person.

Charles felt comfortable emulating this practice.

While Arthur (Biology) postulated a connection between how he as a graduate

student was taught and his own collaborative writing pedagogy, his actions belied the

strength of that connection. He explained, "Well, I think there's very strong relationship

there. Although in my case, my master's and PhD supervisors worked in an older model

where they were not coauthors. And yet, I found myself in a field where the expectation

of coauthorship is much stronger, so I've had to learn to adapt, and I think it's my role to

pass some of my experiences on to the students, to the modern world that they're going to

encounter." Similarly, James replied to the question, "Yes. I think there's probably a very

strong correlation. Teaching, generally speaking, is a very human activity, and I think I'm

heavily influenced by the teaching methods I enjoyed as a student." Yet in the next breath

he offered an exception in that his professor was able to write the product of thoughts

seemingly without effort whereas James wrote to think, which involved more drafts and

processing. That James deviated from acting in the way his professor had implies that not all activities of practice are taken from role models.

It appears that while professors' first response is to assume a relationship between their experiences and their choices regarding integrating collaborative writing into graduate studies, their reported behaviors do not consistently substantiate that connection. The direct relationship suggested by interviewed professors is also contradicted by the responses of the three surveyed professors who had no experiences writing collaboratively and yet were willing to or did assign it. Arthur also indicated a willingness to change for seemingly pragmatic reasons. Mentoring graduate students into a community of practice, he felt it important to prepare them for the realities they would face in academia or beyond, which included knowing how to coauthor.

Professors who *had* written collaboratively professionally. Of the 58 survey respondents who had written collaboratively in their professional work, 49 offered responses to the open-ended question asking them to describe their experiences. These responses were rich and yielded eight pages of double spaced text. The data fit five categories: collaborators, product, process, evaluation, and context. These categories, although created by analyzing the data inductively, confirmed what has already been established in the research literature—that various components are common to collaborative writing experiences that can each influence the quality of the experience in various ways. At the graduate level, students and professors can consider these factors in designing or reflecting on collaborative writing experiences. I report additional survey data where they fit these five categories.

Collaborators. Many surveyed professor comments indicated writers with whom the respondents collaborated, thus *collaborators* became the first category characterizing experiences of writing collaboratively. Common collaborators included graduate students and colleagues. Others were individuals outside a given discipline or the university context: government and nongovernmental research and policy personnel or citizens in general. Some respondents specified that their collaborators were international colleagues, writers with English as an additional language, or individuals with different age, rank, gender, or power. Other respondents named their collaborators as coauthors. Some respondents highlighted the subject or writing expertise of their collaborators.

Table 2

Number of Cowriters in Collaborative Projects

Number of cowriters	Never	Once	A few times	Often	Total
With one other writer	1 (2%)	3 (5%)	21 (36%)	33 (57%)	58
With 2 other writers	11 (19%)	3 (5%)	22 (38%)	22 (38%)	58
With 3 other writers	17 (29%)	7 (12%)	19 (33%)	15 (26%)	58
With 4 or more other writers	22 (38%)	8 (14%)	23 (40%)	5 (9%)	58

Collaborative writing may happen in pairs, groups, or teams (See Table 2). The most common among survey respondents was in pairs. The configuration of collaborators used by most respondents (57%) most often (often) was *with one other writer.* Adding the category *a few times* to *often*, this number became 92%. Groups of four or more cowriters occurred frequently (combining *a few times* with *often*) for 49% of respondents. Examining the responses by discipline, respondents from History and

English mainly responded *never* to the prompt whereas more respondents in Biology and Education indicated *a few times* or *often.*

Product. Identifying the type of product that resulted from collaboration was the second prevalent category noticeable in professor descriptions of their collaborative writing experiences. Types of products included journal articles, manuscripts, reports, book chapters, presentations, conference papers, essays, and administrative documents. Subcategories in the product section were amount and time (frequency, span, or duration), as respondents also often identified the number of texts they wrote, how often they collaborated with other writers, or for how many years they had been writing collaboratively. The number of articles or papers written collaboratively ranged from one to 160. Responses indicating time included words such as "routinely, most, past few decades, five per year, and over several years."

One survey question aimed to gain a sense of what types of purposes professors had for the documents they wrote collaboratively. Respondents could identify how many of their collaboratively written documents shared each of the four document purposes listed (See Table 3). Very few professors (one in each case) reported no or one instance of coauthoring an article for publication and presenting research findings at a conference, respectively. Not surprisingly, over 30 of the 58 professors had both those purposes for many of their collaboratively written documents. In addition, 35 reported that a purpose for many documents was to disseminate research results. On the other end of the spectrum, 35 indicated that none of their collaboratively written documents was written to report lab results from an experiment conducted together.

Table 3

Purposes of Collaboratively Written Documents

Number of Documents	none	one	several	many	Total
Purpose					
To coauthor an article for publication	1 (2%)	5 (9%)	16 (28%)	36 (62%)	58
To present research findings at a conference	9 (16%)	1 (2%)	17 (29%)	31 (53%)	58
To disseminate research results	4 (7%)	3 (5%)	16 (28%)	35 (60%)	58
To write up lab results from an experiment conducted together	35 (60%)	4 (7%)	7 (12%)	12 (21%)	58

This number could be explained in part by discipline: Only a few respondents in English, History, Business, and Education reported *one or more* to that prompt; in Biology and Engineering, almost all reported *several* or *many*. The nature of typical research and scholarship in the disciplines relates to the purposes reported.

  Process. In their descriptions, professors also wrote about the process of writing collaboratively, describing who did what at a given stage in the project. The comments related to process confirmed earlier research regarding collaborative writing processes (e.g., Ede & Lunsford, 1990; Lowry, Curtis, & Lowry, 2004). Respondents wrote about hierarchical and dialogic processes. For example, this respondent's description showed a hierarchical beginning with a lead writer, followed by a more dialogic editing process.

  First draft of the paper/document is created by the first author, then shared among

  others either electronically, or while sitting in the same room. Edits are made by

  tracking changes, followed by discussion (face-to-face or email) to determine

  which changes should/should not be made.

In the following example, the respondent also indicated a hierarchical approach to the collaborative writing experience as a graduate student.

> I was required to write a group paper with three other graduate students. I was assigned the task of "co-ordinator of writing" which meant that I collected the drafts, and was responsible for creating coherence and unity in the final paper. One of the group members did not provide me with a draft, but instead provided a list of "quotes" less than 24 hrs. before the paper was due. I wrote his section.

The description illustrates one of the commonly stated challenges of collaborative writing, namely unequal or nonparticipation of writers, a problem that is also associated with credit and authorship. A more dialogic process was described by the following respondent: "Have also jointly written papers and book chapters with colleagues. This involves back and forth editing and revising drafts."

Following the open prompt, survey respondents were offered statements that described activities that could be construed as collaborative writing and were asked to choose any that applied to their own experiences. The most commonly identified activity was "participated in face-to-face, online, or telephone discussion regarding a joint written product" (81%). Changing others' text on a wiki was the least identified category (10%). See Table 4 for all responses.

In the open responses, professors added examples that were not represented in the options given in Table 4 or elaborated on the prompts. A number of professors added variations of given responses that emphasized the activity. For example, to "changed others' text on a wiki" they wrote "changed others' text in a Word document in Dropbox" or "developed collaborative documents with colleagues using Google Docs." One

respondent added, "gave feedback" to the prompt "received feedback." Others listed the

various roles: supervisor, committee member, editor." For example, one professor stated,

"I have hired perhaps 400 undergrad and grad students to assist in a huge project which

has to date published 64 volumes." And one pointed out that the collaborative writing

was done online without collaborators ever having met in person.

Table 4

Professor Experiences of Writing with Others

Writing activity	Percentage	Count
Participated in face-to-face, online, or telephone discussion regarding a joint written product	81%	47
Gave feedback and editorial advice to a graduate student and was listed as coauthor	66%	38
Wrote a document, e.g., policy, as one of many authors with discrete assignments	62%	36
Met with a group that provided oral feedback on something I had written	50%	29
Conducted a study with a graduate student and was listed as first author	43%	25
Changed others' text on a wiki	10%	6
Other, please specify:	19%	11
Total Responses		**58**

In a separate survey question, professors identified whether roles throughout the

collaborative writing experience were stable or changed given the prompt to click all

options that applied. Respondents chose almost equally (n=31 and n=38, respectively)

that roles were stable and that they changed depending on the stage of the process. For 18

respondents, roles (also) changed due to other factors. These data suggest that different

types of collaborative writing occur: those in which discrete tasks are assigned given

writers to contribute to one product and those in which the entire process is more

dynamic and contributors shift roles according for a variety of reasons, not strictly

expertise.

    Evaluation. In their descriptions of writing collaboratively, surveyed professors

also made evaluative comments of these experiences, giving rise to the fourth category.

Evaluations ranged from "efficient, positive, rewarding, and enjoyable" to "time

consuming, negative, ridiculous, and a bore." In many cases, respondents described the

situations that evoked their evaluative comments. For example, one respondent described

her experiences as "Okay. On one occasion my (male) collaborator wrote the whole thing

and presented it to me to tidy up. You will need to keep the question of gender in mind."

For one respondent, few experiences were positive. "One out of five experiences was

positive. My experience is that collaborators shirk their responsibility, ignore deadlines,

drag the process out too long. I end up doing most of the writing myself." Another stated,

"I enjoy it. It brings more to the work. Unfortunately, despite its benefits, the university

values it inconsistently (the talk and the walk don't match)." Also expressing enjoyment,

another respondent explained, "Because of synergy, the whole is greater than the sum of

the parts."

    Stating a general sentiment succinctly, one respondent noted that collaborative

writing "takes folks who are willing to collaborate and work together." As with the those

describing process, comments evaluating collaborative writing experiences confirmed

what has already been cited in earlier research: Collaborative writing experiences can

result in synergy and improved quality of a written product just as they can result in

damaging conflict, frustrated process, and a product that is not necessarily better for the supposedly collaborative effort involved in creating it.

Context. Finally, a number of respondents framed their responses in a given writing context. As with process and evaluation, comments referring to context helped to provide explanation for a given response. Context included relational dynamics among collaborators that affected professors evaluations of the experiences. The following examples offer phrases that signaled context: "In science, as a researcher, if it is an industry collaborator, in my PhD program." Respondents who included context in their descriptions usually related the quality of the experience to the context.

One of the most comprehensive responses that includes many of the tensions of relationship in relation to context is exemplified in one Business professor's reflection and thus is reproduced in whole:

> I have observed the following in my experience: 1. Senior faculty members tend to treat junior faculty members as research assistants or grad students assigning them most of the work rather than trying to make an equal contribution 2. Even though the collaborators set up expectations and agree on deliverables, some collaborators treat these lightly. This is particularly so for grad students who often claim they are very often or always quite busy 3. Grad students' efforts are often substandard even though you spend a lot of time explaining the tasks and provide feedback 4. Everyone wants to be first authors once the project has ended. It is important to establish at the beginning the ground rules for publications and authorship sequence and the consequences for dropping out of the team regardless of reasons 5. The timeline of collaborators are often quite different, for example, grad students take

their time whilst professors want to get publish [sic] quickly. Also, senior

professors are like grad students taking their time whilst junior faculty wants to

publish fast. If it is an industry collaborator, they are often not interested in

publishing and look for different outcomes. 6. Collaborative writing is engaging

and fruitful and can be quite positive for generating new knowledge and learning

but it is time consuming and can be frustrating. It seems that collaborative writing

is becoming the norm these days when you look at the amount of joint authorship

publications in journals & proceedings.

In this example, issues of power, personal and institutional expectation, and practical

constraints are raised. The professor acknowledges the potential benefits of collaborative

writing and its growing presence in academic publications, but there is a somewhat

defeated tone throughout.

Mention of context also offered insight into collaborative writing from a

disciplinary perspective. While only one respondent specifically mentioned a discipline,

repeated phrases provided a sense of coauthorship being common in cases where writers

produced many articles, typically in Science versus Arts. The following quote highlights

the disciplinary differences in graduate studies.

Graduate students in science, as opposed to what my colleagues in Arts tell me,

publish with their supervisors. Graduate projects are typically funded by the

research grants of supervisors, and there is a close working relationship between

graduate student and supervisor (or postdoc and supervisor). I recall that the first

article from my graduate work went through a dozen cycles of revision before it

was finally submitted to a journal (I was the first author on the work, and my

graduate supervisor was a coauthor; this is standard in science).

The comments that included mention of context helped to underscore potential challenges

related to power differences in collaborative relationships as well as cultural norms of

academic writing given disciplinary expectations.

Professor experiences of writing with colleagues. Data from interviewed

professors highlights factors that contribute to variable success of collaborative writing

with colleagues. From a process standpoint, professors gave examples of dialogic and

hierarchical collaborative writing. They also noted the importance of the compatibility

and mutual commitment of collaborators. And while shared expertise enriched their

projects, the examples showed that compatibility was frequently more important.

James (Engineering) referred to his best collaborative writing experiences with

colleagues as being those in which responsibilities were clearly divided based on

expertise. He found the process murkier when working with others who had similar skill

sets. According to Tom, collaborative writing was an expectation in the field (Business).

Because academic writing is competitive, it was important to have a good team of

researchers/writers in order to produce prolific quality work in a timely way. In Tom's

experience, personal fit was seminal to a productive process, sometimes becoming more

important than expertise in determining who the collaborator might be. "But that personal

fit [is key] because to sustain it over one paper, you've got to feel good about it. You've

got to be able to click." He described his experiences of writing with a colleague in

another university who had different disciplinary background and expertise.

And we would take off, and within two or three hours, we would spawn several

research projects without effort. Our minds just clicked. There was an openness;

there was a spontaneity; there was a creativeness that worked. And we worked

together for 20 years.

Pamela's (Education) experience of writing collaboratively included several

documents disseminating research results, coauthoring an article for publication, and

presenting research findings at conferences. She wrote collaboratively rather than

individually to involve others with different expertise. In her words from the survey,

"collaborative writing enables writing to have more depth and dimension than individual

writing because it necessitates ideas and writing styles from people with diverse

perspectives."

Pamela contrasted her experiences of frequent collaborative writing with a

particular colleague with those of collaborative writing with other colleagues. In the

former, the writing was "totally collaborative, if that's a way to be, where we are equally

contributing and shifting ideas." In the latter, she described them as "more set." And the

resulting product, she pointed out, was quite different because of the particular

individuals who were collaborating. Elaborating on an experience in which she

collaborated with colleagues on course design, she noted that "it becomes obvious the

ones who know how to collaborate and believe in it and the ones who feel they've just

been pulled in."

Arthur (Biology) only pointed out one specific example of writing with colleagues.

It was one of many coauthored works, one he labeled as awkward. Arthur was involved

in a project with a team from another university. The team leader from the other

institution wanted his name on the research report despite not having contributed editing or ideas to the paper. When Arthur challenged the individual, the other team leader responded by withdrawing the funding for the student for whom he was supervisor and who *had* contributed to the collaborative work. It was for situations like these that Arthur laid out three conditions for coauthorship, a term he was treating as synonymous for collaborative writing.

> And my definition of what constitutes coathorship is that these are people who have done something that has made a significant contribution in the content of a paper, one. And that can be technical work; that can be ideas; it can be sort of writing; but usually not, so that's number one: significant content contribution. The second is they have contributed to the writing of the paper, even if it is only by significant editing in some way. And the third is equally important, and that is they must take responsibility for the paper. There's no sitting back and saying "Well, you know I just did this, and so I'm a coauthor." They have to basically sign off on the paper. So those three, it's not one, two, *or* three; it's one, two, *and* three.

The experiences of these researchers resemble those reported in the research literature. Factors that contribute to successful collaborative writing processes with colleagues include a compatible relationship with cowriter/s, commitment to the terms of collaboration, and ability to negotiate in situations of conflict. Hildebrandt (2004) found that writers sought other writers who shared beliefs or ideas but brought different strengths. Similarly, Tynan and Garbett (2007) identified complementary skills, knowledge, and working styles beneficial to their collaborative writing. For Pamela, the commitment to a collaborative process was important, an example of the shared beliefs.

Both Pamela and Tom talked about long-term writing relationships. For Tom the personal fit was important. James' appreciation of clearly delineated responsibilities based on expertise was also expressed in Benton's (1999) research in which he listed, among others, "clear definitions of roles, goals, audience, and purpose" (p. viii) as minimizing conflict in collaborative writing.

The sense that a better writing product due to idea generation resulted from collaborations with colleagues was also evident in the literature (Benton, 1999). Tynan and Garbett (2007) listed commitment to task and each other, mutual respect, and ability to negotiate as helpful to their writing process. In Arthur's example, these were clearly missing in the case of the team leader who chose to pull funding from the project if his name was not listed as author.

Professor experiences of writing with graduate students. In their interviews, professors described experiences of basically two types of collaborative writing with graduate students. One type was characterized by mentorship and accordingly fit into a hierarchical mode of collaborative writing. In this case, the supervisor offered the expert guidance to the graduate student at various stages. Collaboration occurred in generating research ideas, drafting, and editing text. Tom's (Business) description offers an example of this type of mentorship. Elizabeth's (English) experience exemplifies the second type in which professor and student enter a more dialogic mode of collaborative writing, learning from each other through the process.

Mentorship. Tom (Business) described the collaborative writing expected of students in the faculty. First students wrote individually, and then if they chose, they collaborated with the professor or with a larger team. Often this happened spontaneously,

with either professor or students having a research idea and then working together. Tom noted that the process differed depending on knowledge of the topic and student's writing and research skills. Authorship was accordingly negotiated depending on who initiated it and how much and what kind of input either had. Students looked for faculty members who could offer them improvement and help position them. Similarly, creating teams involved networking for career development.

In his own experiences collaboratively writing with graduate students, Tom expressed care. "I try to sense their mechanisms for hearing and learning and motivating. And I try to set up myself so that I can respond to that." Thus each collaborative experience would be individualized. Throughout the interview, Tom described his approach with graduate students consistently in terms of mentorship. He would develop an interest in the student's interest and support his or her development in topic and writing abilities as they worked together on the research and writing.

Dialogic collaborative writing. Elizabeth (English) had experiences of writing collaboratively with one graduate student, which came about organically. The student had been in a graduate level course Elizabeth taught and subsequently a reading course in which the two of them chose texts based on similar interest, read them, and had three-hour conversations at coffee shops, enriching their thinking. Thereafter, Elizabeth conceived of a project topic for which she would require the student's expertise. They entered a collaborative writing relationship that extended beyond a written text to "a collaborative creation project" culminating in theatre performance. They also presented at two conferences together. Elizabeth described these experiences with a simpatico collaborator as enriching and rewarding. Elizabeth saw the student as an equally

contributing coauthor in contrast to the mentorship relationship she imagined more typical of professor-student writing partnerships.

Dialogue was central to the writing process Elizabeth described, as it is in Ede and Lunsford's (1990) dialogic collaborative writing mode. The writers assigned each other tasks, wrote them individually, exchanged sections and edited heavily, and then merged the subsections. At this point, they would read aloud to each other from a hard copy, stopping each other, changing and inserting text at will. Elizabeth noted that they had quite a similar writing style and made no attempt to retain their distinct voices. Although they benefited from a shared workload, both were meticulous writers, going through many drafts before being satisfied. However, Elizabeth was confident in their shared commitment to the process. "We're both willing to have that kind of work ethic and find that it's productive."

Discussion and connections to the literature. Few studies have been conducted regarding faculty experiences of writing collaboratively with students. The situations of the three reviewed research reports for the present study were different from those reported by interview participants. That is, in two reports, (Lapadat, 2009; Lapadat et al., 2010) the writing was associated with a course; the other (Sakellariadis et al., 2008) involved a larger group of writers than those described by interviewed professors in the current study. One similarity arose regarding voice. In Elizabeth's description of collaborative writing, retaining individual voice was not a priority. Similarly, Sakellariadis et al. (2008) spoke of the power of the whole being more important than individual voice.

Tom's observations regarding mentorship and the possibilities for prolific research and writing given an expectation of collaboration bring to mind the increased productivity, mentoring opportunities, and collegial networking that Phillips et al. (2009) identified as benefits of collaborative writing. From a graduate student's perspective (Andrew & Caster, 2008), mentorship through collaborative writing with a professor (Caster) benefitted her. She learned how to prepare a manuscript for publication and gained confidence in her own academic voice in the process.

Because mentorship was such a prevalent theme in the experiences of survey participants and professors interviewed, I searched selected academic databases using terms *mentorship* with *graduate students*, and *writing*. Mentorship relationships between advisors and their graduate student advisees are described in two articles (Tierney & Hallet, 2010; Turner & Edwards, 2006). Like Tom, Turner and Edwards (2006) note the care necessary in collaborative writing mentorship. As with other collaborative writing relationships, mentorship is built on trust and respect which requires a strong commitment, putting in time to talk and listen. In fact, for Turner and Edwards, talking and listening proved to be the most important aspect of their mentorship relationship. As part of their particular approach to writing together, they were attentive to voice. "We consciously strive to craft our pieces in ways that enable us to write collaboratively on issues we care about while maintaining the authenticity and distinctiveness of our individual identities and work" (p. 176).

Touching on many of the same elements of mentorship in collaborative writing, Tierney and Hallet (2010) frame the discussion of their dissertation mentorship using five categories: trust, communication, time, identity, and reflexivity. The article offers a

thoughtful reflection on these elements in their mentorship relationship. Tom in my study

described a process whereby students and professors entered that mentorship relationship.

As a basis for the relationship, the trust is not a given. As Tierney states, "Trust is

inherently relational and situational. I cannot simply have a student trust me, as if my

desire or command for trust will ensure that trust happens" (Tierney & Hallet, 2010, p.

676). Then, throughout the relationship as the writing progresses, communication

between mentor and mentee is critical. In my study, comments on or discussion regarding

drafts necessitated clear communication. Tierney elaborates on the importance of

feedback—how it is offered and understood—and the role of identity in that process.

Tierney changes the way he approaches and motivates students based on individual

identity but ultimately recognizes that the writing improves when his feedback enables

the student to reflect on the writing and what changes need to be made.

Research Question 2: What are Professor Experiences of Assigning Collaborative

Writing to Students?

In many graduate programs, coursework is the first part of the program.

Commonly, the final result of graduate studies is a written thesis. In addition, many

students write conference reports while still studying for their degree. Given the writing

requirements of graduate studies, the second research question explored to what extent

professors use collaborative writing as a tool for student learning. First I report responses

to the survey questions, which I analyzed statistically, providing data that provide a broad

view. Thereafter, I report data from professors who *do* assign collaborative writing,

followed by data from professors who *do not*, including interview data where it best fit.

Of 61 professors who responded to the survey question, 57% (35) reported having assigned collaborative writing tasks to students and 43% (26) indicated they had not. To examine the relationship between gender and whether professors assigned collaborative writing (see Table 5), I ran a Pearson Chi-Square test. Almost equal numbers of women did and did not assign collaborative writing whereas more men assigned versus did not assign collaborative writing. The result of the Chi-Square Test was non-significant χ^2 (1, N = 61) = 1.872, p = 0.171.

Table 5

Relationship Between Gender and Assigning Collaborative Writing: Crosstabulation

| | | Have you assigned collaborative writing tasks to graduate students? | | |
	Gender	Yes	No	Total
	Male	21	11	32
	Female	14	15	29
Total		35	26	61

In addition, to see if there was a relationship between field of study, or discipline, and whether or not professors assigned collaborative writing, (depicted in Table 6) I performed a Pearson Chi-Square Test. In order to ensure a high enough cell count, I grouped the disciplines. Biology and Engineering were grouped together as *Sciences*, Business and Education as *Professional*, and English and History as *Humanities*.

The differences between disciplines are evident when noting the contrasting professional and humanities percentages of those who assigned versus those who did not assign. In professional programs, 75% assigned collaborative writing whereas 25% did not which is almost opposite in the humanities where 28.6% assign collaborative writing whereas 71.4% do not.

Table 6:

Relationship Between Discipline and Assigning Collaborative Writing Tasks to Graduate Students: Crosstabulation

Discipline		Have you assigned collaborative writing tasks to graduate students?		
		Yes	No	Total
Sciences	Count	13	10	23
	% within discipline	56.5%	43.5%	100.0%
Professional	Count	18	6	24
	% within discipline	75.0%	25.0%	100.0%
Humanities	Count	4	10	14
	% within discipline	28.6%	71.4%	100.0%
Total	Count	35	26	61
	% within discipline	57.4%	42.6%	100.0%

At an alpha of $p < .05$, a significant relationship was found between discipline and whether professors assign collaborative writing χ^2 (2, N = 61) = 7.805, $p = .020$. The relationship is visually evident as shown in Figure 4.
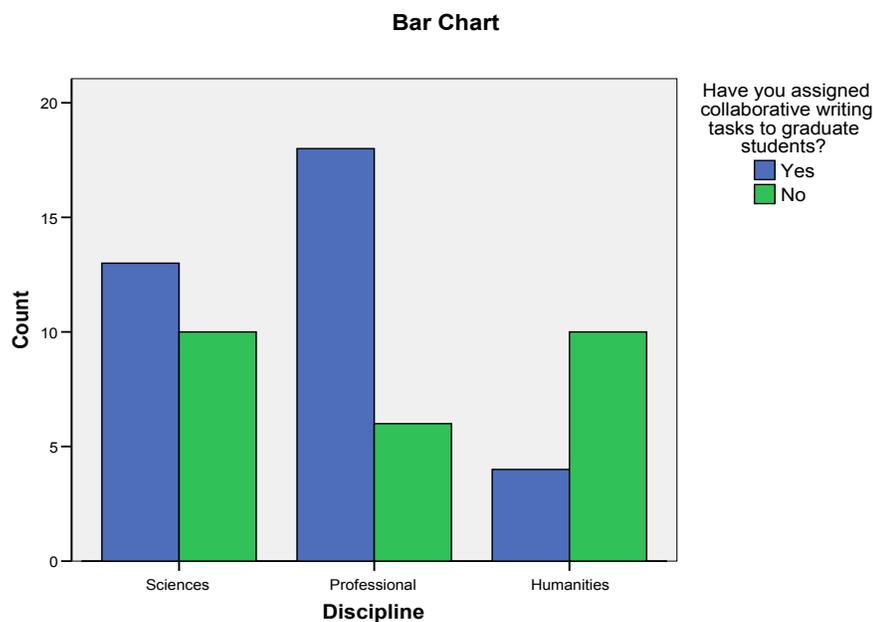
Figure 4: Professors Assigning Collaborative Writing by Discipline

In the Sciences, almost equal numbers of professors assigned and did not assign collaborative writing to graduate students. These numbers may in part be explained by the understanding of collaborative writing in Biology and Engineering or how the word *assign* was interpreted which is explained further in the next section.

Data from professors who *do* assign collaborative writing to students. Of the 35 professors who had assigned collaborative writing tasks, three influences on their first time assigning the tasks were most commonly reported. Table 7 depicts responses: Professors were prompted to any influence that applied. Equally influential (n=19, 58% in each) was the idea that students could benefit from collaborative writing as professors themselves had and that it might make their teaching more interesting or engaging. Wanting to try group work (42%) and other (36%) were the next most indicated statements.

Twelve professors added responses to the open (*other*) field indicating what had influenced them the first time they assigned collaborative writing to graduate students. These responses reflected comments speaking to opportunity, process, and product. For some professors, research money offered an opportunity to invite graduate students into a joint research effort. The process influenced other professors. Using problem-based learning and encouraging stimulating discussion were processes served well by collaborative writing. For others, the difficulty of the project or the demands of the task seemed to invite working together: The product was too difficult to complete alone.

Table 7

Influences on First Instances of Assigning Collaborative Writing to Students

Response	Percentage	Count
Trying to make my teaching more interesting or engaging	58%	19
I benefitted from my own collaborative writing experiences and thought students could too	58%	19
I wanted to try group work in my classes	42%	14
Other, please specify:	36%	12
When I was a student, my professors assigned collaborative writing	18%	6
My own enjoyment of collaborative writing	15%	5
My reading about collaborative writing	12%	4
Ease of marking	12%	4
Total Responses		**33**

Professors also indicated on the survey how often they assigned collaborative writing according to each of six listed reasons (presented in Table 8). The highest percentages of response for purposes for the collaborative writing assignments were to coauthor an article for publication (often, 46%), to disseminate research results (often, 43%) and to synthesize literature in a given field (a few times, 46%). Much higher percentages responded *never* to present content in online textbook format (91%) and to write up lab results from an experiment conducted together (60%). Assigning collaboratively written online textbooks was indicated as a purpose once by a

Table 8

Purposes for Assigning Collaborative Writing to Students

Frequency Purposes	Never	Once	A few times	Often	Total Responses
To coauthor an article for publication	9 (26%)	5 (14%)	5 (14%)	16 (46%)	35
To disseminate research results	8 (23%)	3 (9%)	9 (26%)	15 (43%)	35
To synthesize literature in a given field	9 (26%)	1 (3%)	16 (46%)	9 (26%)	35
To present research findings at a conference	10 (29%)	3 (9%)	9 (26%)	13 (37%)	35
To write up lab results from an experiment conducted together	21 (60%)	2 (6%)	3 (9%)	9 (26%)	35
To present content in online textbook format	32 (91%)	1 (3%)	1 (3%)	1 (3%)	35

Business professor, a few times by an education professor, and often by a history professor. No Business respondents reported writing lab results together, but respondents from all other disciplines did.

Interview data helped to understand survey data better. What is meant by the verb *assign* or noun *assignment* in the context of graduate studies needs to be carefully considered. Some professors would not assign collaborative writing as it would be assumed as part of the learning of a graduate student in a mentorship context as the graduate student wrote the thesis or dissertation. For example, in the areas of Biology and Business, it is generally expected that a supervisor work with a graduate student on research, and that activity is commonly understood as collaborative writing and as such, it

is not assigned but expected. Optionally, the graduate student could coauthor a

conference presentation or research paper for publication, either with peers or solely with

the supervisor, advisor, or another professor. However, given the optional nature, this

would rarely be an assignment. For other professors, such as those in Education,

Engineering, and Business, assigning collaborative writing would occur as part of

coursework.

As for why professors decided on collaborative versus individual writing

assignments, the survey prompt offered seven possible reasons (Table 9).

Table 9

Reasons for Assigning Collaborative Rather than Individual Writing

Frequency Reason	Never	Once	A few times	Often	Total Responses
Improve the quality of student learning	2 (6%)	2 (6%)	10 (29%)	21 (60%)	35
Teach students the writing process	6 (17%)	2 (6%)	8 (23%)	19 (54%)	35
Offer students an opportunity to work with peers	3 (9%)	2 (6%)	13 (37%)	17 (49%)	35
Encourage the development of interpersonal communication skills	8 (23%)	2 (6%)	9 (26%)	16 (46%)	35
Teach students how to write discipline or genre specific documents	12 (34%)	1 (3%)	7 (20%)	15 (43%)	35
Increase student motivation for writing	9 (26%)	1 (3%)	11 (31%)	14 (40%)	35
Offer an alternative to traditional assignments	13 (37%)	2 (6%)	9 (26%)	11 (31%)	35

Again, professors could indicate how often they considered the given reasons for a collaborative assignment. The highest response for all categories was to improve the quality of student learning (often, 60%), followed by to teach students the writing process (often, 54%). After that, looking at number of respondents as opposed to percentages, the highest responses were to offer students an opportunity to work with peers (n=17), to encourage the development of interpersonal communication skills (n=16), to teach students how to write discipline or genre specific documents (n=15), and to increase student motivation for writing (n=14), all in the *often* column. The highest response in the *never* column was to offer an alternative to traditional assignments. From the responses, it could be assumed that the survey prompts aligned with professors' reasons for assigning collaborative writing.

These responses were borne out in the interview data. As the following examples illustrate, learning content and writing (or research) process were key reasons that interviewed professors expressed for having graduate students undertake collaborative writing. Working with peers and increasing interpersonal skills were also noticeable reasons.

James (Engineering) offered only one small collaborative writing assignment to his class of graduate students. He described in greater detail a similar collaborative assignment that constituted a larger component of a fourth year undergraduate class. However, he stated that he was still feeling his way with the graduate course, as he was only two years into teaching graduate level courses. He saw collaborative writing assignments as opportunities for students to learn content and genre specific writing with

their peers, helping to prepare them for professional practice. In Engineering, many projects are undertaken in teams and written technical reports have specific requirements.

For Pamela (Education), the potential for learning from each other was central motivation to assigning collaborative work to her students. Her belief in knowledge as socially constructed informed her reflection on her experiences of learning from student writing. As the sole audience for that writing, she was impelled to create a way in which other students could share in the knowledge building, extending the audience to each other. Pamela repeatedly linked the pedagogical choice to create opportunities for collaborative processes involving writing to student learning. "They'd learn more ideas that they hadn't thought of from what the others had written. And so they bring those ideas from others back to their own work and it just kind of shifts in amongst all of them." Not only did students learn, Pamela asserted that the written product was better as a result of the collaborative process. She noted that the product at the end of the year was more thoughtful and had more depth. In addition, the weekly responses to classmates increased a sense of responsibility and accountability among students.

In addition to online written conversations on shared readings in this collaborative environment, Pamela described two other collaborative writing opportunities for her graduate students. One was initiated by the students who wanted to write a collaborative thesis. Pamela supported this project to successful completion. The second was assigning group presentations in which the students collaborated on the script and then presented together.

Reflecting what appears to be a disciplinary norm, Arthur (Biology) reported not assigning collaborative writing in the context of a classroom but as part of work with his

lab group. The lab group could consist of between four and ten people, not necessarily all coauthors, depending on their role in the lab. He related how students would be variously directed or supported, depending where they were in their academic path. For all students, there was "research that they are expected to drive in some way, and some component where they're expected to work with other people." In this context, Arthur underscored that "research and writing are really just the same process" because from inception of a research idea, to writing the proposal, obtaining funding, conducting research, and eventually writing the report for publication, the thinking, writing, and doing are integrated and involve many participants. The "chain of mentoring" could involve students and faculty at various stages of their academic careers. Throughout the interview, it became clear that collaborative writing, considered coauthorship in Biology, was expected. In addition, this collaboration was necessary to bring together people's expertise.

Also stating collaborative writing as an expectation within his faculty, Tom (Business) described collaborative writing assigned to graduate students in the classroom as well as optional projects such as conference presentations or research publications for outside the classroom. He viewed these experiences as training for students' professional lives in which competition would necessitate collaboration. "And they learn how to work well with another person. That's what they're doing. They're in training." These collaborative writing experiences also provided networking opportunities. Outside of the classroom, Tom reported writing with graduate students in situations that provided more opportunity for mentorship.

Data from professors who do *not* assign collaborative writing to students.

Twenty-five respondents answered the survey question "Why do you not assign

collaborative writing tasks to your graduate students" (See Table 10). Professors could

choose more than one response, thus the percentages do not add up to one hundred, nor

does the count total 25.

Table 10

Professor Reasons for Not Assigning Collaborative Writing

Response	Percentage	Count
Other, please specify:	52%	13
Students will contribute unequally	40%	10
Not sure how to mark collaborative assignments	32%	8
Only certain students benefit from collaborative work	24%	6
Writing should be done individually	16%	4
Not enough time	16%	4
Students will spend too much time socializing	0%	0
Total Responses		**25**

The highest response (n=13, 52%) was to the *Other, please specify field*, suggesting

that the reasons stated in the question did not adequately represent professors' thinking

and indicating an area requiring follow-up investigation. The idea that students will

contribute unequally (n=10, 40%) and not being sure how to mark collaborative

assignments (n=8, 32%) were the next most cited reasons. Only four professors stated

"not enough time" as a reason, and no professors identified "students will spend too

much time socializing" as a concern. Reasons for not assigning collaborative writing that

professors offered in the open field fell into three categories. They ranged from the

professor's lack of awareness of collaborative writing as an option, i.e., it was not on the

radar, to the professor not teaching graduate courses, to stating that collaboration is

inappropriate in the given field or situation. The latter category contained statements that

reflected assumptions, for example, "History is more individualistic than collaborative in

nature" or "Students are not yet prepared for the kind of work in process," referring to

collaborative work.

The idea that collaborative writing might be more or less appropriate in a given

discipline was further explored in follow-up interviews. Similarly, whether collaborative

writing was more or less appropriate at a certain point in a graduate student's

development arose in the interview results, corresponding to the *developmental* theme.

Twenty-six respondents answered the open survey question of whether they would

or would not assign collaborative writing in the future. The answers ranged from clear cut

no to *possibly* to *yes* with supporting reasons offering a more fine-grained understanding

of those responses. Reasons why professors would or would not assign collaborative

writing in the future involved student development, expectations, and unequal

contribution. Comments that related to student development communicated a perceived

sense of learning stages or place in a given program or the university hierarchy such as

master's versus doctoral program. For example, professors might not assign collaborative

writing to students given their belief that students could not coauthor before learning to

write a paper individually. On the other hand, professors would assign collaborative

writing in higher-level courses. Comments that related to expectations had to do with

perceptions of the context and goals within that context. For example, one shared

perception was that in graduate studies, the goal is to develop individual voice, which

may or may not be possible to develop through collaborative work. In another example,

collaborative writing was seen as inappropriate for assigned tasks such as independent

research and presentation of results. Finally, some professors stated concerns about the

possibility of inequality or imbalance in the process or contribution. For example, a

professor noted,

> It's the unequal contribution that bothers me—after seeing my kids through high
>
> school and watching collaborative projects turn into exercises where one or two
>
> kids ride on the coat tails of the others, I saw something similar when a colleague
>
> assigned collaborative work at the grad level. I can't really see a way around this.

What types of tasks would work for collaborative writing was subsequently asked as a

probe in graduate student follow-up interviews.

The reasons for not assigning collaborative writing offered by professors

responding to the survey were also mentioned in subsequent interviews. However, for the

two professors interviewed who had not assigned collaborative writing, disciplinary

expectations or culture was likely the strongest reason for them not having assigned

collaborative writing. For both, solitary composition was critical to establishing writers in

their field and collaborative writing was not a norm. For Elizabeth (English), the

possibility of doing so did not seem to be on her radar. In the interview she asked whether

I had encountered any other humanities professors that assign collaborative writing at the

graduate level, and she indicated surprise at survey numbers as high as 24% of English

and 20% of History professor respondents reporting having assigned collaborative

writing. Thinking aloud of a colleague who she knew engaged in collaborative writing, Elizabeth stated, "We would potentially, she and I could do something together, on the nature, and brainstorm how we could encourage collaboration in our discipline. And be the flying wedge… ." Charles stressed the individual nature of writing as a prevailing norm in History, noting that writing collaboratively was a foreign concept and that there would be cultural resistance to change.

However, unlike Charles, Elizabeth considered the idea of assigning collaborative writing to graduate students in the future. She saw precedent in English, citing "key academic women who have trailblazed" such as poet Daphne Marlatt and American feminist literary critics Sandra Gilbert and Susan Gubar. Elizabeth also had a positive personal experience of writing collaboratively with a graduate student. Charles not only saw solitary authorship as intrinsic to the writing of history, he saw challenges in grading the product and identifying who was intellectually responsible for the work. He was concerned about unequal contribution.

> And because I have not yet figured out a way to manage that, i.e., assigning a collaborative writing project and then figuring out or ensuring that all contributors took part equally…I've decided at the moment not to use it as a graduate assignment.

In neither case did it seem as though change would be quick to happen.

Discussion and connections to the literature. Elizabeth, in trying collaborative writing herself and talking about trailblazing, exemplified the kind of behavior suggested by Nahrwold (2001) in her dissertation who noted the apparently irreconcilable tensions between theory and practice regarding collaborative writing as a valued academic

activity. Nahrwold saw faculty as being in a good position to instigate change through their own practices, sharing of processes with other faculty, and advocacy for policy change.

Of the reviewed literature on collaborative writing, experiences of faculty members assigning collaborative writing was not the focus. However, the reports of studies incorporating assigned collaborative writing in particular courses serve to inform the present study. Two studies (Coutinho & Bottentuit, 2007; Meishar-Tal & Gorsky, 2010) offered some insight to motivations for assigning collaborative tasks. One (Rice & Huguley, 1994) described ways in which collaborative writing took place as graduate students wrote their theses.

The learning opportunities inherent in collaborative writing assignments were pointed out by Meishar-Tal and Gorsky (2010) in their study of the editing behaviors of 60 Open University graduate students writing a wiki glossary of key course terms. Offering collaborative writing assignments as commonplace in many online environments, the authors described the learning potential through interaction that enabled students to share and clarify ideas and critically assess each other's writing. Citing previous research, they also indicated difficulties for students such as students' reluctance to have their work edited or to change their peers' text. Coutinho and Bottentuit (2007) also believed that learning through interaction would happen with their 16 masters students writing on a wiki for a research methods course in Education. Although the quality of written product was high and students enjoyed the collaboration, students did not identify the collaborative aspect to have improved their learning more than had they written individually. In the collaborative writing processes of the students

in Rice and Huguley's (1994) study, students who favored the team approach appreciated the "fresh flow of ideas produced by combined perspectives, individual compensatory strengths such as complementary writing ability, and constructive conflict" (p. 165) as contributing to superior product. Students who did not favor the team approach found it inefficient and time consuming.

As in Pamela's (Education) example in which students requested the option to write their thesis collaboratively, doctoral students studying marriage and family therapy (Clark, Jankowski, Springer, & Springer, 2000) showed initiation in their desire for a collaborative writing group. They formed their group initially to improve their writing processes for research, qualifying exams, course papers, and publication. The issues of unequal contribution among students and difficulty in assessing collaborative assignments recur in the sections that follow; thus I will integrate related literature at that point.

Taking the data from this study and the examples from the research literature, the strongest reasons for assigning collaborative writing to graduate students would be the potential for students to learn content and writing process, thereby also often generating a better product than that created individually. Professors who are unlikely to assign collaborative writing to graduate students tend not to have collaborative assignments on their radar, are concerned about issues of unequal contribution, grading, and disciplinary appropriateness.

To answer research question two, among professors in this study who almost all wrote collaboratively themselves, just over half assign collaborative writing to their students. Among male professors, that number becomes higher, but the differences in

practices is most noticeable among disciplines where collaborative writing assignments are equally common as individual ones in the sciences, prevalent in professional programs, and uncommon in the humanities. In addition, it appears that professors do use collaborative writing as a tool for student learning, whether that be focused on subject matter; research, writing, and thinking skills; or interpersonal skills.

Research Question 3: What are Professor Attitudes towards Collaborative Writing?

In the context of some social science research *attitude* is a term that represents a measurable construct. Recognizing this, it is important to explain my own usage and defend my choice of its use over the term *perspective* or *perception,* which have their own meanings in research, particularly in the qualitative research lexicon. In my study, I did not directly observe participants, nor did I use standardized measurement tools for attitude. As mentioned in the definitions in Chapter 1, attitude in this study is determined through interpretation of participants' oral and written communication through likert-scale, open response, and response to interview questions. As such, attitude is based on self-report subject to researcher interpretation. I chose the word attitude, however, because of its implied affective nuance. Perspective connotes "This is where I stand" with no implied judgment, whereas attitude connotes "This is where I stand, and this is how I feel about that," which brings in the element of judgment and achieves a less dispassionate articulation that more closely matches what I was hoping to learn about.

As is likely evident already from the comments I have quoted, professor attitudes towards collaborative writing fell across the spectrum. Because the subjects for this study were mainly professors who have experiences of writing collaboratively, it is unlikely that I have properly captured the attitudes of those who think it is absurd or unnecessary.

However, the views of the professors in this study are instructive. First, many professors seem to be open to the idea of collaborative writing and to the possibility of change. Second, professors have some pragmatic and compelling reasons for writing collaboratively and for assigning collaborative writing. Reasons for not whole-heartedly embracing collaborative writing are based on concerns for students, tradition, and larger pressures exerted by academia or society. Negative attitudes are often related to identifiable factors that can assist individuals in deciding whether or not they want to invest their time and energy into collaborative writing projects.

Likely the professors who completed the survey were interested in the topic of collaborative writing at the graduate level or they would not have bothered to access the link and answer questions. What surprised me, however, was the number of emails I received from professors asking questions about the study and validating its importance. I received comments such as "Interesting. What do you mean by collaborative writing exactly? Between students and Faculty? Could we have access to your findings?" Some email responses were more involved such as the following from a professor in Biology:

I have just completed your survey, which I found intriguing both for what it contained, and even more so, for what it didn't contain. In the physical, natural and biomedical sciences (and also, to a lesser extent in the social sciences), CW is one of the final stages in what often is – or rather, ought to be – a collaborative enterprise in deciding upon the research question, designing the experiment and implementing it, collecting the data, and analyzing the results. It seems to me that for those of us labouring away in these domains of inquiry, our approach to the CW enterprise will very much depend on our approach to the collaborative research

planning and implementation (CRPI) exercise(s) that precede CW. I therefore find

it curious that there are no questions in the survey that pertain to what, I suspect, are

the antecedent conditions: here as elsewhere, history very likely matters. Good luck

with the research.

In addition, at the conclusion of the survey, of 61 respondents, 17 (28%) affirmed their

interest in being contacted for an interview, a number that seems high for voluntary

participation. Data collected from the survey and interviews regarding professor attitudes

towards collaborative writing are presented in two sections: professor attitudes regarding

their own collaborative writing followed by their attitudes towards the collaborative

writing of graduate students.

Professor attitudes regarding own collaborative writing. The survey posed seven

reasons for why professors would choose to write collaboratively rather than individually

(See Figure 5).
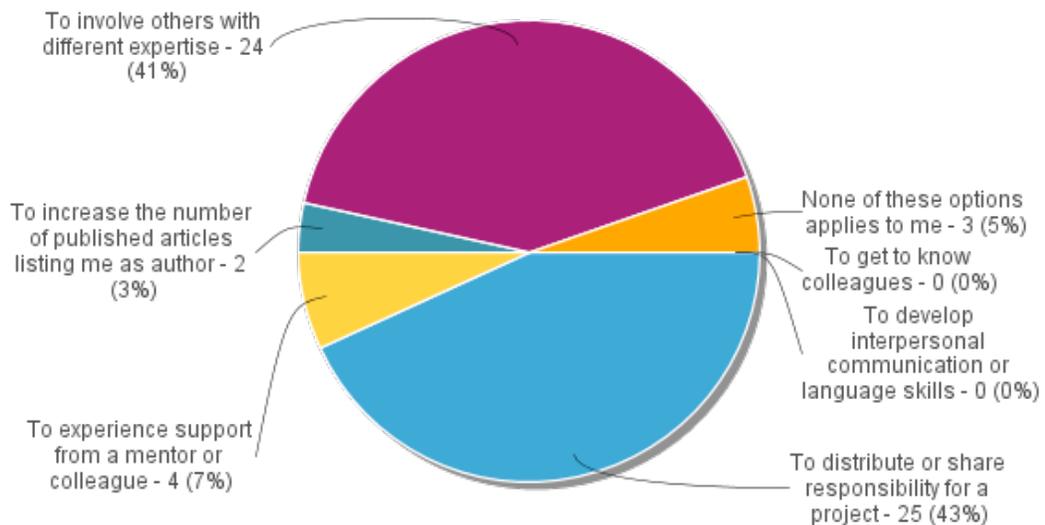
Figure 5: Reasons to write collaboratively rather than individually

No respondents chose the options to get to know colleagues and to develop

interpersonal communication or language skills. Only two and four respondents

respectively chose collaborative writing to increase the number of published articles with self as first author and to experience support from a mentor or colleague. Approximately equal numbers chose to write collaboratively rather than individually in order to distribute or share responsibility for a project (n=25) and to involve others with different expertise (n=24). These data suggest that professors have a pragmatic attitude towards their own collaborative writing. If working with others makes a (big) project more manageable or if additional expertise is required, collaborative writing provides a good solution.

Respondents offered additional explanation in an open field to respond to the questions "If collaborative writing was a favorable experience, why? If it wasn't, why not?" Almost all respondents who had written collaboratively (51/58) responded to the open field. I grouped responses as favorable, not favorable, both, neither, and other.

In terms of how the comments reflected or illuminated attitude, some professors labeled the experience as *favorable* without qualifiers as indicated by statements such as "It is synergistic" or "It is always more productive to share ideas and discuss results with others" or "Better outcomes." As in the *Evaluative* comments reported following research question one, other professors qualified the experience, suggesting a situational approach towards collaborative writing. One characteristic that contributed to a positive experience was compatibility with the collaborator: "[It can be] favorable when it is done with a colleague who has a similar approach/style." Another was the willingness to take more time than when writing individually: "The process can be more time-consuming overall, but the quality of ideas and quality of the writing are both enhanced, I believe, because of the collaboration." A third factor was the appropriateness of the project for collaborative

writing: "Some projects, especially editing literary texts, benefit from team association and collaboration." These types of comments were also considered in the category *both favorable and unfavorable*.

Factors that led professors to label the collaborative experience as *unfavorable* were varied. The most notable ones related to time, writing skills, responsibilities, negative qualities in colleagues, relationships, and leadership. Not respecting timelines, shirking responsibilities, and having poor writing skills were evident in comments such as "Very frustrating when colleagues continually push the timeline, drag the process out, use 'busy' as an excuse for not getting their part done, and in the end don't contribute much at all," or "The bad ones are when someone doesn't carry out their [*sic*] responsibilities, or when writing skills are woeful." At times, learning about negative qualities in collaborators and ensuing damages to relationships led to unfavorable experiences: "I learned what I didn't want to know about a colleague who did not fulfill responsibilities in the group task." One participant stated this more strongly: "Some of them were not only lazy but actually crooked."

Some respondents suggested a mixed attitude towards collaborative writing which became the *both* category. They made comments that suggested an acknowledgement of the constraints was necessary to benefit from the experience. For example, "It is valuable but the competitive environment at the university level reduces its desirability." Other examples again noted on the time factor: "The finished product is, more often than not, better. But the process itself is inefficient, and there is really no way to make it more efficient – it is, rather the nature of the beast." Finally, the relationships with collaborators was again highlighted as a factor: "Mixed experience: The positive is the

synergy that often develops between the active participants, whereas the negative is the parasites who agree to contribute but they don't do anything substantive and yet can't be removed by the time their non-contribution is clear."

Only seven comments fell into the *neither* category. Three contained words identifying factors that influenced collaborative writing such as time, distance, and conflicting schedules but offered no evaluative explanation. Others suggested an attitude of acceptance of collaborative writing as a norm or necessity: "Collaborative writing is the norm in my field. It is rare to publish an article as sole author." Another stated, "Collaborative writing is a necessity in my field. It is an important part of grad student training, but as well it builds consensus, shares expertise, improves readability, helps anticipate criticisms, etc." The idea of mentoring was offered by another comment, suggesting that writing with graduate students was a normal part of this professor's experiences of writing collaboratively.

Professor attitudes towards collaborative writing of graduate students. Professor attitudes towards the collaborative writing of graduate students were determined by looking at the survey data on their beliefs and subsequent interview responses that attempted to further explain the survey results. As already noted when describing professors' own experiences of writing collaboratively and their experiences of assigning collaborative writing, professors believe collaborative writing can promote richer thinking, better writing, and provide opportunities for negotiation and interpersonal growth. However, they also expressed concerns with unequal contribution, time, and the inappropriateness of collaborative writing in certain contexts. In further exploring their attitudes, it became clear that collaborative writing has a place in graduate studies, but

contextual factors (academic, discipline-specific, task related) and professors' own beliefs

and attitudes are important to its success or usefulness. In addition, professors should be

attuned to the developmental needs of their students. *Developmental* in this context

means pertaining to growth as graduate students learn the practices and skills of their

knowledge community.

Two survey profile questions aimed to ascertain professors' beliefs about

collaborative writing (See Table 11 for results). The majority answered they believed that

collaborative writing can foster thinking from multiple perspectives (85%). Other

statements in the first question indicated that collaborative writing could change

classroom dynamics, engender community, engage normally "silent" class members to

participate vocally, and encourage conflict resolution. Affirmations of these statements

were fairly evenly distributed ranging from 38% to 48% in a given category. To these

statements, 26% of respondents added text in the "Other, please specify" field. To see if

there was a relationship between gender and beliefs about collaborative writing, a

Pearson Chi-Square Test was performed. No significant relationship was found.

My research assistant and I grouped the open responses regarding beliefs about

collaborative writing into two categories: help/promote learning and help/promote

writing. Most of the phrases related to writing instruction whereas only a few related

more closely to product. In the learning category, professors stated that collaborative

writing could clarify assumptions, encourage reflection, and motivate; under the writing

category, professors believed it could improve writing outcomes and help students to

write lucidly and succinctly. In this category, a few statements pointed to writing product,

particularly in helping graduate students produce research and get published.

Table 11

Professor Beliefs Regarding Student Collaborative Writing [a]

Do you believe collaborative writing can	Percentage	Count
Foster thinking from multiple perspectives	85%	52
Change classroom dynamics	48%	29
Engender community	41%	25
Engage normally 'silent' class members to participate vocally	44%	27
Encourage conflict resolution	38%	23
Other, please specify:	26%	16
	Total Responses	**61**
Do you believe that collaborative writing is	**Percentage**	**Count**
Time consuming	61%	37
Difficult to grade	49%	30
Other, please specify:	38%	23
Non-representative of student ability	21%	13
Discouraging for students	15%	9
Idealistic and impractical	%7	4
	Total Responses	**61**

[a] Note: Respondents could choose more than one response; thus, the percentages do not total 100 nor does the count add up to 61.

The two most commonly held beliefs about collaborative writing among the options provided in the next question were that it was time consuming (61%) and difficult to grade (49%). A smaller percentage of respondents believed that collaborative writing is and nonrepresentative of student ability (21%), discouraging for students (15%), and

idealistic and impractical (7%). Over a third (38%) of respondents added text to the "Other, please specify" field.

Coded responses fell into three categories: problem with wording of the question, challenges, and situational. Responses such as "none of the above" or that otherwise debated the wording of the question were put into the category of problem with wording of the question. Identified challenges overwhelmingly concerned fairness although other challenges included the potential for superficial writing that lacks coherence. Threats to fairness related mainly to grading challenges related to differential contribution, effort, or talent. In the situational category, respondents expressed that collaborative writing could be useful in certain circumstances but the verity of the statements of belief depended upon the suitability of collaborative writing in a given situation. As one professor put it, "It can be all of these things, but doesn't have to be."

Given that 85% of surveyed professors thought collaborative writing fostered thinking from multiple perspectives and 48% thought it changed classroom dynamics, while 61% of the same respondents believed collaborative writing was time consuming and 49% believed it was difficult to grade, I wondered how well professors thought collaborative writing fit the purpose of graduate studies. Interviewed professors' thoughts on how well collaborative writing fits the purpose of graduate studies helped me to gauge their attitude towards collaborative writing. Was it, in their view, effectively supporting the goal of preparing students for active teaching, research, or practice in a given field? (See Appendix F). In their responses, professors discussed the developmental nature of student writing, the importance of relationships in collaborative writing, disciplinary concerns, and other factors contributing to the complex activity of collaborative writing.

Taking their views together, although they could see benefits of collaborative writing in graduate studies for training their students, it was not without its challenges.

Pamela's (Education) attitudes towards collaborative writing appeared to be well grounded in her theoretical views. Her perspective of collaborative writing as opportunity for learning was consistent with her firmly stated belief in the social construction of knowledge. Referring to the work of Carl Leggo on truthfulness, she likened the interchange between learners to truthfulness as "things being full. So it's not like one's right or wrong, but each one has its own truth, and when you put them together, you're more truth*ful*. Now you know more than you could have known on your own."

Although she thought collaborative writing fit the purpose of graduate studies excellently, she did not think collaborative writing fit all circumstances or people. She saw the value in individual writing preceding collaborative writing. And she noted that while most graduate students were strong, some were not and resulting collaborations could become lopsided. Thus, she thought, "it's really important to structure things in ways that everybody is participating equally and it's not one person's ideas taking over the others.'" In addition, she was conscious of the importance of the relationship among individuals collaborating and how that changed the experience. Pamela felt that professors needed to keep in mind that graduate students have not necessarily had the time to develop these relationships. Moreover, the fact that student products would be graded added a dimension that could affect the interaction.

Similar to Pamela, Arthur (Biology) saw an important role for collaborative writing in the development of students as researchers and writers. "Because it's part of training, and it's part of training not just in sort of the mechanical process of writing, but it's part

of training in focusing your thoughts. And also, science isn't done until it's published….

Publishing means putting your work in a position where other people can build on it."

Firmly establishing writing in the context of a larger community of researchers who built

on each other's work, Arthur was equally firm in relying on the students to help each

other learn the academic norms and research skills. He described a process whereby he

modeled possible interactions. He talked about what constitutes good writing and then

deconstructed an abstract a student had written in front of all the students. Here they

experienced criticism in "a *friendly* public forum," a skill they would need as academics.

In addition, he hoped that they would learn to read, analyze, and share criticism in much

the same manner with each other to increase the learning process and take some of the

workload off of the supervisor. "It's a serious bottleneck for me, and my time is helping

people with their writing because there's so much foggy, fuzzy, disorganized thinking out

there that surely they can help each other on." He saw writing as a community activity.

Pamela (Education) was aware that not all shared her attitude towards collaborative

writing. "I know there are people who just think it's a real waste of time and it's

ridiculous." The interviewed professors were not among those who thought it ridiculous.

However, Tom (Business), Elizabeth (English), and Charles (History) expressed more

wariness towards collaborative writing.

Tom's (Business) attitude towards collaborative writing also seemed to reflect his

beliefs about writing and learning in his field. Although he acknowledged the value of

collaborative writing in the training of graduate students for professional practice, he had

questions regarding beliefs underlying the writing. Because he saw the collaborative

writing that happened in Business as following the scientific method, positivist, and

linear, he did not see it as necessarily desirable. He suggested that the emphasis on

efficiency through collaborative writing was a little misplaced, for despite personal

beliefs or philosophical approaches, the success of collaboration in Business would

depend on buying into the bigger system.

> The conditions for collaboration is largely fit. And that fit is embedded in a value
>
> system and a logical system over and above the personal system. Because we've
>
> got to protect what we've invested in. Even though I might like you personally; I
>
> might enjoy your individual values, but if you don't have the fundamental values of
>
> that end game that I do, that fit won't be there.

His point seemed to be that collaborative writing is a vehicle for producing something

that may or may not be worthy, depending on the values held by the collaborators and

their compatibility. This compatibility involved complex factors sometimes in conflict

with one another.

Commenting on online collaborative writing, Elizabeth (English) stated, "So, I like

a mix, but I wouldn't want to go to [collaborative writing] as the central pedagogy." She

explained that English students at the undergraduate level have often not yet developed

their own writing voice, which she saw as a precursor to writing with others. At the

graduate level, she hesitated with the idea of introducing a lot of collaborative writing

outside of perhaps having groups of students work with questions on readings to write

responses to bring to class and then subsequently discuss or perhaps for pairs to develop a

seminar together. She thought students might resent being asked to write papers together

given they were not expected to write together in other courses. She was also conscious

of the relationship that developed in collaborative writing and how it could be unfair as a

professor to expect that "that kind of simpatico way of thinking and writing together" to be automatically evident for students.

James (Engineering) similarly thought there was a place for collaborative writing, but he saw it as an option as opposed to a central piece.

> For example, I write technical papers with students; if that's collaborative writing, that's an important component of [graduate studies], but in my worldview, that comes after the student has at least mastered the subject that they're doing their degree on.

And while Charles (History) saw the value in using a group of graduate students to provide oral feedback to individually written manuscripts, he still emphasized the importance of one person claiming intellectual responsibility for the written product as part of the study of history.

Professor attitudes towards writing with graduate students. Some survey data could be identified as collaborative writing of professors with graduate students. In data regarding perceptions about collaborative writing for learning, the attitude that collaborative writing offered opportunities for mentorship was positive. However, in describing their own experiences, professor comments shed only a little light on their attitudes towards writing with graduate students. For example, of 20 comments, only two were evaluative. One stated,

> I have not collaborated with a graduate student since it is difficult enough to manage the challenges with someone of equal age and rank as myself; I think managing these challenges with a student could result in a power imbalance.

In the other example already mentioned under the heading *Context*, the professor seemed derisive. He perceived graduate students as cheap labor, as shirking work and deadlines, and as poor writers despite mentorship from faculty.

In contrast, the one interviewed professor who shared a specific experience of writing with a graduate student exhibited a positive attitude towards this type of collaborative writing. Elizabeth (English), as evidenced by her reported activities, was open to the idea of professors writing with graduate students. Her comments indicated that this attitude was unusual in English. For example, when she started to think about working with the graduate student Heather, Heather was told "Oh, collaboration isn't a good idea at your stage of the career." So while Elizabeth had always thought collaborative writing might be possible, she also had the sense that "younger scholars shouldn't collaborate because collaborative writing isn't seen as weighing as much as the single research attempt and endeavor, the sort of Herculean effort to produce this single person magnum opus." For Elizabeth, developing voice as well as making prudent career choices impacted her attitude towards collaborative writing in English.

But because of her own experiences of writing together with Heather, Elizabeth's attitude towards collaborative writing also included the appreciation of its benefits. "I feel super fortunate and really enriched by these little pieces [involved in the collaborative writing projects] lining up, and then become so rich and rewarding." She described a similar synergy resulting from her collaborative writing with Heather to that mentioned by Rigano and Ritchie (2007). Already mentioned earlier were the positive attitudes of Tom and Arthur towards their writing with graduate students in mentorship contexts.

Professor attitudes in the context of discipline. Given the apparent relationship between discipline and collaborative writing practices, I asked interviewed professors whether they thought there was a relationship between discipline or field of study and the appropriateness of collaborative writing. The context of discipline helped to understand professor attitudes towards collaborative writing. Professor responses included perceptions of conventions in their own and other disciplines and expressions of their view of knowledge.

In English and History, the convention of individual authorship is prominent. Thus, while Elizabeth asserted the expectation of "solo flights with no co-pilots," she suggested that the issue was not so much one of the appropriateness of collaborative writing for English, but the limitations placed by the discipline. Furthermore, she indicated the possibility of change: "I think the more the example is there, the more the conditions of possibility emerge." Similarly, Charles described the solitary, antisocial nature of writing in History in which "there really is no tradition in the discipline of collaborative writing—it's rarely done." Yet he suggested that the convention exists largely because it's always existed rather than because there's a good reason for it and there might be possibility for change. Throughout the interview, Charles went between explaining the firmly held traditions and toying with the possibilities of change through collaborative writing. On the one hand he articulated the great reluctance of professors to give up their sole voice. On the other, he suggested this might simply be a matter of times needing to change a bit. In considering the potential in collaborative writing, he acknowledged the difficulty writers of history might face in having to attempt to reconcile completely different interpretations of the same body of research.

James (Engineering) considered the appropriateness of collaborative writing on the basis of context and goals. As a pedagogical tool, collaborative writing would be appropriate to teach communication, a desirable skill in Engineering, but would be inappropriate for assessing engineering skills or basic engineering knowledge. James noted that in fields like English or History, student knowledge is more commonly assessed in written format. However, at the graduate level, he perceived that the expectation in those fields was that students would write on their own.

Tom (Business) considered the relationship between discipline and collaborative writing from a process standpoint. Given a linear process, higher efficiency would result, especially if individual contributors had clearly defined responsibilities and a depth of knowledge in their specialization that would contribute to the greater whole. Where individual contributions and responsibilities became more difficult to separate, inefficiency and frustration would result, especially if efficiency and competition were end goals. However, in a creative process, for example that of artists, an efficient system might be fine.

Pamela, Charles, and Arthur related collaborative writing in varied disciplines to the way knowledge was viewed. For Pamela (Education), the social construction of knowledge happened in all fields and thus everybody benefitted when they engaged in collaborative writing, regardless of the knowledge base. In terms of the appropriateness of using collaborative writing, she linked this to the expectations of the workplace and the type of knowledge, offering the example of Engineering as facts based, mathematical, and problem solving. Charles (History) saw Chemistry, Engineering, Biology, and

Business as requiring a much greater level of objectivity and analysis over History which has a much higher level of subjectivity "despite our best hopes."

Similarly, Arthur (Biology) saw the fields of English and History as more about ideas and more personal; thus, data in those fields would be more fluid and harder to take out of context. On the other hand, in science, the ideas come early in the grant proposal and research plan phases, and then again later when the data were there. However, putting the paper together was not as much about the ideas as "shut up and do it." A lot of the writing would require individual contributions of discrete pieces. The negotiation regarding what should be included and what makes the point most effectively would happen especially in the discussion section where context is important, and where more knowledge building might occur.

Discussion. To answer research question three, based on the survey and interview data, professor attitudes towards collaborative writing fall along a continuum. Hesitation seems to be linked to appropriateness of collaborative writing for a given task or context. Professors are aware of the extra time required to write collaboratively and the potential challenges of assessment given existing disciplinary and institutional expectations. In addition, they acknowledge that collaborative writing may not be appropriate for each task or student. Professors also seemed influenced in their attitudes towards collaborative writing by their own experiences and those they had observed or heard about from others. On the other hand, professors could see the benefits of collaborative writing as a pedagogical tool in particular settings for particular purposes. The reason not to choose collaborative writing seemed more to do with conventions and practical consequences than with a mismatch between collaborative writing and learning in graduate studies.

Research Question 4: What are Perceived Benefits and Challenges of Collaborative Writing?

No survey questions directly addressed benefits and challenges of writing collaboratively. However, some assumptions could be made based on statements of belief about collaborative writing and other comments relating to earlier research questions. Interview data substantiated much of that already reported through survey analysis. In this section benefits are presented first followed by challenges.

Benefits. In addressing previous research questions through survey responses, some benefits of collaborative writing at the graduate level emerged. Professors noted that collaborative writing could be efficient, rewarding, enjoyable, and engaging. Writing with others could produce synergy resulting in a better product. Collaborative writing had the potential for student learning through mentorship as well as mutual learning of professors and students through a dialogic process when writing together. Through collaborative writing, students could learn content and enhance both their ideas and writing skills. Professors believed that collaborative writing could foster thinking from multiple perspectives and that writers could gain from shared expertise.

In my interviews with professors I specifically asked what benefits of collaborative writing were. The six professors all stated benefits but not all in the same areas. Areas included relational, learning, and mentorship benefits, and those related to practical outcomes. Because the categories often overlap, the headings below are provided more to offer the general idea than to signal tightly contained categories.

Relational. Both Pamela (Education) and Tom (Business) mentioned the possibilities inherent in sharing thinking with others describing a "melding of minds" or "more minds are better than fewer." Elizabeth (English) elaborated on this perspective:

When discussion is really rich…I feel smarter in that collaborative mode of thinking together, thinking through things with other people. Like their ideas make my ideas pop; the ideas going around the table generate a kind of creative process in the air.

She talked not only about the speed of idea generation but also the increased imagination and expansiveness of ideas in contrast to thinking alone. Tom connected the thinking together with good relational fit.

If you have a partner, a soul partner [in a collaborative effort], it's more reflective, particularly at the front end because you have no inhibitions. You trust. You have confidence. You commit. You're willing to sacrifice. You have the flexibility to see beyond what is said and meant. You sense differently.

Elizabeth pointed out another relational advantage to collaborative writing which was that it mitigated some of the isolation inherent in academic writing. "You're alone so much of the time. And it feels so much more readily conducive to well being to work with another person at just sort of a basic human level."

Learning. In a classroom setting, the sharing of perspectives was one factor that was seen to contribute to student learning. As mentioned earlier, in assigning collaborative writing, Pamela asserted, students learn from each other. Arthur (Biology) noted that feedback from peers might be more palatable than from the professor. Furthermore, he thought students through collaborative writing were able to learn discipline or culture specific writing. Charles (History) also pointed out this willingness

to learn from peers over from the professor. He added that "[students] may also learn to defend their arguments more effectively against their peers than against faculty." James (Engineering) thought that students for whom English was an additional language would learn to communicate better in English through collaborative writing because learning by doing would be more effective than learning by being spoken to. As an example of the developmental theme, Elizabeth (English) mused that collaborative writing could be a way that graduate students could ease into new challenges. "For MA students who are thinking of doing a PhD, possibly doing a collaborative paper with somebody could be a nice way to get your feet wet in creating a paper." She suggested that delivering a paper at a conference could be "a daunting solo performance, [but] if shared with a partner could create a conducive environment."

Mentorship. Two professors saw a benefit of collaborative writing to be the mentorship opportunities it afforded. As Tom (Business) noted, "Collaborative writing gives me another opportunity to nurture a person outside the strict formal classroom setting. Teaching and talking in class with a group, I'm limited by curricula, by time; I'm limited by mood." James (Engineering) described the mentorship as a process in which the professor and student had a very similar focus that the professor had in most cases defined or had heavily influenced.

Practical. Finally, a number of pragmatic benefits to collaborative writing surfaced in professor interviews. James (Engineering) suggested that in principle, assigning collaborative work lessens the instructor's load, a point made by Arthur (Biology) in talking about the suitability of collaborative writing for graduate studies. James also noted that collaborative writing prepares graduate students for professional engineering

practice where most work is done in groups. Elizabeth (English) pointed out the potential

for increased funding, particularly through Social Sciences and Health Research Council

(SSHRC).

In addition to citing benefits of collaborative writing, a number of the professors

suggested factors that make for beneficial collaborative writing. Elizabeth noted the

mutual willingness to commit to the involved process. The similar work ethic contributed

to the success of her experience, making the multiple drafts and revisions productive.

Arthur (Biology) noted the importance in timeliness in communication. "The shorter the

feedback cycle, the greater the opportunity for synergy." He added that writers'

personalities needed to fit.

Challenges. Survey respondents and interview participants indirectly and directly

identified a number of challenges to collaborative writing. Some emerged through survey

data analyzed in response to earlier research questions. For example, professors stated

that collaborative writing could be a bore. In addition, challenges included how time

consuming it was, conflicting timelines or schedules among writers, unequal

responsibility or workloads, own or others' poor writing skills, and authorship squabbles.

Challenges involved issues of control, ownership, and contribution as mentioned earlier.

Concerns related to assignments, for example, involved questions regarding whether

students would contribute equally, whether writing with others might disadvantage the

talented students, and how to fairly grade collaborative work. Contextual challenges of

collaborative writing might include a poor fit between task or assignment and the process

of collaboration, a clash with disciplinary norms, or lack of support from the university.

People engaged in collaborative writing might accordingly face resistance from

collaborators or within the faculty. Moreover, students might not receive the desired recognition for their work. Finally, professors noted the damage to relationships possible through poor experiences of collaborative writing. Negotiating relational hurdles were challenges noted by professors including potential conflict due to power differences when writing with students.

In my interviews with professors I specifically asked what challenges of collaborative writing were. The six professors all stated challenges but not all in the same areas. Interviewed professors cited challenges related to authorship, relational challenges, those related to assigning collaborative writing, and contextual or disciplinary factors. Their input offered elaboration of survey data.

Authorship. Through their comments, professors indicated that issues of authorship, ownership, and varied levels of contribution could become thorny when writing collaboratively. Arthur (Biology) gave the example of two awkward situations he had experienced, which I have already mentioned in the section on professor experiences. In one, someone provided much of the data but had no interest in contributing to the writing process. In the other, the supervisor of a student who had contributed data wanted his name on the paper without having himself necessarily even seen the paper and then withdrew the funding when challenged on the appropriateness of having his name listed as author. Offering a different challenge regarding authorship, Charles (History) explained that in History, disciplinary knowledge building involves understanding why an author puts forth a specific argument. A reader determines this by knowing more about the author– under whose direction s/he studied and what her or his agenda and background are. If one person does not have intellectual responsibility for a given work,

it is difficult to sort out this type of information. In Charles' example, expectations

regarding authorship related to disciplinary norms.

Relational. Interviewed professors also noted challenges at the relational level.

Arthur (Biology) stated a challenge as "remaining diplomatic without strangling people."

From the student's perspective he thought it might be challenging to "respond to criticism

in a constructive way," even if personally affronted at perceived interference on

creativity. Also concerned with interpersonal communication, Tom (Business) noted that

finding a good fit could be challenging. As a professor, he felt responsible for ensuring

that the betterment of both (student) parties would result from the partnership in writing.

As for the students, he asserted that they needed to find others who could share their

single-mindedness so that they could connect. Students should look for potential

collaborators with similar mental and emotional characteristics that would allow

communication leading to creativity, problem solving, and synergy.

Assignments. Addressing coursework, professors identified challenges associated

with assigning collaborative writing. Pamela (Education) mentioned the amount of

marking involved in weekly assessment of online student writing but ended up reframing

this as "not really a drawback" because of the potential for ongoing assessment in fine-

tuning instruction. She also noted that in a graduate program, students who "aren't as

strong or who haven't done as much background as others" need to work within a well

structured assignment so all can participate equally versus just one person contributing

ideas. In addition, she suggested that the notion of writing collaboratively could be quite

challenging for students who hadn't done it before. Moving from writing for a "private"

audience (professor) to opening it up to classmates could feel very public. "I just wonder

about the trepidation initially for some of them about sharing their *writing*." Crafting assignments carefully with these added challenges in mind became important to her.

As did professors in the survey, Arthur (Biology), Tom (Business), and James (Engineering) commented on the assessment challenges of collaborative writing. Arthur emphasized that in a graduate program professors need to provide evaluation in terms of individual grades, which poses a challenge when considering collaborative work. It is important to have some way of assessing individual skills, abilities, and progress individually. Similarly, Tom stated that with collaboration, it is hard to know who does what. If he worked with students individually prior to a collaborative assignment, it was easier to pick out who contributed what in group assignments, where weaknesses lay, and other related factors. Tom saw his job as more direction than evaluation, so the pressure regarding assessment was different than if it had been mainly related to grades. Finally, James also saw differential contribution receiving the same mark as not necessarily a benefit to students. "The downside of collaborative work of course, is that generally speaking, everyone in the group gets the same grade." He further noted, however, that it was surprising how often the combinations worked where the weaker students would "get a leg up." In addition, he saw a challenge as related to graduate level work. He stated that expectations at the graduate level are generally higher all around, so depending on who in the collaborative group was offering the critical judgment, the result would exemplify more or less critical thinking.

Context. A major contextual theme that arose regarding challenges of collaborative writing was that of *expectations*. The humanities professors identified the disciplinary expectation of solo writing as a challenge to collaborative writing. Elizabeth (English)

described program expectations for MA students in English to be heavy, thus balancing

collaborative with the expected and valued solo writing would be difficult, particularly

since many students try to complete their program in one year. Charles (History)

described more of an engrained cultural disposition versus programmatic expectation. "I

think historians find it difficult to give up that lofty plateau of omniscience in favor of

collaborative work which might in fact produce a more useful or compelling narrative in

the end."

As already noted, according to Tom, (Business) the disciplinary expectation of

students to form teams to write collaboratively involved competition and efficiency with

an emphasis on production. The challenge to collaborative writing in that discipline arose

when the emphasis on competition stifled the richness of the process of thinking and

creating, a process that could result in a richer, more versatile mind than when working

alone. Tom asserted, "In our attempts to measure, quantify, and defend our existence, we

put up these artificial barriers that become the ends in themselves." Speed and product

trump the quality of creation and problem solving possible in collaborative writing.

Discussion and connections to the literature. As found in the literature for writers

outside of graduate studies, collaborative writers can experience gains regarding process,

subject area knowledge, and product (Butler, 1995; Dunn, 1996; Fung, 2010; Graham &

Perin, 2007). Academics writing together experienced these benefits as well as relational

ones. For example, better knowledge of their writing processes was a result for

individuals writing collaboratively (Hildebrandt, 2004; Sakellariadis et al., 2008; Straw,

Atkinson, Baardman, & Sadowy, 1996). Pasternak, Longwell-Grice, Shea, and Hanson

(2009), early career researchers in the humanities used their writing groups to grow as

writers. They experienced the benefits of mentorship and possibility for improved

product. Through their collaborative experiences, they also learned new disciplinary

styles, negotiated criticism from the writing group and outside sources, and became more

empathetic to their students as writers. Tynan and Garbett (2009) identified benefits of

their collaboration that included complementary skills, knowledge and working styles,

motivation, confidence, and academic support. They grew in ability to defend their ideas

by articulating them to each other. The academic and professional teams of writers that

Benton (1999) interviewed benefitted from mentoring, team building, and generating a

team voice through collaborative writing. Participants also listed improved product and

new ideas resulting from the collaboration.

Challenges of collaborative writing that were identified in the research literature

also arose in this study. The issues of credit or amount of work in relation to authorship

arose in this study as it did in Beaufort (2006). And as noted in the current study,

unresolved conflict can lead to damaged relationships (Lapadat et al., 2010). Respect for

individual contributions and negotiating associated conflicts is important; otherwise,

group composition might have to change. In the literature, academics reported the

vulnerability associated with writing with others and the potential challenge to self-

esteem (Phillips et al., 2009; Sakellariadis et al., 2009; Tynan & Garbett, 2007). "We

believe it critical to deal with power issues "up front" because academic writing

mentoring relationships are extremely fragile, and they can wither and die if one writer

feels unfairly treated or slighted" (Turner & Edwards, 2006, p. 176). The relational

damage reported by participants in the current study illustrates the negative outcomes

possible when individual egos overtake the collaborative ethos. As reported throughout

the literature, the collaborative writing of academics requires a foundation of trust,
mutual respect, and willingness to negotiate conflict.

The challenges associated with contribution and assessment of students'
collaboratively written products was brought up numerable times in this study. In the
reviewed literature, assessment of graduate student writing was not the focus and often
not addressed. However, Duemer et al. (2004) in their study of leadership qualities of
graduate students writing collaboratively made some recommendations. In addition to
suggesting small group sizes, they advocated for professor awareness of ongoing
dynamics within the doctoral groups in order to assist with conflict management as
needed. Professor awareness could provide informal ongoing assessment opportunities,
the kind of formative evaluation that is advocated for by Speck (2002). Furthermore,
Duemer et al. recommended bolstering peer accountability and individual ownership of
the writing project through a peer evaluation component. Speck (2002) in his monograph
on facilitating collaborative writing in higher education also offers suggestions regarding
summative evaluation, addressing "fairness and professional judgment, the problem of
cheating, rubrics, and methods of assigning grades" (p. 105). Using their power
responsibly, professors should include students in the evaluation of their writing from
assignment inception to final product. "Professors need to use peer critiques, formal and
informal professor-student conferences, in-class examination of representative papers,
and so on so that students can learn to apply the evaluative criteria to writing" (p. 107).

In addition to helping students learn how to evaluate their work, Speck (2002)
suggests developing a rubric with students that include a column for self, peer, and
teacher. Weighting is up to the professor. Speck adds a separate threefold strategy for

assigning grades, which is somewhat dependent on the writing process groups used. Similarly, considering collaborative writing assignments in Business, Rentz, Arduser, Meloncon, and Debs (2009) link evaluation design to problem, group, and process designs. Thus, design factors include whether the product is a small or large part of the course, whether simply product or product *and* process are evaluated, whether all group members receive the same grade or individual contributions are considered, and whether the professor or peers conduct the evaluation.

Technology and Collaborative Writing

In analyzing the study results, technology was the one clear topic that emerged that did not directly fit the research questions. Given the amount of recent studies regarding wiki use in graduate courses and for collaborative writing, I wondered how much and in what ways technology would be a part of professors' experiences of collaborative writing at the graduate level. However, in the surveys and subsequent interviews, technology seemed to be a separate consideration that professors addressed only because I asked the questions rather than as integral to their perceptions and experiences of collaborative writing.

To explore the possible relationship between technology and collaborative writing, I included questions about professors' technology use as part of the professor profile section on the survey. First, I wanted to see whether professors were using available technologies for writing, teaching, and collaborative writing. To this end, professors responded regarding their general use and use for teaching of the listed technologies (See Table 12). Through professor interviews I hoped to find out professor views on the relationship between the technology and collaborative writing.

The highest reported numbers for "regularly use" was MS Word with track changes at n=47 (77%). For teaching, the highest numbers were reported for MS Word with track changes at n=21 (34%), followed by SMART board at n=11(18%) and wiki n=9 (15%). In the open response "other technologies used for collaborative writing," respondents listed Blackboard, Cmap, Collaborate, Dropbox (5), email, Google Docs, Groove, Knowledge Forum, Latex, Mindmeister, Ning, pen and paper, Sharepoint, and Turnitin.

Table 12

Professors' Reported Use of Various Technologies

Technology	Not tried	Tried	Regularly use	Use for teaching	Total Responses
MS Word with track changes	4 (7%)	6 (10%)	47 (77%)	21 (34%)	61
Smartboard	42 (69%)	8 (13%)	4 (7%)	11 (18%)	61
Wiki	40 (66%)	11 (18%)	7 (11%)	9 (15%)	61
Blog	43 (70%)	9 (15%)	6 (10%)	5 (8%)	61
Cell phone for texting and Internet use	27 (44%)	12 (20%)	20 (33%)	3 (5%)	61
Blackberry or other personal device	36 (59%)	9 (15%)	15 (25%)	2 (3%)	61
Google Docs	31 (51%)	18 (30%)	10 (16%)	4 (7%)	61

In the interview data, professors identified the technology as having both positive and negative effects on collaborative writing. Pamela (Education) described the changes in technology as fascinating and scary in the way it is shaping people's thinking, writing, and collaborating. On the one hand, online technologies can have a democratizing effect. Using Wikipedia as an example, Pamela pointed out that often online text is a collaborative document (though she was not sure document was the right term) that is

always "shifting and morphing" and that it has been democratized. She raised the question of authority: "In academic writing supposedly there is more authority behind it because it's been peer reviewed. But it's just peers who review it, so Wikipedia is kind of the same." She suggested that although writers composing wiki articles may not hold PhDs, the peer process of "dabbling in it and changing it" applies. On the other hand, Pamela wondered whether, as the characters in *1984,* people are not shrinking their vocabularies, reducing the symbolic tools that allow the masses to think. She gave the example of texting with its abrupt, short messages whereby communication often reduces to a repertoire of stock responses (e.g., lol, smiley face). Yet, she emphasized more the advantages of new technologies to thinking and communicating, identifying big shifts in both.

The most prevalent notion professors had was that technology facilitates collaboration. Access, ease, and speed were common themes. For example, contrasting email or using Google Docs with faxing for sharing drafts, professors pointed out advantages of new technologies in all three areas. However, both Pamela (Education) and Tom (Business) pointed out that speed and ease of information sharing and information creation may not always be advantages if those become the focus. As Pamela noted, "The depth of thought *can* increase, but I think the speed and ease, sometimes that's all it becomes then is speed and ease, rather than using that then put your brain cells…to something else." Similarly, Tom stated,

> I think it's oversold first of all. I mean there is a speed; there is a technology. I would even say there's an enhancement of the communication process from the technology. No question about it. But it becomes an end in itself. And as it

becomes an end in itself, we're driven by companies and social structure elements

that put emphasis on newness or difference, you know, it's something that's

marketable, and we lose what we're really wanting to do which is focus on values –

come up with solutions to fundamental problems. If this gets in the way, which it

sometimes does, and sometimes doesn't, if this becomes the dominant form of

communicating, and the values that that stuff brings in, I think there's a conflict.

Similar to Pamela's worries about the possible effect of constant use of abbreviated text

to communicate, Tom's thoughts were that increasing technology infiltration into the

classroom through cellphones and laptops was contributing to students' misguided focus.

Rather than attending to what a professor was saying or doing, they were concentrating

on "information capture and regurgitation" or other data on their Blackberries. These

activities might result in learning; however, learning would be secondary. Tom's

observation was that technology could be enhancing, but all parties using it needed to be

aware of its limits. He concluded that the costs in many instances outweighed the

benefits.

When we're talking about having a purpose that's got a social implication

associated with it and not a hard science where we're talking about real people, real

processes and groups and individuals and so forth, that technology has to be held in

abeyance as a tool. And we've got to be able to control the technology and not

allow the technology [to control us]. Right now Microsoft, Apple are controlling us.

IBM is controlling us in the marketplace, all the way down through the educational

system to the classroom.

Tom expressed that the focus on acquiring and using the various technological devices became an end in itself, diverting attention from the actuality of learning with others.

The theme of *expectations* also arose in professors' responses regarding technology, particularly as it facilitates collaborative writing. Elizabeth (English) suspected that the facilitation of distance collaboration in particular would create more expectations at the institutional level. For instance, she thought SSHRC would likely expect video conference calls when working with a geographically distant research partner rather than offer travel funding. And given the ease of distance collaboration, she saw collaboration as an expectation becoming more of a norm. Arthur (Biology) also cited expectations, but his related to quantity of information. He noted, "The amount of genomic data that gets produced necessitates large lists of coauthors. Because partly the expectations of the field have increased in terms of what constitutes a worthy publication." Working collaboratively to coauthor becomes important because in these fields, "so much integrative different kinds of information that it is impossible for one person to do it all."

Tom also related adoption of technologies for collaborative work as institutionally driven to some extent. The question of who owns the technology was important to him in identifying the chain of answerability. "Governments who sponsor it are handmaidens, to some extent, to that larger force. And we are handmaidens to government. And I'm a handmaiden to my university to some extent. System is biased to that way." His concern was that adopting certain technologies generated collaborative work driven by efficiency and productivity (market based success) rather than collaboration fueled by creative pursuits (traditional academic inquiry/critical thinking) to solve relevant problems.

A few professors spoke specifically about students, technology, and collaboration. James (Engineering), on first thought, ventured that technology might affect the material more than the collaborative process. He observed students overusing Google and underusing academic library databases and online journals for scholarly material. Charles (History) noted that his PhD students were more likely than his colleagues to use available technologies for aspects of collaborative work such as receiving feedback from peers. He supposed that by the time the doctoral students became professors, "it'll be sort of second nature to them to work in more collaborative frames." But he still felt they would face cultural resistance to collaborative writing in the field of History.

Pamela's (Education) thoughts regarding the democratizing possibilities of the web with its "shifting and morphing" nature echoed for me the language and ideas of Bruns (2009) and Brown (2009) as articulated in the first chapter of this study. The online fluidity of knowledge and identity they describe provides the context for writing with others in ways that challenge North American ideas regarding ownership.

The relationship between technology and collaborative writing was the focus of only one of the studies reviewed regarding collaborative writing at the graduate level (Sakellariadis et al., 2008). However, technology as facilitating collaboration in terms of access, ease, and speed was not the main thrust of the article reporting on that study. Some members of the collaborative group found that their experience with the technologies they used marred their experience of writing with others, causing some to leave the group. Reasons included password difficulties, incompatible software, discomfort with posting online, not knowing who was reading posts, and feeling constrained by the technology. Those in the group of faculty, staff, and students who

remained, however, reported that the benefits of writing together were worth the difficulty that members experienced. Participants said they gained a greater self-awareness regarding technology and writing process in developing their group identity.

Presumably some of the issues listed could become obsolete as technologies change and people become more comfortable with them, but the discomfort faced by the writers in Sakellariadis et al. (2008) is not unlike those expressed by this study's participants, not only regarding to writing collaboratively online, but also to adopting collaborative writing as a practice in a field where hitherto it has been rare.

Faculty and student participants of collaborative research and writing in a graduate level conservation biology course across three campuses (Thompson et al., 2009) offer another perspective. Participants also needed to learn a number of new technological tools; however, they found the access offered through these tools a necessary reality and an asset in their work. Although some face-to-face meetings were necessary due to participants' inexperience with collaborative writing, using a wiki, Elluminate, and video conferencing enabled writers to work together, though geographically distant.

Graduate Student Data

As in the section on professor data, this section begins with profile data followed by results informing the research questions including thematic analysis and discussion where appropriate. In each section, research questions are posed as headings and sections conclude with connections to related literature. The topics of technology and disciplinary differences follow the results that directly addressed the research questions.

The online survey of graduate students was accessed by 253 respondents. Of these responses, 183 surveys were completed (72% completion rate). In the first section of the

survey (see Appendix B), students identified their field of study, degrees held, age, and gender. Students were also asked whether they believed good writing is critical to a graduate program in their faculty. Finally, as in the professor survey, questions about technology use aimed to illuminate the connection between technology use and collaborative writing experiences.

Student Participant Profiles

As with the professor survey, most of the graduate students who completed the survey came from Biology and Education, but the proportions were opposite to those of professor respondents (Education n=68, 37%; Biology n=46, 25%). See Figure 6 for complete results regarding field of study. The fewest respondents came from Business (n=13, 7%) and History (n=10, 5%).
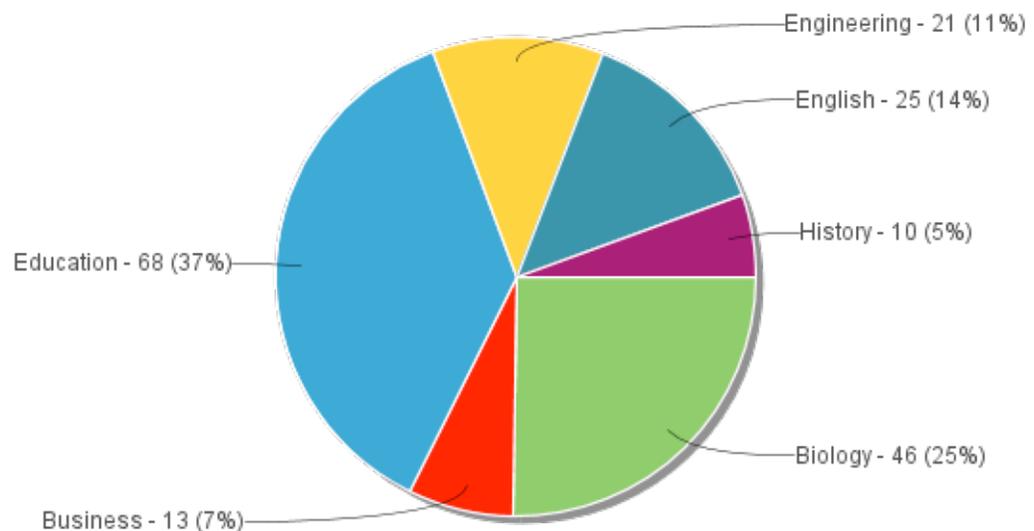
Figure 6: Student Field of Study

Because students reported degrees rather than checking off whether they were in a master's or doctoral program, I cannot conclusively state how many were in either program. I separated those students who listed master's degrees and PhDs from those

who only listed bachelor's degrees and treated the former as doctoral students and the

latter as master's students. However, this assumption is not always accurate, as at least

one interviewed student reported having a master's degree but being in a second master's

program rather than a doctoral program. Nonetheless, students listing master's degrees

may reasonably be grouped in the doctoral category in terms of academic experience. A

total of 86 students fell into the doctoral category comprising 53% of respondents.

The highest number of survey respondents was from the 20-30 years age category

(n=118, 64%). Figure 7 contains statistics regarding student age. Doctoral respondents in

Biology, Education, and History were older. Overall, twice as many females (n=123,

67%) as males (n=60, 33%) completed the survey. Almost all students (n=176, 96%)

agreed to the statement "I believe that good writing is critical to a graduate program in

my faculty." Three doctoral students (1% of the total sample) responded, "I'm not sure."
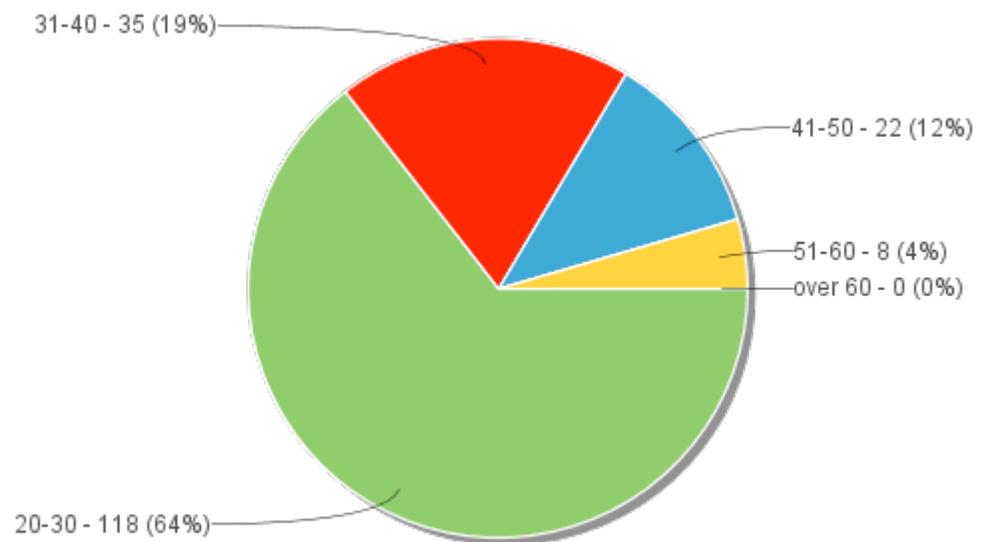
Figure 7: Student Age

Following the survey, I interviewed twelve graduate students. Six had engaged in collaborative writing at the graduate level and six had not. Nine were female and three were male. All six disciplines were represented: Four students were in doctoral programs while the other eight were in master's programs. Nine fell between the ages of 20-30 and three were between 31-40 years old. Again, pseudonyms are used for all interviewed students.

Interviewed students who had *not* written collaboratively. Devi and Jacqueline (English), Deepinder, Bailey, and Jennifer (Biology), and Alice (History) were graduate students who had not had collaborative writing experience at the graduate level.

Devi was a PhD student in English. Aged 20-30, she held a BA Honours and MA in English. In terms of technology, Devi had not tried a Blackberry, wikis, or Google Docs. She occasionally used a cell phone and Word with track changes.

Jacqueline was a doctoral student in English with previous degrees including a BA and MA. She was between the ages of 20-30 years old. Jacqueline regularly used wiki and other collaborative writing software including Drupal and Adobe Creative Suite. She occasionally used a cell phone and Word with track changes, and had tried Google Docs. She had not tried a Blackberry.

Deepinder was a master's student in Biology. He was between 20 and 30 years old and had a BSc in Biology. Deepinder regularly used a Blackberry and cell phone and occasionally used wikis, MS Word with track changes and Google Docs. He had not tried other collaborative writing software.

Bailey was a master's student in Biology. She was between 20 and 30 years old and held a BSc. Bailey regularly used Word with track changes, wikis, and Google Docs. She had tried a Blackberry and occasionally used a cell phone.

Alice was undertaking her second master's degree in History. She was between 31 and 40 years old and had a Bachelor of Science in History and a Master of Science in Historic Preservation degree. Occasionally, Alice used a cell phone. She had tried MS Word with track changes, but she had not tried a Blackberry, wikis, or Google Docs.

Interviewed students who *had* written collaboratively. Penny, (English) Grace, (Engineering) Sean, Tara, and Magda, (Education), and Aidan (Business) were interviewed students who had collaborative writing experience at the graduate level. Three of them were doctoral students.

Penny was an English doctoral student with a BSc and MA. She was between the ages of 20-30. For her undergraduate degree, she double majored in English and Biology. Although she occasionally used a cell phone, Penny generally did not use technology much. She had not tried a Blackberry, wikis, Google Docs, or Word with track changes.

Grace was a PhD candidate in Engineering: (Construction Engineering Management, Department of Civil Engineering). She held a BSc and MSc and was between 20 and 30 years old. In terms of technology, Grace regularly used Word with track changes and occasionally used Google Docs. She had tried a cell phone and wiki. She had not tried a Blackberry and collaborative writing software other than the options given on the survey.

Sean was a master's student in Education. He was between 20-30 years old and held an Honor's BA and a BEd. Sean regularly used a cell phone, MS Word with track

changes, and Google Docs. He had tried a wiki and occasionally used other collaborative writing software. He had not tried a Blackberry.

Tara was a doctoral student in Education at a large university on the West Coast. She was between 31-40 years old and held an MA. Tara regularly used a cell phone and Word with track changes and occasionally used Google Docs. She had not tried a Blackberry, wiki, or other collaborative writing software. Tara had also written collaboratively online.

Magda was a master's student in Education at an East Coast university whose previous studies resulted in a combined Bachelor of Arts and Science. Specifically, her degree was in Music and Psychology. Given her background, she noted that "people in the Education Department write very differently than people in the Psychology Department," elaborating that in Education, reflection and creativity was stressed over the more scientific perspective favored in Psychology. She was between 20-30 years old. Magda regularly used a Blackberry and cell phone, and Word with track changes. She had tried a wiki and Google Docs.

Aidan was a master's student in Business with a previous Bachelor of Management degree. He was between the ages of 31 and 40. Aidan regularly used a cell phone, Blackberry, wiki, MS Word with track changes, and Google Docs. He had not tried other collaborative writing software.

Research Question 1: What are Graduate Student's Experiences of Collaborative Writing?

The survey invited responses from graduate students who do and who do not engage in collaborative writing. Fifty-five percent (n=100) of respondents reported

having written collaboratively during graduate studies whereas forty-five percent (n=83)

reported *not* having written collaboratively in graduate studies (Table 13).

Table 13

Students who Had and Had Not Written Collaboratively by Discipline

	Have you written collaboratively in your graduate studies?		
Field	Yes	No	Total
Biology	28	18	46
Business	11	2	13
Education	41	27	68
Engineering	12	9	21
English	6	19	25
History	2	8	10
Total	100	83	183

Analyzing responses by gender, almost identical percentages had (male 55%,

female 54.5%) and had not (male 45%, female 45.5%) written collaboratively. Exploring

the patterns of response by discipline, I ran a Pearson Chi-Square test using field of study

as independent variable and the question "Have you written collaboratively in graduate

studies" as the dependent variable. The differences between disciplines are evident when

noting the contrast between the humanities and all other fields. The contrast is

particularly evident between History and Business (See Figure 8). In Biology, Education,

and Engineering, the *yes* to *no* ratio was closer to 60/40 whereas the imbalance was

greater in Business, English, and History. In English, the proportion was reversed with

76% *yes* and 24% *no*. Business and History were similar in proportion but opposite in

balance: Business was 85.6% y*es* and 15.4% *no* whereas History was 20% *yes* and 80%

no. At an alpha of $p < .05$, a significant relationship was found between discipline and whether graduate students wrote collaboratively χ^2 (5, N = 183) = 20.675, $p = .001$.
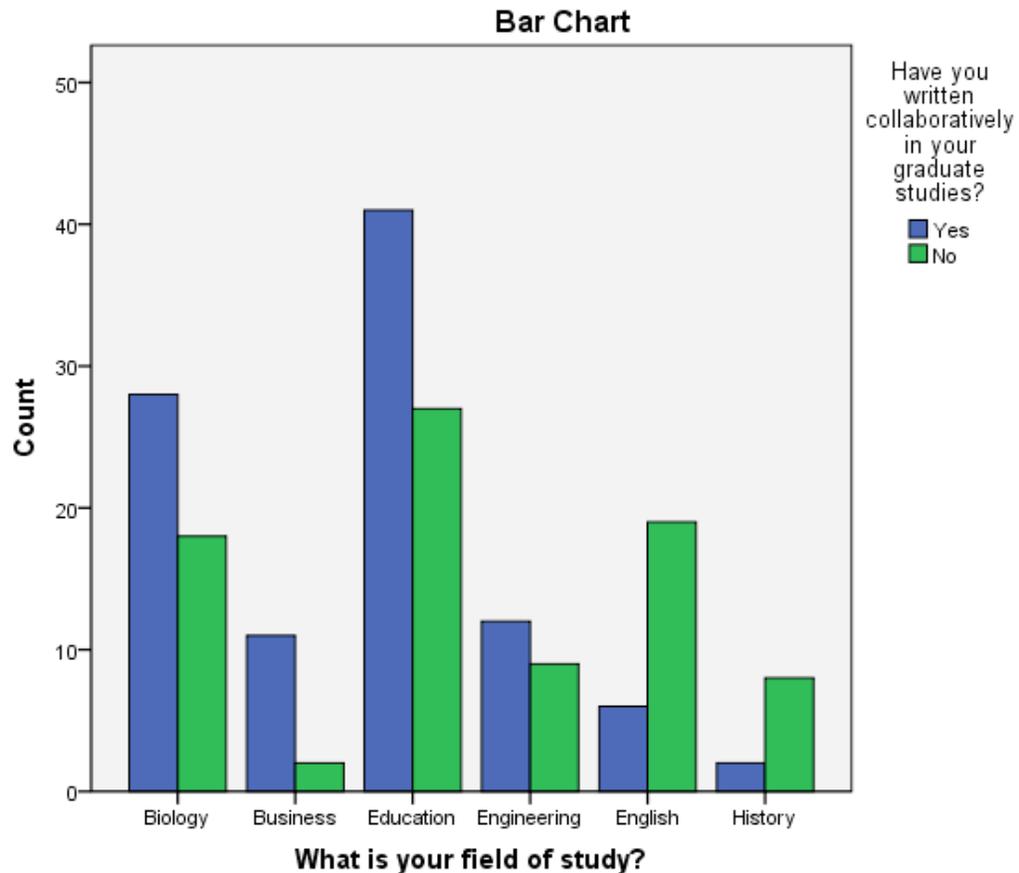
Figure 8: Experiences of Writing Collaboratively by Discipline

Examining the patterns of doctoral student collaborative writing by discipline, findings were very similar to those of the whole group for Business and Education. Numbers were somewhat different for Engineering, English, and History, with differences weighted the same direction but 4% or 5% different from the whole group. Numbers for doctoral students in Biology were quite different from the total respondents from Biology (92% *yes* to 8% *no*). Either more doctoral students in Biology write

collaboratively than do master's students, or more doctoral students who wrote

collaboratively than those who did not chose to complete the survey.

In the next sections, I present data from graduate students who had not written

collaboratively first, followed by those who had. Those with graduate experiences of

writing with professors are reported, followed by experiences writing with peers.

Students who had *not* written collaboratively in graduate studies. Of the 83

respondents who indicated they had not written collaboratively in graduate studies, 89%

(n=74) indicated that they had *not* been offered the opportunity to write collaboratively,

and 11% (9) indicated that they *had* been offered the opportunity to write collaboratively.

All nine students responded as to why they chose not to write collaboratively. These data

suggest that it is not that graduate students are choosing *not* to write collaboratively, it is

that they are not given the opportunity.

Table 14

Reasons for Choosing Not to Write Collaboratively [a]

Reason	Percentage	Count
Wasn't aware of it as an option	0%	0
Not enough time	33%	3
Dislike working in groups	22%	2
Shy	0%	0
Worried about my English skills	0%	0
Worried about my writing skills	0%	0
Other:	67%	6
	Total Responses	9

[a] Note: Respondents could choose more than option; thus, the percentages do not total 100, nor does the count add up to nine.

Those that choose not to write collaboratively cited their reasons as illustrated in

Table 14. Three students cited *not enough time* as a reason; a mere two indicated their

dislike of working in groups. Of the six who offered other reasons, a few indicated they had yet to write collaboratively but the project was not yet at the writing stage. A few others cited concerns such as personality conflict, workload, and issues of authority.

Six students were interviewed who at the time of completing the survey had *not* written collaboratively at the graduate level. None were disinterested in the possibility of doing so. In fact, Sean (Education) since taking the survey had begun writing collaboratively although not directly as part of his graduate program. Jacqueline (English) experienced collaborative writing at the workplace but not in her doctoral program. When asked whether they would have appreciated being given the opportunity to write collaboratively, Alice (History) answered "yes" and Jacqueline "absolutely." All three Biology students expressed confidence that collaborative writing would be offered, moreover, that it was expected in their programs as inherent in the thesis writing process. They described the process in mentorship terms. Sean also expected to be writing with his advisor.

Insights from these students supported the notion that disciplinary norms affect how collaborative writing is viewed and practiced in graduate studies. The humanities students depicted environments in which solitary writing was the norm whereas collaborative writing was a strange concept. Alice stated, "History seems to encourage more individual research and writing projects." Referring to the possibility of using collaborative tools such as wikipages, Jacqueline noted, "In the English discipline it's just not a common thing to think about in that kind of environment. That's not to say it's not possible." In contrast, the Biology students described collaborative writing as a norm. Bailey stated,

> In my faculty, it's pretty much guaranteed that every master's student will have a
>
> collaborative writing project with their supervisor. So the thesis normally ends up
>
> being either one paper or multiple papers that are going to be published. I know
>
> they're always collaborative projects.

Sean (Education) described the process by which he began collaborating with others as

starting through spontaneous conversations at a conference. "And then we started talking

about different aspects of education, and we got rolling from there." He explained that

any collaborative writing he anticipated doing aside from that with his professor was with

researchers from other fields within Education. It appeared a given to him that these

collaborative projects were welcome in his discipline, which suggests that collaborative

writing is not abnormal in Education.

These students also suggested tasks that might be amenable to collaborative writing

in their programs. Deepinder (Biology) suggested a course being a good context for using

collaborative writing to tie course content to individual research topics. Writing with a

partner under guidance from a third more expert person such as a supervisor would offer

students a chance to defend their ideas to each other and learn from each other's subject

area knowledge. Jennifer (Biology) thought cowriting introductions with students from

other specialties might offer a good opportunity to gain experience with the kind of

interdisciplinary work that she felt was becoming more the norm.

> Especially as everybody is trying to tackle bigger problems like climate change.
>
> You can't just take one angle; you need experts from all areas. So I think in an
>
> assignment...a group of students with different backgrounds…writing an
>
> introduction or something would be useful.

Alice listed "papers, archive/primary source analysis, [and] article analysis" as possibilities for collaborative tasks in History. She thought students might be leery of the assignment initially, but if well facilitated, it could "elicit deep learning." Jacqueline thought English seminars where verbal collaboration was already happening would be conducive to collaborative writing which could have more impact than oral conversation.

Sean (Education) was emphatic that graduate students be given the opportunity to write collaboratively. However, he did not think it could be forced: "I think it can't be created for [graduate students], but we can definitely put them in the right situations." He elaborated on the right situations as "gatherings of the mind" that included discussion in a relaxed atmosphere.

Based on the responses of the 83 survey respondents and six interviewed graduate students who had not written collaboratively, graduate students look favorably upon collaborative writing as a potentially useful activity in graduate studies and would for the most part welcome the opportunity to write with others. In suggesting its usefulness, they emphasized the depth and breadth of learning possible through the collaborative activity.

Students who *had* written collaboratively in graduate studies. Experiences of students who had written collaboratively are reported in this section based on survey responses and interview data. First, the open survey response yielded rich descriptions. Using five categories from the analysis of student comments in this open response, I report additional survey data where they fit these categories. Interview data offered additional explanation or insight.

Survey data. Of the 100 graduate student survey respondents who indicated they had written collaboratively in graduate studies, 89 wrote comments in an open field

describing their experiences. These responses were rich and yielded 15 pages of double spaced text. Five main categories fit the data: collaborators, product, process, evaluation, and context.

Collaborators. Many student comments indicated writers with whom the respondents wrote, forming the first category. Common collaborators included supervisors or advisors, research/writing groups or teams, and colleagues or peers. Respondents also named lab partners, researchers from geographically distant universities, and nonsupervising faculty as collaborators. Peers were sometimes further described as classmates or lab members. Individual students mentioned collaborating with research subjects, independent contractors, native speakers, or specific departments. At times, students identified collaborators by geography, both nationally and internationally. The consistent mention of collaborators appeared again in the categories of *evaluation* and *context*.

Product. Often within the same sentence in which they named their collaborators, students identified the type of product that resulted from writing with others; thus, product became a second category. Not surprisingly, students listed many of the same types of documents as did professors, adding theses, dissertations, and course assignments. Types of products included theses, dissertations, journal articles, manuscripts, reports, book chapters, presentations, conference papers, review papers, synthesis papers, grant proposals, ethics applications, online discussion board postings, article summaries and critiques, and presentations and papers for class. These same types of documents were reiterated or offered with more detail later in the survey and listed in the interview responses.

For example, responding in the open field of the survey question regarding types of collaborative writing activities in which they engaged, students mentioned the resulting products. These included papers, published research reports, course assignments and group projects e.g., Google Doc or class presentations, conference submissions, research questions, and texts that were revised or developed through online communication.

Responding to another survey question, students chose document purposes, identifying how many of their collaboratively written documents shared a given purpose (See Table 15).

Table 15

Purposes of Collaboratively Written Documents, Graduate Students

Number of documents Purpose	None	One	Several	Many	Total
It was a mandatory course assignment	46 (46%)	22 (22%)	19 (19%)	13 (13%)	100
To disseminate research results	40 (40%)	24 (24%)	28 (28%)	8 (8%)	100
To write to learn content within a course	63 (63%)	16 (16%)	16 (16%)	5 (5%)	100
To write to learn requirements of genre specific documents	80 (80%)	9 (9%)	10 (10%)	1 (1%)	100
To present research findings at a conference	43 (43%)	22 (22%)	23 (23%)	12 (12%)	100
To write up lab results from an experiment conducted together	71 (71%)	12 (12%)	15 (15%)	2 (2%)	100
To coauthor an article for publication	42 (42%)	26 (26%)	22 (22%)	10 (10%)	100
As part of my duties as research assistant	61 (61%)	14 (14%)	18 (18%)	7 (7%)	100

Few students reported writing to learn requirements of genre specific documents. The most common purposes for writing collaboratively were to disseminate research results

(60%), to coauthor an article for publication (58%), and to present research findings at a

conference (57%). When breaking down those into the number of documents per

purpose, the top two remained the same with 28% and 26% respectively under *several* for

the first and *one* for the next. However, 22% of respondents also cited *it was a mandatory*

course assignment as the purpose for one document in their graduate programs.

Mandatory course assignment was the fourth most common purpose cited overall (54%),

after which the gap widened to 39% of respondents citing *as part of my duties as research*

assistant.

        Not surprisingly, in a question asking whether any of their collaborative writing

resulted in publication, 58% of students responded yes and 42% responded no. I

examined the relationship between gender and publication, and found male and female

responses matched the overall split closely: 57.6% of the male respondents said yes and

42.4% said no; similarly, 58.2% female respondents said yes and 41.8% said no. To

examine the relationship between discipline and publication (See Figure 9), I ran a

Pearson Chi-Square Test using field of study as independent variable. Five cells had a

count of fewer than five, so I amalgamated disciplines in the same way as for the

professor data: Biology and Engineering became *Sciences*; Business and Education,

Professional; and English and History, *Humanities*. Then I ran the test again (See Figure

10). Two cells still had a count of fewer than five, but it didn't make sense to divide the

disciplines differently. Most striking is the difference between the sciences (which

includes largely respondents from Biology) and all other fields. These respondents much

more commonly reported publishing with 80% responding *yes* and 20% responding *no*.

At an alpha of $p < .05$, a significant relationship was found between discipline and whether graduate students wrote collaboratively χ^2 (5) $=$ 13.414, $p = .001$.
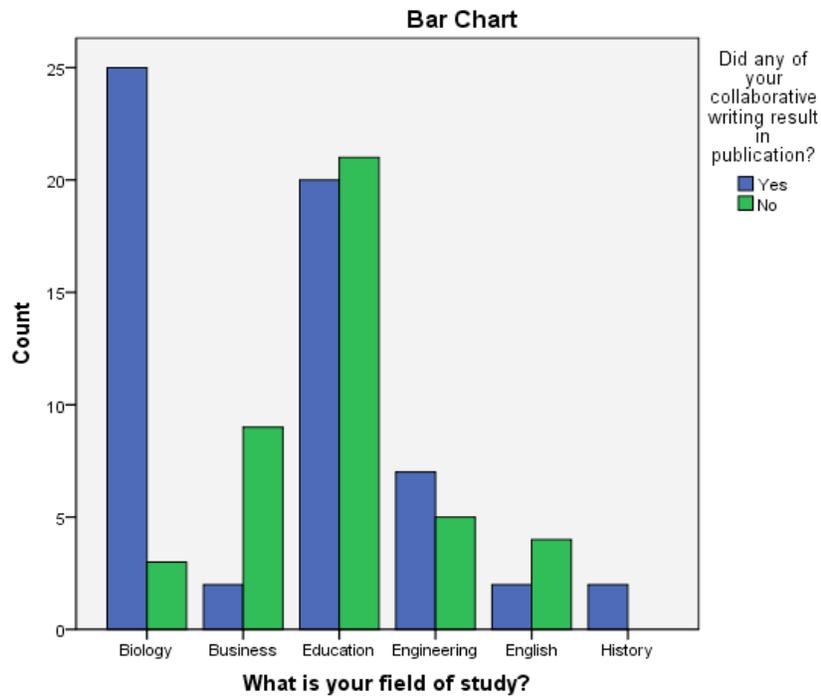
Figure 9: Publication by Discipline

As with the student sample as a whole, separating out doctoral students, the most notable difference among groups was the high incidence of publishing in the sciences (90% resulted in publication). The numbers were similar for professional fields (62%) and the humanities (66%). Looking at individual disciplines, this less striking difference can be attributed to the results in History in which both students who had written collaboratively had the resulting product published. In addition, the products of 14 of 20 collaborations by students in Education (70%) resulted in publication; this number is lost when combining the amount with the only two of six (33%) Business students publishing their joint work.
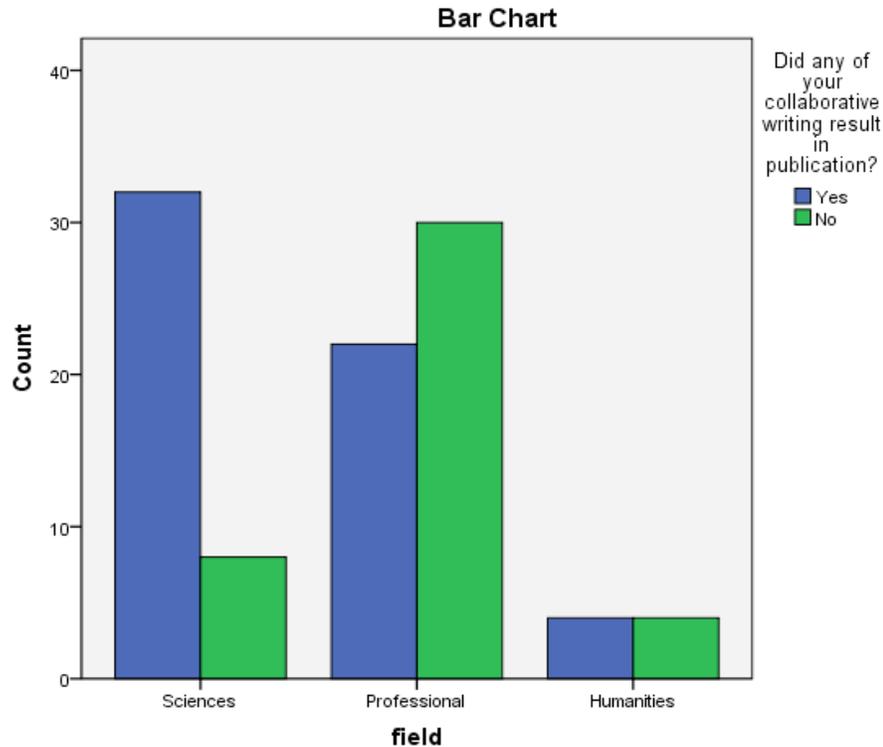
Figure 10: Publication by Field

Students responded to several survey questions regarding authorship that also

attempted to capture feelings of ownership (See Table 16). The number of respondents

who were listed as first author was slightly higher than those who were not, who

sometimes were, and for whom the question was not applicable. Responses were fairly

evenly distributed with approximately 25% for each. Whether or not students were

willing to put their name on the product was hardly a question: Of those for whom the

question applied, 93% (88/95) responded *yes*. Moreover, students were generally satisfied

with how they were acknowledged as authors. However, students did not respond as

positively to the question of whether they felt the writing was theirs. Perhaps a nuanced

understanding of the relationship between authorship and ownership could be further

explored. It may be that students are willing to

Table 16

Graduate Student Perspectives on Authorship

Question	Yes	No	Sometimes	Not-applicable	Total Responses
Were you listed as first author?	29 (29%)	26 (26%)	23 (23%)	22 (22%)	100
Were you willing to put your name on the product?	88 (88%)	0 (0%)	7 (7%)	5 (5%)	100
Did you feel as though the writing was yours?	54 (54%)	5 (5%)	36 (36%)	5 (5%)	100

put their names on a product to which they have contributed but might not have written or conceived of in the same way on their own. Perhaps the benefit of published authorship outweighs even the amount of participation a student feels should be involved to justify a sense of ownership. The complexity of feelings regarding authorship are discussed at the conclusion of this section and explored further in the section on student attitudes towards collaborative writing.

Process. Informing a third category, students also wrote about the process of writing collaboratively, describing who did what at a given stage in the project. The most common scenario involved a graduate student writing with a professor, often the supervisor, in which the student would write a draft, the professor would make suggestions or edits, and the student would revise drafts accordingly. For example, one respondent wrote, "I write my paper, supervisor reviews, I revise. Iterative process of this until supervisor is satisfied." Other comments provided more detail such as how the supervisor comments were made—in person or via MS Word with track changes—but

the basic process was similar. In some cases, the paper was for publication, and the supervisor simply proofread, added his name, and submitted the paper.

A second common scenario involved students working on a class project together. Respondents described two types of process for assignments. In one, students met face-to-face and wrote together sharing a computer screen, as exemplified by the following quote. "We worked face-to-face, with one person writing, while the other one contributed orally to complete the assignment." In the other, the task was divided among writers. The writers would then either meet together to compile the pieces and edit the whole, or one writer would compile the individual parts and usually share the completed draft before submission. In a number of comments, process was closely linked to evaluation. As with professor experiences, these processes can be understood using Ede and Lunsford's (1990) dialogic and hierarchical modes of collaborative writing.

Following the open prompt in which respondents were asked to describe their experiences of writing collaboratively, the students who reported having written collaboratively on the survey responded to a number of questions similar to those posed to professors. One such question probed for types of writing activities students may have experienced in graduate studies (See Table 17 for summary of responses). Similar to professor response, the highest student response was to the prompt "participated in face-to-face, online, or telephone discussion regarding a joint written product" (n=72, 73%); however, equally high for graduate students was the response to "met with a group that provided oral feedback on something I had written" which only drew a 50% response from professors. Respondents could choose multiple options. The next two areas of highest response were working as research assistant to a professor and being listed as

coauthor (42%) and conducting a study with other students and being listed as first author (32%).

In the open responses that followed, students listed versions of the prompts offered in Table 17, such as "Worked as an RA and was not listed as co-author (yet)" or "Contributed text and changed others [*sic*] text in MS word." One respondent included feedback from the advisor as collaborative writing: "Meet with advisor who provides oral and written feedback."

Table 17

Student Collaborative Writing Activities in Graduate Studies [a]

Writing Activity	Percentage	Count
Participated in face-to-face, online, or telephone discussion regarding a joint written product	73%	72
Met with a group that provided oral feedback on something I had written	73%	72
Worked as research assistant to professor and was listed as coauthor	42%	41
Conducted a study with other graduate student/s and was listed as first author	32%	31
Wrote a document, e.g., text chapter, as one of many authors with discrete assignments	28%	27
Changed others' text on a wiki	10%	10
Contributed text to a wiki	14%	14
Other, please specify:	33%	32
Total Responses		**98**

[a] Note: Respondents could choose more than one option; thus, the percentages do not total 100, nor does the count tally 98.

The latter perception of collaborative writing was in evidence in the *process* reported in

open comments regarding graduate student experiences of collaborative writing and

appeared again in the follow-up interviews. Of the 31 open responses, 13 specifically

referred to authorship. As well, 11 mentioned working with a professor, 8 referred in

some way to writing with other graduate students, and the others did not specify using

those descriptors.

Looking at some common elements of collaborative writing experiences as reported

in the related literature, survey respondents selected those they encountered and whether

or not they found them helpful (see Table 18).

Table 18

Graduate Level Collaborative Writing Experiences

	Did not experience	Experienced	Found helpful	Did not help	Total Responses
Support from a mentor such as your professor or a peer	13 (13%)	59 (59%)	72 (72%)	4 (4%)	100
Feedback from your professor	9 (9%)	61 (61%)	71 (71%)	8 (8%)	100
Familiarity with topic	8 (8%)	61 (61%)	70 (70%)	4 (4%)	100
Clearly understood roles	19 (19%)	54 (54%)	66 (66%)	1 (1%)	100
Discussion with other collaborative writers	25 (25%)	49 (49%)	63 (63%)	2 (2%)	100
Clear writing task	23 (23%)	53 (53%)	58 (58%)	1 (1%)	100
Time deadlines	9 (9%)	66 (66%)	57 (57%)	10 (10%)	100

Due to the construction of the survey question, the usefulness of the responses is

limited. It should have only been possible to check one response per pair with two pairs

per row. Ideally, the second two columns represented only those respondents who

checked *experienced.* However respondents were able to check all as many of the four

horizontal options as they wanted and given the numbers, despite the instructions,

students may have checked more than two options per row. However, looking at the

column *found helpful*, the three most helpful aspects were support from a mentor such as

a professor or peer (72%), feedback from the student's professor (71%), and familiarity

with the topic (70%).

To explore the role of social talk in collaborative writing, I posed a survey question

regarding off-task talk (see Table 19). Almost half the respondents (49%) reported that

they sometimes engaged in conversation that was not explicitly task related. Combined

with those who checked *always* and *usually*, this number became 81%.

Table 19

Frequency of Engaging in Off-task Talk

Extent to which students conversed about topics not explicitly task related.	Percentage
Always	11%
Usually	21%
Sometimes	49%
Rarely	16%
Never	3%
Total Responses n=100	

I analyzed this further by gender and found that patterns were very similar between males

and females. Reporting that they sometimes engaged in off-task talk were 48.5% male

students and 49.3% female students.

Evaluation. In their open response descriptions, respondents also evaluated their collaborative writing experiences, forming a fourth category. Student responses listed descriptors that ranged from "fantastic," "positive," "important," and "pleasant" to "time consuming," "tiring," "frustrating," and "horrifying." Expressing common elements that contributed to both ends of the continuum, one student wrote,

> Excellent when everyone is on the same level with writing ability and meeting deadlines. Horrible when others are lazy or cannot contribute soundly. Slow when working together at once. Slow depending on number of parties in group. Difficult when no one or when more than one want to control ownership of the overall report.

Positive experiences were associated with learning through discussion, mentorship, and development of ideas, mutual respect, shared workload, and mutual work ethic or commitment to the topic and writing task. Negative experiences were associated with lack of respect or commitment, lack of involvement or contribution, different writing styles, difficulty with language, and time constraints. Some respondents expressed that the outcomes warranted experiencing the negatives with the positives.

Context. In the fifth category, a number of respondents framed their responses in a given writing context. Some respondents contextualized their experiences by framing it in terms of course or online writing media, signaled by phrases such as "for an organizational behavior course," or "My committee used a wiki." Others highlighted the role collaborators played in the quality of the experiences, as noted by phrases such as, "depends on who you are collaborating with" or "depends entirely on other group members." The interaction and contribution of collaborators offered the context for the experience. A few students framed their experiences with phrases signaling how recently

they had started their programs. Finally, one student described the faculty response,

probably influenced by institutional context, which limited the collaborative writing

experience. "We originally wanted to write one thesis, which we would have coauthored;

however, we have been told by faculty that this is not allowed." The comments including

reference to context were helpful in illustrating the importance of situational factors on a

given collaborative writing experience.

 Interview data. The experiences that interviewed graduate students recounted of

writing collaboratively supported the survey data. These experiences are presented under

two headings—first those with professors followed by those with peers. Interviewed

students used the same categories of collaborators, process, product, evaluation, and

context to talk about their experiences. In doing so, they offered detail on process,

touched on issues of authorship and ownership, and offered insight to developing

relationships among writers. In some cases, students were quite reflective, clearly

articulating the benefits and challenges of their collaborative writing experiences.

 In students' experiences of writing with professors, the most common products

were papers and research articles. Describing their collaborative writing in the context of

a course, students gave examples of the two types of writing described by survey

respondents: one more dialogic and the other more hierarchical. In Tara's (Education)

examples, she offers contrasting experiences. In one example of writing with peers

outside of a course context, she detailed the conflict that ensued, one that seemed most

affected by personality and approach to writing. In the other which happened in the

context of a course, the process was more amicable and more rewarding. These

experiences affected Tara's feelings of ownership and authorship.

Student experiences of writing with professors. Grace (Engineering) recounted writing a research article for conference proceedings and publication with her research supervisor. She was lead writer and they exchanged drafts with track changes by email. They also had some face-to-face discussion. She found the experience somewhat enjoyable and explained, "The experience of working with my professor for the first time on a paper helped me learn his writing and thinking style and made me appreciate his wisdom and experience in writing at that level. The feedback was constructive and encouraged me to write better." However, regarding authorship, she found it unfair that she had to include her professor's name on the article given that it was her research interest and expertise. She said the difficult part of the process involved her supervisor's lack of insight regarding the topic. "Most times I would be the one having to give explanations on terms and concepts being written." Grace did not link this difficulty with her learning, but she did state that the collaborative writing experience affected her learning by making her realize that she would end up being the expert in a given area and would then need to be able to thoroughly explain concepts and her knowledge to others. As for the quality of the end product, she noted that it was well received and awarded best paper at the conference.

Tara (Education) had positive experiences writing with professors. In one case, she noted that sharing a similar academic background and approach to the writing contributed to the positive experience. She explained that their professions had influenced them to approach their academic work as a vehicle of expression rather than as intrinsically linked to identity. In addition, she felt the process of writing was pedagogical, and that despite other factors, mutual respect characterized the experience.

There's other things about working with him that are very annoying like he doesn't

answer his phone or his email, so you had to check with him through his wife, but

in terms of actual cocreation of knowledge and of product, it was an extremely

respectful process. I really appreciated that.

In our interview, Aidan (Business) described his first experience writing with his

supervisor in detail. Although it took place while he was in the process of being admitted

to graduate studies, it become an example of the kind of writing he continued to engage

in with his supervisor, citing two more papers underway at the time of the interview.

None of these collaborative writing experiences were part of the formal graduate

program. In that first experience, Aidan and his supervisor wrote a paper for conference

presentation in what he called an organic process. They deconstructed a paper he had

written for an undergraduate class and "rebuilt it to align with what she thought would be

more appropriate for the conference." The roles were assigned by the professor and

changed depending on the stage in the process. Aidan described a lot of back and forth, "I

have to say probably about ten or twelve times. Just edit-re-edit." As time went along, he

became more confident with the kind of feedback she offered and was able to feel more

of an equal contributor. Aidan's supervisor presented the paper at the conference where it

was well received. The experience did not result in publication, but Aidan was willing to

put his name on the product and felt as though the writing was his.

Aidan and his supervisor commonly talked about topics that were not strictly task

related. He noted that as the relationship became more personal, the writing also became

easier "because we could joke about it. It wasn't all business; it was more a respectful

dialogue. And the paper, like most academic writing, became the conversation."

Moreover, Aidan thought writing with his supervisor had not only made him more aware of himself as a writer but it also improved the quality of the final product.

Reflecting on the process, Aidan was acutely conscious of the intricacies involved in the writing. He noted that he and his supervisor were quick to resolve issues of word choice, partly because they thought along similar lines and partly because they were both fairly deliberate, committed to "capturing a certain feeling or a certain point and trying to be concise with it." But he thought working side-by-side might not work as well as the emailed exchange of individual work interspersed with talk, due to the amount of word-smithing. He attributed this to personality.

Student experiences of writing with each other. Penny (English) recounted her one experience of writing collaboratively at the graduate level in the context of a course assignment. She described it as being very well set up. Students could sign up for a topic for a paper that they were to write with a partner. She and her partner split the work in two. Each worked on it for "about two weeks on and off. We had two meetings and spoke on the phone and emailed." They each wrote drafts of their sections, exchanged work and edited each other's sections. In the writing, Penny described her and her partner as having symmetrical, identical roles. When they presented they alternated. They received the same mark. The professor had built in a grievance procedure should a student feel unfairly treated or graded; however, Penny thought no one in the course needed that avenue of action.

Devi (English) at the time of interview was still in the process of collaborative writing as part of a project that began as a course assignment. She hoped the product would result in publication. In a class of five graduate students, the professor gave

students a primary text with which to work. Each student took a perspective on the text

and brought that to teach in one of the professor's undergraduate classes. Devi identified

the collaboration as happening most intensively with the fellow graduate students but also

with the undergraduate students in formulating their work and perspective on pedagogy

of teaching the text. Initial writing involved all five individually generating two pages of

personal reflection on the pedagogy and two on the primary text. Together the students

began to "ferret out themes" and determine an overall approach for cohesion. One writer

who was also the professor's research assistant would blend the drafts into a single

whole. "We talked about many of the same things in spite of the different approaches, so

I don't think it'll be particularly hard to meld the pieces," Devi noted. She added that the

professor would write the introduction and conclusion.

Magda (Education) described a number of experiences writing collaboratively with

her peers. She mentioned many presentations written this way. In addition, in the context

of a qualitative research course, Magda wrote with her classmates. The professor

assigned each student a theory on which to write; her group wrote about case study

theory. She noted that meeting on several occasions to decide how to divide the load took

time and was challenging to schedule due to others' workloads. In addition, she found

incorporating others' views based on varied levels of knowledge and writing styles

became challenging, particularly because she was the person who "got to kind of pull

everything together for people," a point she noted was to her favor because she could

compare the writing styles and reflect on how to integrate them. Even though she was not

sure how the professor marked the resulting product, Magda found the course fun and

sensed approval from the professor for their group presentation and final paper. In the

end, despite the challenges, Magda felt that given their common background, it was fairly easy to bring the pieces together.

Tara (Education), in addition to writing with professors, also had experiences writing with her peers. She described one experience of writing a conference presentation outside of a course with two classmates as "terrible." She attributed the negativity of the experience to the writers rather than the collaborative writing itself. "And I never want to do that again. Not because of writing with cowriters, but I would not want to write with *them* again." She explained that between the writers a clash arose that pervaded the experience. Three students were working together; one was gentle and soft spoken and became caught in what seemed to be an untenable situation. The conflict arose in approaching the assignment. One writer stressed the importance of lens and theoretical perspective to approach the writing and the other was more concerned with the content. Tara felt that the three writers had similarities given a shared knowledge and commitment to the topic they were to write about, but she was annoyed by the overbearing insistence of the one writer on establishing a theoretical identity. "But for her it was important that 'I am a feminist poststructuralist. What are you?' That just shut me off from ever being able to take her seriously." In the end, Tara ended up thinking she was silly, and she thought Tara was dismissive.

However, in another experience of writing with a peer within a course, Tara had a much more positive experience. Although she and Sol had dissimilar backgrounds socially, academically, and in terms of comfort with writing, they were both strongly invested in the topic, and they brought different strengths, regarding subject knowledge and writing skills, to the paper. "And we were both really really interested in the topic for

many reasons: personal, political, and everything. We had very different strengths. He

could copy edit like no tomorrow. He knew APA style—he knew this; he knew that."

After describing in detail the subject strengths each brought to the project, Tara

concluded, "So, I think part of it was we were both really interested in the topic; part of it

is that we saw each other as complementary…we looked at it as partners in writing." Tara

contrasted this "amazing" experience with the dismal outcome of the other one, stating

that she was still friends with Sol whereas she no longer speaks with the other two

collaborators. "Sometimes we literally play high school games and we won't look at each

other when we walk by each other."

Regarding authorship, Tara had reservations about putting her name on the abstract

she wrote ostensibly with her two classmates. She felt the abstract was unrelated to their

presentation and furthermore, the presentation was really three separate presentations. In

contrast, the product of her and Sol's collaboration was "excellent" and thought they

"did" nothing with the final product, that is they did not attempt to present or publish it

anywhere, she was proud to put her name on the paper.

Discussion and connections to the literature. Based on the reported survey and

interview data, it is clear that Canadian students engage in collaborative writing at the

graduate level. Slightly more students have versus have no collaborative writing

experiences. The same is true for male and female students. The most interesting

difference in reported collaborative writing practices was among the disciplines, a

difference that is continually explored in this paper. In Biology, a particular difference

also showed up in that doctoral students' collaborative writing products are almost

always published whereas those of master's students are not.

Interviewed students with no experience writing collaboratively expanded on disciplinary differences. Students in the humanities emphasized sole authorship; those in Biology assumed thesis writing with their supervisor to be part of their future collaborative writing as mentorship. But all welcomed the potential of writing collaboratively and most offered specific tasks in which collaborative writing could be used. These data signal the potential for change in the writing practices at the graduate level.

Examining the data from students who had not written collaboratively in graduate studies, it is interesting to note that many students are not rejecting collaborative writing; rather, they are not given the opportunity. For those students who choose not to write collaboratively, not enough time and dislike of working in groups may be factors. These factors certainly affect collaborative writing at the graduate level, a point that is also illustrated in related literature. For example, graduate students in Rice and Huguley's (1994) study noted the amount of time required to agree and coordinate actions and ideas. In another example, one of the writers describing her experiences in Ens et al. (2011) made the choice to write individually, knowing both what she gained and lost by making that choice. Faculty can take these factors into account when assigning collaborative writing or students when choosing to write collaboratively rather than individually. Given the potential benefits from writing collaboratively, it would seem propitious to offer graduate students the opportunity. But as Sean (Education) pointed out, forced collaboration may not be prudent.

According to the data from students who had experiences of collaborative writing, common purposes for collaborative writing are to write research papers for publication or

presentation at conferences. Students also write collaboratively to fulfill course requirements with resulting documents commonly including joint research papers or class presentations. The survey data indicate that support from a mentor or peer, feedback from the professor, and familiarity with the topic of writing can all help students in their collaborative writing. Interview data reinforced this finding. These factors also appeared in the research literature. Support from a peer or mentor was noted by Clark et al., (2000) Ferguson, (2009) and Ens et al. (2011). Feedback from the professor was noted as lacking in Coutinho and Bottentuit Junior's (2007) and Kasimvilas and Olfman's (2009) studies on students writing on a wiki. Finally, Kasimvilas and Olfman (2009) suggested that in addition to lack of professor feedback, lack of familiarity with the topic contributed to the difficulty students had in writing.

In addition, students commonly associated social talk with their collaborative writing experiences as indicated by the high percentage of survey respondents who sometimes or usually engaged in conversation that was not explicitly task related. Again, responses of males and females were very similar. The importance of social talk is documented in the literature (Clark et al., 2000; Ens et al., 2011). Although I did not explicitly explore talk in follow-up interviews, students did include it in their descriptions of their own experiences. Social talk seemed to contribute to the developing trust and respect noted by interviewed students, for example, Aidan.

Student evaluations of their experience provided a sense of their attitudes towards collaborative writing and will be discussed in the section answering research question three. The references students made to context indicated the wide variety of ways in which students frame their experiences as well as where collaborative writing is

happening at the graduate level. To summarize, collaborative writing is occurring online, in courses, with committees, with supervisors, and with peers or professors in projects not formally mandated by graduate programs, but complementing student learning and career paths.

Regarding ownership and authorship, the experiences of Grace (Engineering), Aidan (Business), and Tara (Education) are instructive. Grace felt it unfair that her supervisor be listed as author for a work based on her expertise and research. She did, however, acknowledge the value of the supervisor's feedback regarding the writing and was clearly satisfied with the end product. Perhaps she felt that the content or substance was what authorship represented, considering writing less important. Her example illuminates the importance of a mutual understanding of what kinds of activities of collaborative writing are valued and shared as part of the understanding of authorship, much in the same way that Arthur (Biology professor) laid out his rules for collaboration. In Aidan's and Tara's experiences, the paper did not need to be published for them to feel pride and ownership, willing to put their names on the product. Their experiences both indicated good relationships and processes. The content was negotiated, not contributed in isolation as in Tara's negative experience and as in Grace's case. More is said in the next section on student attitudes towards collaborative writing regarding their views on authorship.

The experiences of graduate students in this study who had written collaboratively substantiated those reported in related literature. Students engage in a range of processes that can be understood using the terms in the literature, particularly Ede and Lunsford (1990) and Lowry et al. (2004). In terms of process, the scenario of graduate students

writing pieces that were brought together by lead writers and subsequently introduced /concluded by a professor was also reported by Lapadat et al. (2010). In my study, collaborators were most often pairs of student and supervisor or advisor, or class groups. A number of researchers in the reviewed literature reported on collaborative writing in pairs (Andrew & Caster, 2008) and in classroom contexts (Duemer et al., 2004; Golden, 2000). Research writing teams were also common in the reviewed literature (Bjornsdottir & Svensdottir, 2008; Eyman et al., 2008; Moore, 2004; Sweetland, Huber, & Whelan, 2004) but less evident in the practices of participants of this study.

The learning that happens through collaborative writing has also been previously noted in research at the graduate level. "Writing, especially in collaborative contexts, is a tool for thinking (Lapadat, 2004, 2009 as cited in Lapadat, 2010, p.100). However, the learning is not a given. As in Tara's experience of writing with her classmates for a group assignment, Coutinho and Bottentuit Junior (2007) reported less favorable results for knowledge construction. In Tara's case, collaborators' sense of identity as it tied into the writing seemed to prevent the kinds of positive outcomes that she experienced in other collaborations.

Identity as tied to self as writer, academic, or researcher was identified in many studies (Hildebrandt, 2004; Eymond et al., 2008; Lapadat et al., 2005; Lingard et al., 2007; Maher et al., 2008; Sakellariadis et al., 2008; Sweetland et al., 2004). In a recent article, Lunsford, Fishman and Liew (2013) discuss the process of identity formation as students become members of the academic community and through interaction, negotiate their understandings and valuing of writing, knowledge, and intellectual property.

Identity and self-awareness may well be as important when considering collaborative writing as writing skills or subject expertise.

Research Question 3: What are Graduate Student Attitudes towards Collaborative Writing?

Based on graduate student experiences of collaborative writing reported in the previous section, it is already possible to sense some of their attitudes towards collaborative writing. For those who had written collaboratively, positive experiences related to particular aspects such as interaction, qualities of the collaborators, a sense of shared purpose and work ethic, and learning and mentorship opportunities. Negative experiences were attributed to poor interaction, incompatible or negative qualities of collaborators, or constraints related to time. More insight can be gleaned from responses to additional survey and interview questions. In contrast to the data from professors, I did have data from students who had not written collaboratively in order to ascertain their attitudes towards collaborative writing.

Data informing student attitudes towards collaborative writing is presented first, followed by interview data in which students explain in greater detail their views regarding collaborative writing. In the interview data, students also offer their perspectives on the appropriateness of collaborative writing for graduate studies and in various disciplines. Also factoring into attitudes towards collaborative writing, student views on authorship and power dynamics as they relate to collaborative writing are shared.

Survey Data. On the survey, five reasons were offered for why students would choose to write collaboratively rather than individually (See Table 20). The largest

percentage of respondents (73%) chose *to work with peers* as the purpose of writing

collaboratively versus individually. The next highest area (58%) was *to improve the*

quality of learning. Unlike professors, at least a third (32%) of graduate students wanted

to develop interpersonal communication or language skills through their collaborative

writing. Finally, a quarter (25%) of respondents chose collaborative writing as an

alternative to traditional assignments. Considering these choices, it seems students chose

to work with others and hoped they would learn more through these interactions. A third

of respondents to this question also thought they could specifically learn language and

communication skills through collaborative writing. Taken together, these reasons

indicate that students think positively of the potential of engaging in collaborative

writing.

Table 20

Reasons for Students Writing Collaboratively versus Individually

Purpose	Percentage
To work with peers	73%
To improve the quality of learning	58%
To develop interpersonal communication or language skills	32%
As an alternative to traditional assignments	25%
Not sure	15%
Total Responses: n=100	**100%**

Other survey questions were posed to discover graduate student attitudes towards

collaborative writing. For example, students rated the level of difficulty they encountered

in writing with others as well as the fairness of the division of labor (See Figures 11 &

12).
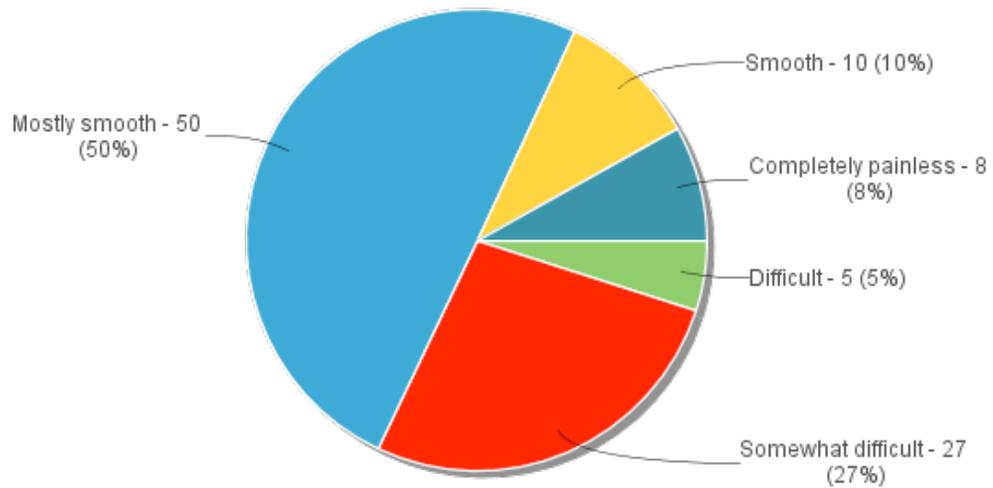
*Figure 11*: Level of Difficulty
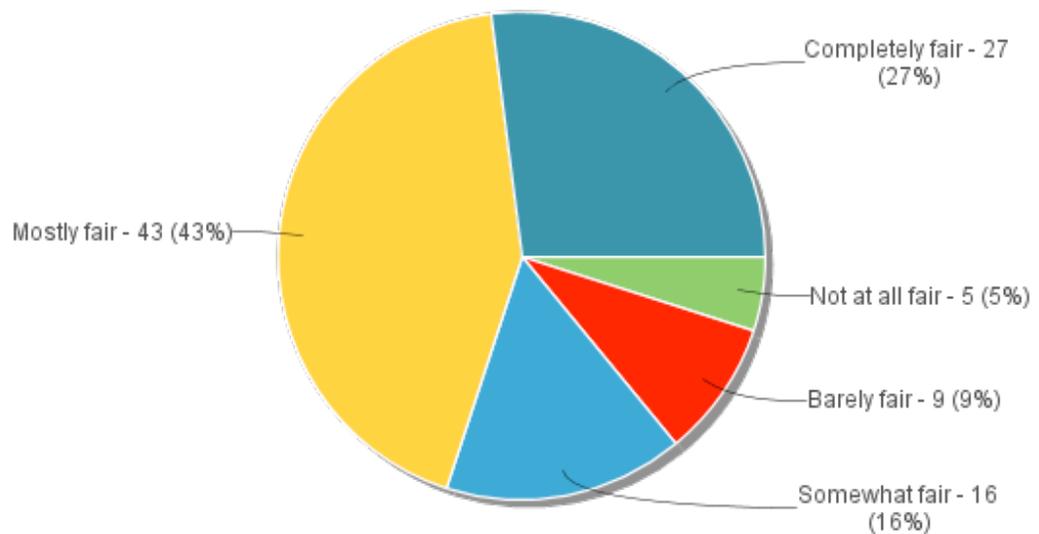
Figure 12: Division of Labor

In addition, students identified how frequently a collaborative writing approach was

suitable for a task or problem (See Table 21). Students also rated their experiences of

collaborative writing in terms of level of enjoyment and satisfaction with

acknowledgment as author (See Table 22 for responses).

Table 21

Suitability of Collaborative Writing to Task

Frequency of Suitability of collaborative writing approach for task or problem	Percentage
Always	24%
Usually	43%
Sometimes	28%
Rarely	4%
Never	1%
Count: n=100	**100%**

Half the respondents found writing with others to be mostly smooth. Only 5% answered that they found writing with others difficult, and an astonishing 8% found writing with others completely painless. Similarly, graduate student respondents found their collaborative writing experiences generally fair (86%), with 43% citing their division of labor to be completely fair. Finally, 95% of respondents indicated that the collaborative writing approach was sometimes to always suitable for the task or problem.

Table 22

Level of Enjoyment and Satisfaction of Collaborative Writing Experiences

Feeling	Completely	Mostly	Somewhat	Barely	Not at all	Total n=100
How enjoyable was/were the collaborative writing experiences?	16%	49%	24%	7%	4%	100
How satisfied were you with how you were acknowledged as author?	47%	32%	13%	4%	4%	100

However, looking only at those who said it was always or usually suitable, that number fell to 67%. Given the responses to level of difficulty, fairness of division of labor, and suitability of approach to task, it is perhaps not surprising that the majority of respondents (89%) enjoyed their collaborative writing experiences. An even higher percentage of students (92%) reported satisfaction with how they were acknowledged as authors. Table 22 displays the responses to the questions about enjoyment and level of satisfaction with authorship.

Students also responded to one open-field survey question meant to ascertain their attitudes towards collaborative writing. The question asked whether their experiences were favorable or unfavorable and to explain why or why not. I divided responses into *favorable*, *unfavorable*, *both/it depends*, and *what counts as collaboration*. These categories further broke down into subsections according to dominant themes.

Favorable. Students who characterized their collaborative writing experiences as favorable could be considered to be positively disposed towards collaborative writing. Favorable responses fell into three categories: two minds are better than one, mentorship, and interpersonal factors.

Two minds are better than one. This maxim applies to students' appreciation of their collaborative writing experiences in a number of ways. Multiple perspectives were repeatedly cited as improving student learning and writing product. "I learned things and was exposed to perspectives I never would have considered had I worked alone." Some mentioned being pushed outside their comfort zone. Others noted that the learning included not only idea generation but knowledge of the writing process from other

writers. This included academic writing generally but also "how to tailor writing to particular journals, topics, etc."

The idea of writers bringing varied knowledge and expertise to the project was repeatedly articulated. "It was a favorable experience as it allowed for the synthesis of ideas from many different individuals. Most often, these individuals came from different scientific backgrounds and they would have their own spin on the data." The resulting outcome was favorable not only for the synthesis, but for the discussion involved for writers to arrive at that synthesis. "Writing becomes better once it's challenged by another person as well, which often happens." Having many minds also helped the process. A number of writers noted that discussion with others or others taking a turn writing could keep the process moving. Others noted particular personal areas of weakness with writing that their collaborative writers helped them to overcome.

Mentorship. The idea of growing as writers through collaborative writing was particular noticeable in graduate student comments that reflected the importance of mentorship. Students reported appreciating the modeling and feedback of supervisors as they wrote together.

> I found it favourable, as it allowed me to see the progression of how my supervisor constructed the text for manuscripts, as opposed to just seeing the final product. In addition, it helped me understand for the transition to doing more of my own writing.

How the professor interacted influenced the experience. "Yes, the professor made all the difference. He was very appreciative and took the time to explain everything to me. I felt comfortable talking to him about anything. I felt no pressure working with him."

Interpersonal factors. Many who described their collaborative writing experiences as favorable based their positive attitudes on interaction between group members and characteristics of collaborators. Having collaborators working together was motivating, offering some students emotional support and opportunity to forge strong relationships. Relationships were characterized by respect and shared vision or goals, at times despite different approaches, and shared work ethic. "Collaborative writing was a favourable experience because a) participants equally shared the work; b) participants were respectful of each other's ideas; c) participants knew how to give constructive feedback; and d) participants had previous collaborative writing experience and thus knew how to successfully complete the process." Some students specified compatible personality, or "getting along well." For some it was learning interactional skills that made the experience worthwhile. "It is a favorable experience because you gain interpersonal skills, learn about other peoples learning styles and modes of writing and work in a team environment which often entails degrees of negotiation and conflict resolution." Students noted that these were life lessons.

Unfavorable. Students responding to the survey who characterized their collaborative writing experiences as unfavorable could be, perhaps, considered to be negatively disposed towards collaborative writing. They expressed logistical challenges and issues of control and contribution as factors that contributed to dissatisfaction with collaborative writing experiences. A few other factors were mentioned with less frequency.

Logistics. Logistical challenges influenced graduate student attitudes towards collaborative writing experiences. Scheduling problems as well as different approach,

writing styles, and methodology were cited as challenging. For example, one respondent

stated, "It was difficult to schedule and our lack of experience in writing collectively

contributed to our difficulty in getting the task done." Competing demands on time due to

a heavy course load were also mentioned. Disagreement over the direction of a given

project or paper also contributed to student dissatisfaction with the collaborative writing

experience. Disagreement relating to direction or style was often concurrent with issues

of control.

 Control and contribution. Survey respondents also expressed dissatisfaction with

their collaborative writing experiences due to issues regarding control, authorship, and

ownership which related also to varied contribution to the writing. In many instances,

perceptions pointed to power disparities. As one respondent wrote,

> I felt that my supervisor portrayed the each [*sic*] situation like we were each
>
> contributing to a coauthored publication, but in fact she would actually contribute
>
> very little other than big picture ideas, and then would take the majority of the
>
> credit. It felt like situations were being portrayed as collaborative writing in order to
>
> get us students more engaged, but in fact it was more like we were being used to get
>
> her publications done.

Similarly, another respondent explained,

> Because it was her research, [the professor] maintained a great deal of control over
>
> the process. She gave us (not well defined) tasks and once they were completed
>
> criticized most of the work, with limited positive or constructive pieces of
>
> feedback. She often went on to tell us she needed to redo all our work herself,
>
> although we felt that much of our own work remained in the paper.

Referring to class assignments, another respondent noted one person always seemed to end up doing all the work.

Both/it depends. Some students expressed a more neutral attitude towards collaborative writing, indicating that the quality of the experience depended on particular circumstances of the writing situation. These respondents raised the same types of issues as those who expressed positive or negative evaluations of their experiences, but respondents in the both/it depends category suggested that the experience was dependent on those factors. In one case, the respondent stated that despite the difficulty of the experience, he or she reaped benefits.

Logistics. Similar work ethic, timely individual contribution to the whole, and sufficient experience or writing skills, were listed as desirable characteristics of collaborators. Students listed these logistical aspects as factors, which would determine the relative favorability of collaborative writing experiences.

Control and contribution. Again, control and relative contribution to a collaboratively written project were critical to students' attitudes towards the experience. "I would say as long as everyone contributes, it's a good thing. You can bounce ideas off each other and come up with better ways to communicate your ideas. Unfortunately, most of the time when it's a student paper, the supervisor expects to be an author whether they contribute or not." Another respondent who had negative experiences with his or her supervisor wrote, "The only enjoyable collaborative experiences I have had were for publications outside of my thesis work, with other researchers. Those have been good experiences because they have been fair and authorship has been merit-based."

Collaborators. Personality was a repeatedly mentioned factor. "Depends on the topic and the individuals you are working with. When personalities or work habits clash it can be a long and tedious process." A number of respondents linked personality with logistical or other factors. "There needs to be a common focus; it is very easy to have collaborative writing take large tangents from the focus of the paper. This does depend on personalities of those in the group and their past experiences."

What counts as collaborative writing. Three student responses were coded into a separate category because they specifically questioned or addressed the notion or definition of collaborative writing. Two responses were long with a distinctly negative tone. These responses described scenarios already offered by other respondents in previous categories. In the first response, multiple published articles are coauthored by the student and the supervisor, but the student asserts that s/he did the bulk of the work. "He is my supervisor (and a vengeful one at that), so I have no recourse but to include his name on items and let him take credit for research he had nothing to do with." The student contrasts this example of what is *not* collaboration with good collaborative writing experiences writing with other researchers. In the latter, the collaborative writing is characterized by fairness and merit-based authorship.

In the second response, the student linked the definition of collaborative writing to discipline: "Collaborative writing in biology is usually more collaborative authoring." The student proceeded to describe a hierarchic mode of collaborative writing in which the lead writer did 99% of the writing and other authors provided money or equipment. Then, citing a particular experience, the respondent told of how one of the contributing

researchers put his name as first author to a manuscript drafted by the respondent. The respondent found this behavior inappropriate but said it was uncommon.

The third was brief and more neutral in tone. "It didn't always feel like collaboration—like two equal people working together, more like just using each person for what they were best at." In this last example, the student's comment implies that a hierarchical mode of collaborative writing where experts offer individual contributions and someone is responsible for making a cohesive whole is not real collaborative writing. Equal people working together suggests a view of true collaborative writing as dialogic.

The final question of the survey offered respondents the option of participating in a follow-up interview. Of 183 respondents who completed the survey, 60 (33%) affirmed their interest. As with professor response, this number seems high and indicates an interest in the topic.

Interview Data. Many of the factors contributing to interviewed graduate student attitudes towards collaborative writing can also be discerned in their experiences recounted earlier. Tara's (Education) experiences, for example, illustrate many of the positive and negative factors. In this section, additional data informing student attitudes towards collaborative writing are reported. In addition to information on attitudes gleaned through inductive coding, responses to specific questions are recounted here. Students expressed how appropriate they felt collaborative writing was for graduate studies. They also addressed disciplinary appropriateness and issues of authorship and power as related to collaborative writing.

All 12 interviewed students affirmed that collaborative writing was appropriate for graduate studies. Those who had written collaboratively could ground their responses in

their experiences whereas those who had not were largely speculating. A number of the

students discussed the appropriateness of collaborative writing for graduate studies

through disciplinary lenses. In addition, many students felt collaborative writing was

instrumental in the training for further work in academia or their given field. Particular

aspects of the learning through the collaborative writing process contributed to this

perception.

    Attitudes of students who had written collaboratively. Aidan (Business) was

emphatic in his view of the role of collaborative writing in graduate studies. "I think it's

absolutely a cornerstone," he stated. Like Pamela (Education professor), he connected

this belief with his constructivism.

> So I feel like knowledge is built up by having people actually discuss it and build
>
> on each other. And the key to academic writing, I think, we've been told, at least in
>
> my program, that it is a discussion. So your paper builds on another paper, builds
>
> on another paper, and we go off all different directions, but we talk similar subject
>
> matter, and we try and tie it all together, hoping to come up with both solid
>
> theoretical I guess paradigms, a paradigm that we can all work in. So if you're not
>
> writing collaboratively, it's going to be a lot harder to bring together all this
>
> different information and put together any perspective on it but that one you have.

Aidan continued to elaborate on this idea. He mused that the theoretical and course

content that students learned was one part of graduate learning, but that the collaborative

writing offered the

> socialization in the area to learn how to write and to learn what to write about. And
>
> then having the ability to put together a paper that's publishable so you can join in

the discussion. I don't think, without the collaboration you could get to that point

on your own. It would be very unlikely that most people would.

Magda (Education) linked the appropriateness of collaborative writing to her field.

Working with people in Education and Counseling Psychology benefitted from

collaborative work due to the different perspectives, learning from others, and learning

how to work with others. Magda saw all these skills as useful in the workplace.

Responding to my probes, she differentiated the collaborative writing from group

presentations or other collaborations that did not involve writing. She identified a

difference with writing in pushing writers to take more ownership of all the parts in trying

to find one voice. And that process contributed to higher learning. "I think with writing,

and especially when everyone has to pull it together, I think that really forces you to

immerse yourself in the whole topic, connect more with individuals you're writing the

paper with. It's just a very different, more involved, process, and helps you learn a lot

better than just doing the presentation."

Grace, (Engineering) voiced similar thoughts in explaining how collaborative

writing fit the purpose of graduate studies well. "Graduate level students need to be

exposed to the knowledge of their professors/peers in order to learn more. Knowledge is

created, collected, converted, analyzed, transferred and stored due to collaborative

processes. This is critical for students aiming to contribute to academia and practice."

Devi and Penny (both English) were conditional in their views of how appropriate

collaborative writing was for graduate studies, considering the question in relation to their

own discipline. Devi thought there should be a mix of individual and collaborative

opportunities for students. Penny thought there was definitely room for more

collaborative writing, but she noted that given the pressures of demanding programs, students might feel logistically frazzled and having to write collaboratively might just feel unfair. But, Penny reiterated, collaborative writing would be a nice skill to gain.

Tara (Education), like Devi and Penny, thought it depended how collaborative writing was used as to whether it would be appropriate in graduate studies. She noted that as a doctoral student, single authorship was critical to academic career advancement, a consideration that a master's student might not share. And while she thought learning the process of writing for publication from someone else could be helpful she noted it could just as well be dreadful. But she did think that collaborative writing was good practice in a classroom at the graduate level to learn how to see classmates as colleagues who can work together. And she also linked collaborative writing to disciplinary factors. "I will say that the longer I have been in academia, in the PhD, the more I see that discipline does shape the questions you ask, the way that you ask them, the writing that you do, and then the way that you justify it…as well as what is seen as being substantial enough justification."

But she also pointed out that writers needed self-awareness in order for interdisciplinary collaboration to work. "I think that if people know enough about their discipline and go "Oh I'm looking at it through my discipline eyes," then I think it can be great. But if people are not actually ensconced enough and don't know why they think it's wrong, just that it's wrong – but without enough knowledge to know why–then I don't know. Then you're not going to have a very fruitful collaboration."

Attitudes of students who had not written collaboratively. Sean, like Magda (both Education), stressed the importance of the writing aspect of collaborative writing as an

important element of the experience, specifically in the process it engendered to create a unified piece. He said,

> The collaborative discussion I'd definitely put at the top, but collaborative writing, the actual writing aspect of it, if it's not right there with it, it's a close second. Because you have to learn so much about working with the others and actually understanding where the writing's going and where you possibly want the writing to go and how you might bring both the both sides together if they are apart at all. And it's really working towards that same end because the results bring about the same end, but it's *how are we going to get there* [italics added].

It would seem that intrinsic to this process was a honing of thoughts through negotiation, illustrating the thinking-writing connection noted also by professors Arthur and James.

Bailey, Jennifer, and Deepinder (all Biology) thought collaborative writing fit well with one of the main purposes in science—to research, learn, and publish with others. Jennifer saw this as preparation for becoming successful professionals. As Deepinder explained,

> You have to collaborate and you have to work with people, and you have to share your research in order to make the most of it—in order to [achieve the] biggest impact, I guess if you will, of your research. So for those who may be hesitant to work with others, I don't think that the way things are headed in terms of the economics of research, in terms of research funding, you have to sort of delegate between, maybe within a project to different lab groups or something of the same type of dynamic. That's the way things are headed, I think. You have to start to collaborate.

Deepinder saw the benefits of this collaboration in terms of bringing together experts from geographically separate places, networking and sharing ideas to strengthen the work in a given lab. For students to be able to manage collaborative research and to produce something "meaningful, concise, and manageable," he suggested it would be important to have a central coordinating figure to manage the project and pull together the story. This person would have more expert knowledge and would be able to discern where to expand or delete information.

Similarly, Alice (History) saw strengths of collaborative writing for increasing interaction among students in sharing their work and learning content. "It would encourage students to share their work more, talk about it with others, critically analyze what they have been working on in light of others' work. I think it would also encourage students to learning ways of teaching certain topics."

Jacqueline (English) was the only one who registered hesitation, indicating that "the collaborative nature you're describing would be a serious shift for some disciplines, but that's not to say that it's not appropriate for academics, for graduate studies at all." She thought that introducing more technologies and opportunities would begin the process of change.

Student views on disciplinary differences. Responses of interviewed students regarding the appropriateness of collaborative writing in a given discipline offered insight to disciplinary differences. Two thirds of participants said there was a relationship between the two with a few offering emphatic affirmatives such as "absolutely" and "definitely." A few were hesitant to respond due to their lack of knowledge about how

graduate studies were conducted in other disciplines. For example, Jennifer (Biology) could only speculate.

> I'm assuming that something in the more creative fields, obviously writing collaboratively could take away sort of the artistic talent maybe, versus the sciences...our whole field is about publishing articles, trying to collective research and what not, so it's just kind of innately part of that.

And a few responded that the issue was less about appropriateness and more of norms within field. Bailey's (Biology) views were similar to Jennifer's. Bailey added that creative writing would necessitate sole responsibility so that individuals could showcase their ability whereas in the sciences, "you don't need ability to write; you just have to write what they're expecting you to write." Devi (English) said, "I think there are disciplinary, discipline biases to whether or not people work collaboratively. In the sciences it's just done." She clarified later, "I think it's easier to do collaborative writing in some fields than others. I don't feel that it is more *appropriate* to do collaborative writing in one field than another." Similarly, Jacqueline (English) supposed that more collaborative writing might occur in one discipline over another depending on approach to teaching in that field. "Let's say with English and History as well there's a long history of how things are done, and it's harder to change, I think, because of the actual material you're working with."

Whether they termed it bias or convention, students offered some common views on disciplinary norms. In the sciences, collaborative writing was seen as the norm. In contrast, in the humanities, collaborative writing was seen as unusual. Other fields such as Business and Education, it was seen as not uncommon.

In the sciences, collaborative writing was seen as the norm. Penny (English) who double majored in English and Biology as an undergraduate explained that labs worked as groups with projects dependent on collaboration due to the scale or complexity of the research and experiments. As a result, multi authorship was typical with varied levels and types of contribution to the written product. Furthermore, graduate students could expect to write collaboratively with their supervisors. Jennifer (Biology) noted, "In sciences, like I said, it's pretty much expected that you'll be collaborating with your professor and then any further collaborations are kind of optional, but there if you want it." In contrast, in the humanities, collaborative writing was uncommon and individual work encouraged. As Devi noted, "In English it is very easy to collect a pile of books, go into an office, shut the door, and don't come out until a paper is there."

Students speculated as to why or how collaborative writing might be valued in other fields. Penny (English) mused about purpose of the research or writing as a way of differentiating or understanding the differences.

I mean because of course, originality is valued in every sector, but perhaps with Engineering and Business, well, with Business it's really turning a profit, and originality is kind of subservient to whether, you know if originality is the selling point, well and good, but if it isn't, then it's not of value in and of itself. … And I would think the same for Engineering. Like building a structure that does its job safely and within cost boundaries is a little different from architecture where one is looking for originality of vision. Now, I don't see why two people can't get together and between them have an idea that is original, but I think because throughout graduate school we're really encouraged to distinguish our position

from that of any other critic on whatever we're writing about, it becomes a reflex to

try to differentiate ourselves and not align ourselves in the way we need to to

collaborate.

Magda (Education) compared her sister's experiences in English with her own

undergraduate science experiences.

So I find that a lot of [work in English] is more your subjective perspective on

things. And I think the professors realize that and realize that if they have two

people working together, it's just going to get very confusing, and people are going

to disagree, and you're not going to get the same quality, I don't think, than just

having one person writing the paper. I know when I took a lot of sciences, we did a

lot of things together—laboratory work and things like that.

She further talked about Education, Business, and Engineering where working with

others was a skill that would be valuable in the workplace. "And same with Engineering.

Like if you're building a bridge, you have to have all those perspectives. People have to

put in all of that information. So I think collaborative writing really makes sense in all of

those degrees."

Tara (Education) explored the writing product itself, and through that the purpose,

as a way to understand disciplinary practices of collaborative writing.

So in the humanities, your words, your writing is your identity. Business and

Biology, well Business especially, what matters is what does that person at the

other end get out of it, right? What is the audience hearing. So it's a means of

effectiveness.

It would follow from Tara's view, that negotiating identity and voice while writing with others would be more at stake in the humanities than in the sciences.

From interviewed students' perceptions, a contrast between humanities versus sciences and professional schools seemed to emerge. In the humanities, originality, subjectivity, and identity were key with writing privileging the idea and the author from a history of honoring the notion of creative genius. In the sciences and professional schools, the emphasis in writing shifts from the individual to teamwork; from originality to multiple expertise; from showcasing individual creativity to ensuring a useful product or clear communication with the audience. While the differences were clear, student comments did not indicate that collaborative writing would therefore be inappropriate in the humanities. Their specific examples of their own collaborative writing experiences and suggestions of tasks suitable to graduate studies indicate the possibility for change in all disciplines towards including more collaborative writing than is currently in practice.

Student views on authorship. To help explain the survey data regarding student experiences of authorship, one interview question directly solicited graduate student views on authorship and collaborative writing. Student responses helped to better understand the relationship between authorship and ownership, but this issue could be further developed. As in the earlier examples from the survey responses, which caused me to speculate on reasons why students might be willing to claim authorship when feeling little ownership of a product, survey data illuminating student attitudes towards collaborative writing indicated issues of control, ownership, and differential contribution that tie into the question of authorship, particularly when publication is involved. Earlier data from the experiences of interviewed students showed that students expressed

positive feelings regarding authorship in collaborative writing instances where the relationship was mutually respectful and process more dialogical. When asked about their thoughts regarding authorship and collaborative writing, interviewed students addressed contribution, the value of authorship, power, and academic or disciplinary norms, particularly concerning order of authors. These categories were often interrelated.

Overall, the attitude that the interviewed students expressed was one of acceptance or gratitude or of not caring too much about authorship. Those students who expressed gratitude were not concerned with where their names appeared in the order of authors; usually students expressed this attitude earlier in their academic trajectories. They accepted their place in the academic hierarchy, deferred to the wisdom or expertise of the professors, and were glad of the opportunity to publish. For example, Aidan (Business) as an undergraduate student was happy simply to have been allowed to participate in a conference presentation and be listed as author. But as an older student in his working on his master's, he said the drive to get first authorship was just not there. At the same time, he felt more able to advocate for authorship position: "The more experience you get with it, the easier it is to say, 'I'm not happy with the credit I'm getting because I know how much work I did. I know where this idea came from.'" Similarly, Sean (Education) noted that being listed as author more important than placement. He asserted that order might matter in applying for a position or tenure, but in those cases, he felt confident he could defend his contribution to a given work.

For Devi, the order of authors was also unimportant due to the conventions in English. "We don't usually have a bunch of authors. If you're a graduate student and you're listed as author, that's awesome. They don't generally get nitpicky over what

order you're listed in." Penny offered the example typical to many graduate students of working as a research assistant in which the relationship is unequal.

> We come into it as the hired help. And then we feel really fortunate to be getting credit, not like, "Oh, we're doing this as partners. Why wouldn't I have an equal credit." More like, "Oh, that professor's extremely generous expanding my paid labor into something that paid in what's even more valuable currency."

Although Tara (Education) was not as excited about being listed author as a research assistant, she also mentioned the deference to the professor's choices, given their roles. Penny went further in describing the value of the professor's contribution. Even in a more equal partnership in terms of hours contributed to a collaboratively written product, Penny suggested, the professor's contribution would have more weight given their knowledge and experience. Thus to her it was unsurprising that a professor should get first authorship.

Many of the students related order of authors to contribution. For example, despite her assertion that she was happy to step back and be second author given that she already had first author publications, Tara (Education) stated, "If I clearly did more work, I know I'd want to be first author." Jennifer, who had not written collaboratively, said that in her field of Biology, "first author is the one who does the most work." In her writing with peers, Devi (English) thought the order should reflect who had done the majority of the work. Magda (Education) pointed out that if collaborators contributed equally, it would be difficult to determine order of authors listed. If some students did the analysis and writing and others mainly offered feedback but they viewed their contributions as equally worthy, how would authorship be determined? Many of the students mentioned the

negotiation involved in determining authorship, but it was under the question regarding

power where the difficulties for some students to assert their views arose. In response to

the question on authorship, students generally seemed to accept the way things were

done.

Offering a different perspective to authorship, Jacqueline (English) talked about her

experiences as a government employee of writing collaboratively. "Your work is

anonymous. It is just work produced by public servants. And then when you translate that

into, in my specific workplace, into a wiki page, authorship is a completely fluid thing."

Her attempts to relate her workplace experiences to reflection on the meaning of

authorship in the context of her English program showed how complex the idea of

authorship can become.

Student views on power. Whether they had written collaboratively or not,

interviewed students offered their views on potential power issues impacting the

collaboration. Power dynamics was one element of the collaborative writing that had the

potential to affect student attitudes. Students based their comments on their own

experiences and on hearsay. Power imbalance was seen as related to the academic context

or cultural norms and practices, to a sense of deference students had for faculty, and to

the connection or disjunction between expectations of what collaborative writing entails

versus how it ensued. When expectations did not match reality, conflict involved issues

of credit, ownership, and identity.

Students talked about writing collaboratively with faculty and with peers when

considering the relationship between power and collaborative writing relationships, but

more examples addressed writing with faculty. Seven students used dramatic language in

asserting the power imbalances between faculty and students. For example, Devi

(English) stated, "There is a huge potential for misuse of power." Magda (Education)

described one professor with whom she had written as "absolutely" having power in his

position. And Deepinder (Biology) contrasted his own good relationship with his

supervisor with other relationships: "I've heard some nightmare stories…where students

are just not treated well."

Acceptance of the academic hierarchy and expectations made power imbalances

less of an issue for some students, particularly in formalized roles such as research

assistant. Penny (English) explained, "A completely explicit boss-employee relationship

we can deal with quite well. It's the shades between…" Sean (Education) acknowledged

the power that came with funding and his place in academia. "I understand my place on

the ladder." As such, he respected the experience of his professors. Tara (Education)

suggested that it was difficult for students to switch gears when the power structure

changed. She noted that in some cases, professors look to their doctoral students as

experts in their own areas rather than as lowly students, and that students might find it

difficult to shift into a more peer-like mode. And in considering the power related issues,

she added the potential of other factors influencing the dynamic.

> I do think that people enter into collaborative projects with different power… you
>
> have to see, is that power as it's manifesting in the collaboration or is this power
>
> issues that we're bringing in from the outside world as well.

Tara's (Education) perspective indicates a level of self-awareness conducive to engaging

in dialogic collaborative writing and it also highlights the importance of reflexivity in

collaborative writing relationships.

Students, with the exception of Grace (Engineering), stated that they had good relationships with their supervisors, and aside from Magda (Education), they had not experienced ill effects of power imbalances themselves. Their examples, however, showed that when student expectations of the collaborative writing clashed with those of faculty, conflict ensued and the power imbalance could become problematic. For example, as already noted in recounting her experiences, Grace expressed dissatisfaction with her professor taking credit. In Magda's case, her advisor was quite directive, and when the direction, for example, of research questions, did not match what Magda was interested in pursuing, Magda found it difficult to assert her ideas.

So I think there is definitely that element of power and it was hard for me when some of the questions were made up, and I made them up with her, and then realized that this wasn't really the direction I wanted my thesis to go. It was hard to go back to her and say, I know we've made up those questions, but upon further reflection, I really don't want to study those questions—I was thinking more about this.

However, for the most part, students, even in situations of conflict, suggested they would defer to their professors. As Devi (English) remarked, "We also have great respect for her as a professor, of course. So whether or not we feel that her decisions are practical or appropriate, we would most likely bow to her superior knowledge, regardless of whether the marks are on the line or not." Deepinder similarly trusted his supervisor's decisions given the professor's expertise and experience.

With professors' power, in Devi's view, also came responsibility. "So I think a faculty member needs to be very careful of the power that he or she wields over graduate

students." Jacqueline (English) articulated this in terms of not overshadowing the student's work while directing it. For Aidan (Business), the ability to write with a professor without becoming entangled in power struggles arose from the quality of the relationship the writers developed. "It's like any relationship. I think the longer the run-up to the collaboration, the more comfortable you are going to be not only with that person, but with how they write, how they think, how your thoughts either parallel or complement theirs."

In terms of power dynamics among peers, the interviewed students experienced harmony and disharmony. On the one end of the spectrum, Devi (English) noted "Among the students, the power dynamic has been very good. Nobody has been pulling rank." On the other end, in Tara's (Education) experience already recounted earlier, there was what she called "peacocking," which she attributed to a lack of maturity among the writers. She and Grace (Engineering) pointed out students' desire for recognition in the context of developing academic identities, desire which could lead to authorship and other squabbles.

At least three students talked about the difficulty in challenging writers with more power regardless of whether they were professors or peers. Although they did not go into detail, they intimated that the power difference inhibited addressing conflict.

Discussion and connections to the literature. Based on the survey responses and interview data, graduate student attitudes towards collaborative writing are in general positive. Hesitation or distaste can be linked to programmatic expectations, demands on time, or interpersonal conflict. Some students had particular views about what constituted collaborative writing, offering some insight as to possible discrepancies between

collaborator expectations. Student attitudes towards collaborative writing indicate its

potential in many areas for enhancing or carrying out the work of graduate studies. In

order for collaborative writing experiences to be successful, perhaps policy, programs,

and faculty understandings need to change.

Fontaine and Hunter (2006) use the dialogic and hierarchic versus individualistic

modes of writing to understand differing attitudes and experiences of collaborative

writing. They suggest that viewing writing from an individualistic perspective, which

they link to both romantic notions of the individual genius and original thought and to

Western individualism, it is difficult to fruitfully engage in collaborative writing because

questions of authorship will remain linked to identity and esteem, to ownership,

intellectual property, and even copyright. On the other hand, for those viewing writing

from the dialogic perspective of ongoing conversation in a Bakhtinian sense, satisfaction

in a product comes through clearly articulating the knowledge construction that has

occurred among writers. Somewhere in between, those writing in a hierarchical mode can

retain their individual voices, which will better satisfy writers whose individual

contributions need to be recognized, whether for personal preference, institutional credit,

remuneration from book sales, or other reasons.

However, the possibility of a dialogic collaborative writing relationship between

individuals with difference in power is more challenging than when writers are assumed

to have equal potential to contribute. Sweetland et al. (2004) stressed the role of respect

and trust in negotiating imbalances. Their study illustrated the potential in exploring

issues of power, identity, and professional ethics codes that writers brought into the

collaboration. Through the exploration, they were able to identify factors that contributed

to the silencing of difference. Speck (2002) noted the role of the professor in acknowledging the imbalance and using it wisely: "As professionals, professors have the responsibility to use their power wisely in the interests of promoting effective student learning" (p. 106). It is possible that more conversation needs to happen between professors and students regarding expectations of contribution and authorship.

The responses of graduate students to the question of authorship in collaborative writing help to get a sense of what is important in a graduate program regarding authorship. When students talked about course assignments, credit had more to do with personal pride or investment than with author order. Credit was thus linked to academic identity and to marks. If a writer was working with other writers of similar approach and quality of writing, there was no dilemma. If contribution was uneven in terms of amount or quality, dissatisfaction resulted. When students talked about published papers, authorship issues had more to do with career advancement and their collaborative writing relationships, particularly when writing with professors. Students often deferred to professors' expertise and experience and to their place of power in the academic system. Issues of unequal contribution were viewed, therefore, somewhat differently, but not always. Order of authors related to disciplinary conventions, hierarchy, and amount of contribution. In general, students seemed to be satisfied with having their name on the publication. The interrelationship of authorship, ownership, credit, self-awareness, and academic identity make it difficult to suggest one way of determining authorship over another. The conversations to reach those decisions are important and the import of how authorship is perceived and what weight it has for a given writer are critical to of those conversations.

Using Ede and Lunsford's (1990) modes of collaborative writing and Lowry et al.'s (2004) nomenclature as reference, collaborative writers can acquire the metalanguage useful for navigating some of the difficulties in writing with others. However, although a product may successfully result from unequal or acrimonious collaboration, for collaboration in the dialogic sense of the word, ultimately each contributor must participate and be willing to work under the agreed upon conditions of participation. Given the umbrella of activities the term collaborative writing currently encompasses, perhaps it would be helpful to add terms such as *unequal collaborative writing*, or *forced collaboration*, or *collaboration of convenience.* Such terms could cover situations in which participants are associated with the collaborative writing activity but whose participation is limited or virtually absent. Those participants who may want to address the inequities may then use validated terms that generally do not show up in the lexicon of the feel-good world of collaboration.

Students and professors can also use the language of collaborative writing in order to ensure that individual expectations for a given collaborative writing venture can be reasonably met and supported within the programmatic and disciplinary cultures of academic institutions. Survey data indicated that students chose collaborative writing to work with peers, improve the quality of learning and even increase interpersonal communication or language skills, all purposes that could fit learning goals in a graduate program, and all purposes that, at least anecdotally, were achieved. Professors choosing to assign collaborative writing or to write with graduate students can feel confident that students can find the experience enjoyable and worthwhile. Some conflicts, particularly regarding approach to task, process, writing styles, or authorship, can be avoided by

explicit instruction, conversation, or negotiation at the outset. Ongoing conflict can be negotiated, knowing the potential growth or cost of continuing in the collaboration. In addition, based on the views of graduate students in this study, where collaborative writing seems contrary to how knowledge is created or valued in a given discipline, the question should be asked whether there is a real contradiction or whether it is one based on habit or convention.

From the reviewed literature, the tensions between academic expectations and norms and graduate student experiences is real (Moore, 2004; Nahrwold, 2001). Nonetheless, given the responses, particularly of the interviewed students, and considering voices in other reviewed studies (Bjornsdottir & Svensdottir, 2008; Ens et al., 2011; Eyman et al., 2008), collaborative writing has a place in graduate studies that is not adequately acknowledged, supported, or required in graduate studies. This is an area of pedagogical and programmatic change that is rife with potential.

Research Question 4: What are Graduate Student Perceived Benefits and Challenges of Collaborative Writing?

Although no survey questions directly addressed the benefits and challenges of collaborative writing at the graduate level, I could interpret some evaluative and descriptive comments as benefits and challenges. Brief summaries of already mentioned benefits and challenges begin each section. These summaries are followed by additional data from one survey question regarding challenges, and then in both sections, data from interviewed students.

Benefits. Some benefits to collaborative writing emerged through survey responses addressing previous research questions. Students noted that collaborative writing offered

opportunities for learning through defending their ideas to others and discussion as well as directly from others with more subject knowledge. The development of their ideas was another positive outcome; in a related vein, a better product ensued as a result of collaborating. Students also benefited from learning through mentorship, for example, specifically mentioning gaining insight through helpful feedback from professors. Respondents mentioned becoming more aware of their own writing and learning new writing skills as professors and peers modeled the process. In addition, a benefit of collaborative writing was the opportunity to engage in interdisciplinary work. As well, students gained interactional skills including negotiation and conflict resolution. Many survey respondents offered conditions in which benefits would result. These included complementary partners, mutual commitment, and similar levels of writing ability.

In my interviews with graduate students, I asked them what the benefits of collaborative writing at the graduate level were. They expressed benefits of collaborative writing in the areas of learning, interaction, ease of writing, and quality of writing. Many of these responses reinforced the survey data.

Learning. Overwhelmingly, graduate students identified learning as a benefit of collaborative writing. They listed outcomes and processes such as shifts in thinking, challenges to assumptions, generation of new ideas, and increased self-awareness that resulted from writing with others. As Penny (English) enthused, "Oh I definitely encountered ideas I wouldn't have either had myself or necessarily read about, so it did that thing that graduate school is supposed to do. It taught me things. That was a huge benefit." For Aidan (Business), collaborative writing offered an obvious fit with a

constructivist way of thinking about knowledge generation in which subjectivity is acknowledged and addressed.

Some students specified the benefit of working with others from different disciplines. Sean (Education) explained, "First [benefit] is understanding the differences between yourself and a variety of other people in your field and in different fields—their thoughts, their processes, and what you might be missing when you're doing collaborative writing." Tara (Education) added that cross-disciplinary collaborative writing also helped in "learning the constraints of your own discipline." In addition, the idea of mentorshi0p surfaced. Some students appreciated their professors modeling research and writing processes for them. Bailey (Biology) asserted, "At least in my field, a benefit would be learning from the pros. You're going to be learning from your professor, from your supervisor and sort of seeing how it's done, how the process is."

Interaction. Another much mentioned area of benefit resulting from collaborative writing was social interaction. Students listed cognitive, affective, and social benefits. For example, students reported that the discussion, analysis, and compromise involved in writing with others was enriching. Some students specified benefits that could be construed as motivational: Working with others was fun or reassuring. As Penny (English) pointed out,

> Well people just don't want to do this massive crazy logistical exercise that they're
> not familiar with, [but] there's a level of reassurance, I think, in collaborative
> writing. Like, 'Oh the other person thinks this is quite good.' You know, a sense
> that one can be on the right track.

Getting to know others in the program or learning to see classmates as colleagues were also benefits. In some cases, the benefit was seen as mitigating the isolation inherent in some graduate programs. In others, the benefit was seen in the potential for long-term writing or research relationships. Tara noted, "And you can also just get really good partners that you want to work with in the future. That could become future coconspirators." For some, the benefit was as generic as learning the life skill getting along with others.

Quality and ease of writing. Students listed benefits of collaborative writing as affecting the quality of writing both in terms of process and outcome. The quality of writing was stronger due to improved quality of thinking as already mentioned under *learning* such as through challenges to assumptions. In addition, more writers could double the scope of the writing and provide better coverage of a given topic. Because writers improved their writing skills through the collaborative process, quality of writing was also improved. For some students, this benefit was directly associated with the fellow writer as reader. Having the benefit of an immediate reader's perspective helped to make the writing better. Jennifer (Biology) stated, "The actual writing – I would say it definitely strengthens the quality of the work because you have that many more eyes looking at it, and that many more perspectives, and backgrounds. So there's a lot of group correcting and what not. So I think the final product is much stronger."

Ease of writing was a less dominant theme, but several students noted it as a benefit of collaborative writing. Particularly, sharing the workload among writers eased the writing. In addition, by spreading the workload, an individual writer could engage in a larger number of projects as he or she would have available time or energy.

Future practice. Interviewed students shared ways in which collaborative writing could benefit future practice, whether as researchers, academics, or otherwise employed in their respective fields. Students noted benefits as the opportunity of publishing, networking, finding future writing partners, and the modeling and experience of good collaborative research practice as carrying over into the workplace. Sean (Education) explained, "You really get to know the people you're working with and network beyond that. And really see what else is going to be discussed and out there." Deepinder (Biology) expressed that collaborative work was where the profession was headed. Certainly others such as Jennifer (Biology) expressed that a benefit of graduate level collaborative writing would be preparation for the workforce. "[Collaborative writing is] definitely preparing them and giving them the skills that they're going to need once they finish their degree and try to get jobs in the job market."

Challenges. Survey respondents and interview participants indirectly and directly identified a number of challenges to collaborative writing. Some emerged through survey data analyzed in response to earlier research questions. Students experienced challenges in the areas of logistics, noting scheduling difficulties and competing demands on their time. Some indicated that concurrent writing slowed the process down. In one example, institutional rules were a cited challenge to writing a collaborative thesis. Relating to control and contribution, challenges included power imbalances with professors in which professors assigned students the bulk of the work and then took most of the credit as well as conflict with peers where unequal contribution was not reflected in credit. Finally, students noted challenges relating to their collaborators, particularly regarding personality clash, different approaches to writing, and different levels of writing skill. Difficulties

arose when more than one person or no one took responsibility for the final product.

Other interpersonal challenges included lack of respect, lack of commitment, and

difficulty with language.

Survey Data. In addition to the aforementioned challenges, the most direct source

of data in the survey regarding challenges of collaborative writing was the question *When*

you were learning to write collaboratively, what did you find most difficult? From the

responses, I grouped challenges into the categories of logistics, writing skills, process,

interaction, and authorship.

Logistics. Students frequently mentioned logistical challenges when learning to

write collaboratively. Specifically, they listed time related issues such as sticking to

deadlines, getting others to respond in a timely manner, finding time, and scheduling.

One person mentioned failure in technology as a challenge.

Writing skills. Many respondents commented on difficulties relating to writing skills

using the term directly or referring to related terms including writing styles, grammar,

and organization. Some students found it difficult to work with peers with poor writing

skills whereas other students were worried about their own weak writing skills, not

wanting to disappoint collaborators. Others simply phrased the difficulty as "being

sensitive to others' writing styles." Some students struggled with their ability to be

concise or organized while others specified difficulty with learning to read manuscripts

on multiple levels including for organization and grammar. A number of students

expressed their difficulty in understanding what the professor was looking for, comments

that perhaps indicated issues with communication but could perhaps be construed as

students' growing ability to understand task demands.

Process. The most common mentioned area of process which students found challenging in learning to write collaboratively was in the editing or reviewing phase. Students found it difficult to create a seamless whole. One respondent specified that s/he was not used to including other voices and was distracted by details rather than evaluating content. One respondent noted that starting a new collaboration involved recognizing that routines that worked in a prior collaboration did not necessarily work in the new one. Another challenge related to process was the inevitability of duplicating work among collaborators that contributed to inefficiency. Finally, one respondent mentioned that the product did not reflect the greater amount of energy put into the collaborative process.

Interaction. Another area in which respondents commonly voiced difficulty was in the various negotiations that collaborative writing necessitated. Many cited the challenges of dealing with multiple perspectives, whether to reconcile them, come to consensus, or retain plurality of voices. In a related vein, one respondent articulated the challenge in trusting collaborators not to distort his/her words. Another disliked being left out of discussion and decision-making processes. Difficulties related to multiple perspectives could also be seen in statements regarding challenges in reaching a shared vision. Spin-offs included difficulty negotiating wording and achieving clarity. Also related, many respondents found giving and taking criticism as challenging. A few respondents spoke more directly to emotional aspects of the interaction such as "those who let the emotion get in the way" and dealing with others' lack of engagement. Finally, a few respondents specified online interactional difficulties when learning to write collaboratively, including achieving the right tone of response and the difficulty of no face-to-face contact.

Authorship. A number of students listed issues relating to credit and control as difficulties in learning to write collaboratively. For example, one student found it difficult to give credit to another writer for work s/he herself had done. Another respondent cited lack of control over his or/her own work.

> It is hard when both authors do not agree on a point or the direction of the project. Sometimes you leave parts in a paper, even though you may not agree with them. I had a hard time adjusting to having my name on a paper, even though I didn't always agree with every aspect of the project.

These issues reappear in the interview data.

Interview Data. In my interviews with graduate students, I specifically asked what challenges of collaborative writing were. Interviewed students expressed challenges relating to collaborative writing in the areas of logistics, relationships, writing, and context.

Logistics. Logistical challenges were prominent challenges to collaborative writing identified by graduate students. The oft repeated areas of concern were time, writing styles, and amount of work. Specifically, conflicting writing styles impacted timing and coordination among parties. As Aidan (Business) emphasized,

> Time is always the biggest issue. …I don't know how often it's happened to you where you've sent somebody a paper and two weeks later you say, let's set up a meeting to discuss it. And then you sit down and they say, well I haven't had time to read your paper yet. Well then, why did I send it to you?

Tara (Education) pointed out that in addition to time management, some students were not aware of their own working styles or available time and energy given their other

commitments such as parenting or work. Devi (English) stated that collaborative writing

required commitment from all members, implying that lack of commitment could pose a

challenge. Others expressed a similar thought, focusing particularly on contribution.

Deepinder (Biology) stated a challenge as

> Just coordinating between the parties involved and making sure that what is
>
> produced is reflective of the shared experience. I mean, certainly it might be the
>
> case where one group doesn't contribute as much, whatever that might mean in
>
> terms of volume of contribution, however that's measured.

Relationships. Another much mentioned area in which challenges to collaborative

writing manifested themselves was in social interaction. Devi (English) noted that just as

it was possible to experience bonding, political nastiness could occur in collaborative

writing. Jennifer (Biology) named different personalities as a potential challenge;

similarly, Bailey (Biology) cited working with "difficult people" and disagreement

among collaborators as challenges. In addition to disagreement, Grace (Engineering)

listed power struggles as a potential challenge. She also noted poor communication and

language barriers as problematic. While those could affect the relationships among

collaborators, they could also impact the writing process.

Writing. Students listed surprisingly few challenges related to the written

articulation of ideas or crafting of the written product. In contrast to the students'

statements that indicated the benefit of multiple viewpoints and inviting the expertise and

challenges to thinking of writers from other disciplines, Jacqueline (English) and Jennifer

(Biology) suggested that too many voices or writers from other specialties could pose

challenges. For Jacqueline, too many perspectives on one topic could result in lack of

direction and weaken the writing. "If there are too many people talking about one thing

and if writing about any particular line of research, it might actually not get anywhere

anytime soon because people have so many ideas." Jennifer pointed out that working

with people in other specialties would result in a lot of time spent teaching each other in

order to apprehend the knowledge, processes, or data each brought to the project. "A lot

of sitting down and trying to teach each other what you're trying to, what you're working

on. And making sure all the group members are up to speed." Magda (Education) stated

that achieving one continuous voice was challenging.

Context. A few interviewed students shared ways in which the greater contexts

could provide challenges to collaborative writing. Sean (Education) mused that in some

cases, pleasing funding bodies might result in ethical dilemmas.

It's one of those things where you might have to push aside ethics just to get this

paper written. Not ethics, but one's own—personal prerogative because you're

writing for theirs. Which could be very sad, but it's one thing that has to happen

now and again, I guess.

In a more common theme throughout this study, disciplinary norms themselves

provided the challenge. In this case, Jacqueline (English) simply posed the prevailing

idea of individual authorship as a challenge to collaborative endeavors.

Discussion and connections to the literature. Many connections to the reviewed

literature on graduate students and collaborative writing can be made regarding benefits

and challenges of collaborative writing. One positive function of collaborative writing is

in helping students to become members of a community of practice. Viewed in this way,

the benefits include the areas mentioned above of learning, interaction, quality and ease of writing, and future practice.

Collaborative writing as helping students become members of a community of practice was asserted in Maher et al. (2008) where the authors recounted the growing confidence of themselves as academic writers as they learned to offer more in-depth and critical feedback to each other in their doctoral writing group. Confidence developed through gaining writing skills while writing for publication and working on their theses was also reported by Clark et al. (2000). For participants in Ferguson's (2009) doctoral thesis writing groups, the feedback from various disciplinary viewpoints was helpful for clarifying and strengthening the writing. Focusing more specifically on learning genre demands of specific assignments through writing strategies used by pairs of writers, Schindler (2002) concluded that collaborative writing was an effective tool for teaching writing. Her comments regarding the interaction between writers in defending their ideas and writing choices and the resulting benefits for writing and writers was articulated by participants of this study. And in Ens et al.'s (2011) study, in addition to these gains, writers developed writing friendships strengthened by interaction and developing trust.

For some students in this study and in the reviewed literature, acculturation to academic norms as the graduate level in a particular discipline happened within a mentorship setting (Andrew & Caster, 2008; Tierney & Hallet, 2010; Turner & Edwards, 2006). As already mentioned, benefits of a mentorship type of collaborative writing related to the same categories of learning, improved writing skills and product, interactional skills, and relationship. Furthermore, as Tara intimated, ongoing collaborative writing partnerships could ensue. Examples of repeated collaborations were

cited by Elizabeth and Tom (English and Business professors) and by others in the

literature (Turner & Edwards, 2006; Tynan & Garbett, 2007).

The benefits to the final product were listed in the literature. For example in

Moore's (2004) writing group, the writers balanced quotations of individual voices with

main text pieces in which a unified voice was used. They felt this improved the final

product, making it richer and more provocative than simply alternating voices that

represented individuals' contributions. Students responding to Rice & Huguley's (1994)

survey noted the advantages to writing collaboratively as "Increased productivity.

Enriched mutual perspectives. Enhanced personal relationships" (p.166). Of course, the

value of combined expertise, well-debated ideas, and drafts written and edited by

multiple individuals can improve the content and articulation dimensions of the product.

These benefits are mentioned frequently.

Participants of this study expressed challenges also mentioned in the research

literature although not necessarily in the same contexts. Moore's (2004) experience with

her writing group indicated a number of the challenges cited in this study. Often repeated

challenges in this study related to time, contribution, and priorities. Moore listed

difficulties scheduling meetings, making sure all participants were sufficiently involved,

and dealing with different levels of commitment to the project among participants.

Survey respondents of Rice and Huguley's (1994) study listed disadvantages of

collaborative writing as "Conflict. Time management and scheduling. Imbalanced work

distribution" (p. 166). They suggested that productivity depended on compatible writing

styles and ability to resolve conflict. In Duemer et al.'s (2004) study, time constraints

contributed to the efficiency of the writing, keeping writers focused and reducing time spent resolving differences.

In another example, Lapadat et al. (2010) in their collaborative writing as a class group stated, "We were a heterogeneous group of strangers with diverse theoretical orientations. Moreover, we used the method in a research assignment in a graduate methods course, and thus faced constraints of expectations, context, ethics, power imbalance, and time" (p.101). In their case, these challenges were balanced by the benefits of creating a community in which democratic sharing of stories and collective theorizing could take place. Their experiences contrast with the negative one expressed by Tara, in which theoretical differences were so tied to identity that individual collaborators were unwilling or unable get past them. In addition, while some participants of my study experienced similar benefits from their class experiences to those in Lapadat et al.'s (2010) account, others also experienced the lack of accountability or unequal contribution and many commented on constraints related to time.

Although collaborative writers in the research literature and current study mention relational challenges such as political nastiness, different personalities, disagreement, difficult people, and power struggles, there do not appear to be accounts of what happens when things go really wrong, that is, an account of failed collaborative writing. In some examples from the literature, collaborators leave a project (Sakellariadis et al., 2008) or work through the differences in a way that offers growth or change (Sweetland et al., 2004). The challenges of power are likely entangled not only in the identities writers bring into academic settings as Tara suggested, but also closely tied to the institutional structure with its built in rewards and punishments. Addressing political nastiness, poor

treatment, unfair credit or authorship, then, can become tricky to navigate. Graduate

students and professors need to be able to count on ethical integrity, respectful treatment,

and clear communication. Without trust, these are unlikely to occur.

Technology and Collaborative Writing

As with professor data, as I analyzed results from graduate students, technology

was the one clear topic that emerged that did not directly fit the research questions. Given

the direction of recent pedagogy and studies regarding wiki use in graduate courses and

for collaborative writing, I wondered how much technology would be a part of student

experiences of collaborative writing at the graduate level. To investigate, I asked

questions regarding student technology use in the profile section of the survey and as a

final question of the interviews.

Table 23

Graduate Students' Reported Technology Use

Technology	Not tried	Tried	Occasionally use	Regularly use	Total
MS Word with track changes	13 (7%)	20 (11%)	30 (16%)	120 (66%)	183
Cell phone for texting and Internet use	25 (14%)	17 (9%)	30 (16%)	111 (61%)	183
Blackberry or other personal device	79 (43%)	25 (14%)	8 (4%)	71 (39%)	183
Google Docs	47 (26%)	51 (28%)	54 (30%)	31 (17%)	183
Wiki	63 (34%)	29 (16%)	47 (26%)	44 (24%)	183
Other collaborative writing software	139 (76%)	16 (9%)	10 (5%)	18 (10%)	183

According to the survey results, given five options of recent communication

technologies (See Table 23), graduate students checked "regularly use" MS Word with

track changes the most at n=120 (66%) closely followed by cell phone (n=111, 61%).

Responding to "occasionally use," the highest number was 54 (30%) for Google Docs,

followed by wiki (n=47, 26%) and cell phone (n=30, 16%). In the open response, 47

students offered other technologies they had used for collaborative writing. These

included Adobe Pro with track changes and notes, Annotated PDFs, Adobe Creative

Suite, Blackboard (2), Eluminate, Collaborate, Blogs (2), Books, Dictionaries, Dropbox

(7), Drupal, Email, Google Docs, Google Scholar, Google Wave, Latex, Marratch,

Mendeley (for references and citations), MS Word (9), data management software such

as Knowledge Forum, Moodle (3), D2L, iPhone, OSX based tools, paper, webmail,

Skype (2), and social media websites such as MSN communities. It is not clear why some

respondents chose to identify MS Word and Google Docs in the *Other* field when they

were choices already given. However, students listed more technologies than professors,

which is not surprising given that there were many more student respondents.

In the interview data, graduate students identified technology as having very little

negative and mainly positive impact on collaborative writing. Two students stated

negative effects of technology on collaborative writing, in both cases as opposites to

positives. Devi (English) supposed there could be both effects but did not offer examples

of the negative. Grace (Engineering) stated just as it could aid productivity, it could slow

it down if the collaborator is unfamiliar with and does not quickly learn the new

technology. Some students underscored that technology was a tool; users would

determine whether or not the technology would impact the collaborative writing

positively or negatively.

The most prominent theme in the student data regarding technology was the same as that in professor data: Technology facilitates collaboration in areas of access, ease, and speed. Access had to do with the ability for collaborators to connect with people in geographically distant spaces as well as to attain information that previously would have been unavailable or difficult to retrieve. "So it allows you to do research on a global scale, and in a global society where everything is shared, it's a perfect outlet." Most students mentioned increased access to resources through the Internet. For example, private collections or sole copies of manuscripts or artifacts previously found only in museums were now in the public domain, available at any hour from any Internet accessible location. Jennifer (Biology) noted that accessing a shared document online shifted control of the document and project from one person to anyone involved. "Different people can access it versus one person having the document which sort of restricts who can write what when you have that one person in charge versus [when] you have it on the Internet."

Ease related to ability to connect with others, the actual writing, and the immediacy of the transactions. Connecting people across geographical spaces was a commonly mentioned advantage new technologies brought to collaborative writing. The manner in which collaborators connect made a difference in how the collaborative process occurred. Aidan (Business) suggested that platforms such as Facebook allowed for a more conversational process than sending drafts by email. Writing online synchronously offered that immediacy that occurs in side-by-side writing or discussions. He added,

> People are right there and they're involved. And I think that's important to writing too is being in the moment sometimes. You come up with just great turns of phrase,

or a really good connection is made between two theories…all of a sudden it clicks,

and you go, "all right, we have to write this down right now because this is

important."

Penny (English) noted the availability of tools for organization and conversation that

could aid collaborative writing processes. "I think of the plethora of online tools for

posting and sharing and organizing information as well as for pretty much having a

conversation—Oh, I think those are priceless. Those are brilliant."

Speed had to do with timeliness, immediacy, and increased efficiency. Some

students mentioned the contrast of using online technologies versus snail mail or having

to travel to meet with collaborators. Jennifer offered one example using Google Docs:

"It's nice because you just go in there, sign in, and write it. Someone else can come in

and edit it, but it's constantly updating itself, so you can always see the most recent

version." Old hassles with keeping track of various versions of a joint project were

eliminated, making the process more efficient.

Only one student overtly addressed how technology could expand the possibilities

of collaborative writing as opposed to simply enhancing current processes. Jacqueline

(English) stated that it would "shift people's ideas of what authorship is and what

research is actually possible." She explained that writers might look at a wikipage and not

realize that it represents a shift in approach, "fundamentally different from the top-down

method of writing about anything." Jacqueline's thoughts regarding the possibilities

inherent when adopting new technologies was likely reflective of the contrast between

her experiences of authorship in the workplace and in her discipline. In the workplace

authorship could rarely be traced back to one person and contributing writers were

seldom identified; in the English Department, it was hard to imagine the idea of multiple authors at all.

Although none of the students mentioned the term, the examples students gave of access to previously private collections and the ability to share and connect outside of traditional, more controlled channels illustrates the democratizing potential of the Internet and attendant technologies that were mentioned in the literature review. The initiative taken by individuals who formed the DigiRhet.net collective (Eyman et al., 2008) provides one example of the opportunities that online technologies provide students who want to research and write together. In a recent analysis of online writing and collaborative composition (Gerben, 2012) explores the writing behaviors when using social media. His study contributes "a systematic approach to understanding both the similarities between academic and online writing, and ways in which online writing can be considered collaborative in nature" (xii-xiii). The experiences described by Aidan (Business) point to the importance of research in this area. In the literature reviewed for this study, most of the articles focused on learning course content or language learning or on particular elements of collaborative writing from the instructor's standpoint. The views of students in this study offer additional data on how students experience collaborative writing using online tools.

Summary of Results

Based on the data from the two surveys and eighteen interviews conducted for this study, a picture of graduate level collaborative writing in Canadian institutions emerged. Professors and students in the six fields included in this study had varied experiences of writing collaboratively. Some differences became apparent as I considered additional

components of the collaborative writing experience. In analyzing the data, gender did not appear to be significantly related to any other factors; however, a few respondents and interviewees mentioned gender related issues. Discipline, on the other hand, was a significant difference in the experiences of graduate students and in whether professors assigned collaborative writing at the graduate level.

Research Question 1: What are Professor and Graduate Student Experiences of Collaborative Writing?

In terms of experiences of writing collaboratively, professors and students identified collaborators, product, process, and context and provided evaluative comments. Participants reported using collaborative writing processes that are well documented in the research literature. For graduate students, common types of collaborative writing scenarios included writing their dissertation with the support of their supervisor, writing research papers for publication or conference presentation with peers or professors, and writing various documents for course assignments. The products of collaborative writing were mainly similar. Professors listed administrative documents whereas students did not. Graduate students added to the common list papers, presentations, and other assignments required of courses and dissertations and theses. Evaluative comments from both professors and students ranged from bitter or frustrated to delighted and energized.

In both professor and student data, there was a relationship between discipline and experiences of writing collaboratively. Professors described this relationship anecdotally; the graduate student data showed statistically significant disciplinary differences in experience with collaborative writing. In both groups, of those respondents who said they

had not experienced collaborative writing, aversion to collaborative writing was fairly non-evident.

Professors and graduate students writing with peers made many similar comments regarding their experiences of writing together. Positive experiences were characterized by respectful relationships, compatible work ethic, approach to task, and at times, writing styles. Negative experiences were related to lack of contribution, personality conflict, time, programmatic, or discipline related constraints, or unmet expectations.

While professors and students mentioned similar processes and products in their responses about writing together, some differences in how they experienced them or described them became apparent. Although both professors and students described their paired writing experiences with each other in terms of mentorship, professors tended to view the mentorship as part of their academic role or responsibility whereas students expressed gratitude or resentment, depending on their satisfaction with how the professor met their expectations.

Research Question 2: What are Professor Experiences of Assigning Collaborative Writing to Students?

The relationship between discipline and professors assigning collaborative writing was significant. Combining Engineering and Biology, almost equal numbers did or did not assign collaborative writing. In the professional fields (Education and Business), more professors did versus did not assign collaborative writing and in the humanities (English and History), the majority did not assign collaborative writing. The research question focused on professor experiences of assigning collaborative writing, but in talking about their experiences, students offered insights that contributed to

understanding the considerations professor make when assigning collaborative writing. Thus, student experiences of assigned collaborative writing are included in this summary.

Both professors and students shared concerns about student contribution to collaborative writing. In addition, some professors mentioned the importance of individual work at the graduate level and the difficulty of assessing individual contribution in collaborative conditions. Yet despite the concerns expressed by participants, both professors and students found value in collaborative writing assignments as part of coursework. Students who had not had the opportunity to write collaboratively would have welcomed it and offered suggestions of specific assignments that they would find useful. The students who had negative experiences with collaborative assignments cited factors also discussed in the research literature. There is much that professors can do to optimize collaborative writing conditions and to inform students on their role in shaping the collaborative writing experience.

Research Question 3: What are Professor and Graduate Student Attitudes towards Collaborative Writing?

In general, the attitudes of this study's participants towards collaborative writing at the graduate level were positive. Students were readier to state its appropriateness for graduate studies whereas professors pointed out reasons why it did not fit graduate studies as currently enacted particularly in the humanities, but in other contexts as well. Students welcomed the opportunity for mentorship into the practices of their academic communities, for publishing, and for learning from multiple perspectives or diverse expertise. Participant responses reflected disciplinary expectations and norms. Although humanities students and professors were not entirely averse to collaborative writing,

objections or qualifiers were easily raised. The feeling from professors was that change, even if desired in the faculty, would be slow. Students were more likely to see and voice the opportunities inherent in writing collaboratively in English and History.

For some participants who listed negative experiences or challenges to collaborative writing, the negatives were worth the positives reaped through persisting. For other participants who expressed negative experiences or evaluations, the context or conditions of the collaborative writing situation seemed to warrant the negativity. Disrespect, time constraints, personality clashes and other factors are sometimes within a writer's control; where they are not, likely collaborative writing is unsuitable. A number of participants pointed out that collaborative writing should not be exclusively practiced nor forced. Where collaborative writing was expected, such as in mentorship situations, clarity of expectations and follow-through could facilitate smoother collaboration.

Professors and students stated their views on authorship and power as related to collaborative writing and acknowledged their impact on the experiences. Many students seemed to accept their place in the academic hierarchy and could articulate how authorship was negotiated. However, fairness in terms of credit versus amount of work or contribution was a prominent issue, and participants' perspectives made clear the importance of clarity of communication as well as trust and respect in the relationships. Even so, for some students, the power imbalance was enough to silence them.

Research Question 4: What are Perceived Benefits and Challenges of Collaborative Writing?

Both professors and graduate students could readily list benefits and challenges to collaborative writing. Both saw benefits to collaborative writing as the melding of minds.

Both also identified relational benefits such as mitigating isolation and establishing long-term writing relationships. Addressing specifically the collaborative writing of graduate students, both professors and students highlighted the learning potential in collaborative writing. Professors thought that it might be advantageous for students to work with peers over working with authoritative professors. But both groups asserted the benefits in collaborative writing for mentorship and for learning skills that would be useful in the workplace. Professors thought collaborative writing could help ease students into discipline or graduate specific writing. Likewise, students mentioned the benefits of collaborative writing for learning graduate level writing skills and for testing the boundaries of their disciplines.

Professors and students also listed similar challenges to collaborative writing. They expressed logistical challenges and issues of control and contribution. In addition, members of both groups mentioned constraints of programs or disciplinary norms on the feasibility or usefulness of collaborative writing in graduate studies.

Technology and Collaborative Writing

Interviewed professors and students both identified access, ease, and speed as ways in which technology facilitates collaboration. Professors and students differed in their views regarding the impact of technology on collaborative writing. For example, some professors thought that students might not use information available via the Internet to their best advantage. In contrast, students noted the gift of Internet access to previously privileged information as sources for written projects. Although they seemed to be lone voices among this study's participants, a number of professors and a student spoke about technology in ways that suggested deeper analysis or wider impact. Issues included who

controlled the technology, how this affected authorship, how the medium structures the

message or thinking and how this might change future scholarship as students, used to

working within those frames, take on the roles of faculty. In addition, professors noted

the possibility of technology increasing certain institutional and funding body

expectations.

In Chapter 5, I will present conclusions that I reached in conducting this study and

offer some implications for practice, theory, and further research.

Chapter 5: Conclusions and Implications

Informed by theories of social constructivism, of dialogism, and of collaborative writing as it is understood in Composition Studies, through this dissertation I participated in an ongoing conversation regarding collaborative writing. In the process, my experiences of and readings about writing with others were validated by the experiences of study participants. But the important ways in which this particular academic conversation extends knowledge of collaborative writing is by adding the voices of professors and students involved in graduate studies, specifically from the fields of Biology, Business, Education, Engineering, English, and History. As noted in chapters one and two, in the areas of Business, Engineering, and Education, examples of collaborative writing in the undergraduate and at times graduate level classroom are apparent in the research literature. Less information is available on whether collaborative writing is used in other areas such as the humanities and physical sciences. This study provides fodder for a more multidisciplinary understanding of collaborative writing in Canadian graduate programs.

While I did not specifically set out to uncover creative approaches to engaging in collaborative writing, interviewed participants offered examples that could be used as inspiration or models for those hoping to write collaboratively at the graduate level. In addition, this study helped to confirm aspects of collaborative writing already described in the literature that could help or hinder successful collaborative writing practices. Furthermore, my initial curiosity regarding pedagogical change at individual and institutional levels was somewhat satisfied through hearing the stories of participants. The theme of *shift* suggests that change is happening towards including more

collaborative writing in graduate studies though at different rates and in different ways

according to the disciplinary context.

Exploring practices in six disciplines provided an opportunity to revisit definitions.

For this study I defined collaborative writing simply in order to capture the activity as

participants of graduate programs might experience and define it. To reiterate, I defined

collaborative writing as a process and product involving more than one writer: i.e., it is

the activity of writing together and also the product of that coordinated action. In doing

so, I inevitably included instances of coauthorship, cooperation, and collaborative group

work that some might reject as valid representations of collaborative writing. Given the

ambiguous use of the preposition *with* in the Oxford dictionary definition of

collaboration, "the action of working with someone to produce something"

(Collaboration, 2013), coauthorship, cooperation, and group work are not illogical

examples of collaborative writing. The Oxford dictionary definitions of collaborative and

collaborator are equally inclusive.

Herein lies one of the vexing problems and simultaneous delights of academic

discourse: the tension or contradiction between defined terms as external symbols and

their many practical uses by individual people in particular contexts. Because similar

terms are used pedagogically in different Discourse settings with their own histories of

practice, it seemed appropriate in this study to include different uses of the terms and then

attempt to map them onto what has already been articulated about collaborative writing.

Furthermore, as recommended by Benton (1999) in the conclusion of his study of

collaborative writing, "A more holistic view of collaborative writing and research would

link all the thinking, writing, and research activities together as overlapping, recurrent, coevolving, and synergistic processes" (p. 179).

Taking the definitions from the literature and considering them through the perceptions of professors and graduate students prompted me to reflect on factors that influence decision-making throughout the process that can help to sort through the intricacies of collaborative writing. Collaborative writing adds a level of complexity to an already complex process by depending on human interaction to successfully complete a project. Self-awareness and a willingness to engage respectfully in the process influence the success of a given experience. It is not that all decisions have to be thought out in advance and roles, tasks, and content outlines clearly defined and fixed; it is more that potential collaborators need to be willing to enter a conversation with each other with a flexible attitude, negotiating decisions and working through conflict as necessary. Being aware of the factors affecting decisions, whether in or out of the writer's control, is helpful to fruitfully engaging in the collaborative writing process.

Participants of this study commonly identified collaborators, product, process, and context in describing their collaborative writing experiences. In speaking to benefits and challenges of collaborative writing and in their evaluation of their experiences, participants added individual factors. Considering the whole of the experience, these inform the most important often-overlapping factors that influence individual decisions when writing collaboratively. To better understand the major factors, I will use the terms *task*, *context,* and *process.* Each of these has sub factors and each also impacts the other. Task includes *product* among other sub factors; context includes *discourse community* or *discipline*; and process includes *research and writing process*, *mode*, *individual,*

relationship or interpersonal, and *technology* factors. Considerations related to collaborators would be found in individual or interpersonal factors. Figure 1 illustrates the interplay of task, context, and process factors as they influence collaborative writing decisions.

At the outset, the most obvious factor is likely the *task,* which will dictate the product. Related considerations include purpose, deadline or time frame, type of product, content or knowledge pieces, collaborators, and weight. As a sub factor of task, collaborator considerations might be number and expertise of writers. Subsequently, the potential role and contribution of each writer might be important. Influencing task, context could entail new funding for a large research project, a course assignment to collaborate with classmates, or a personal desire to write with others. Weight addresses what value the individual writer places on this venture as well as how self and others will evaluate the product as outcome.
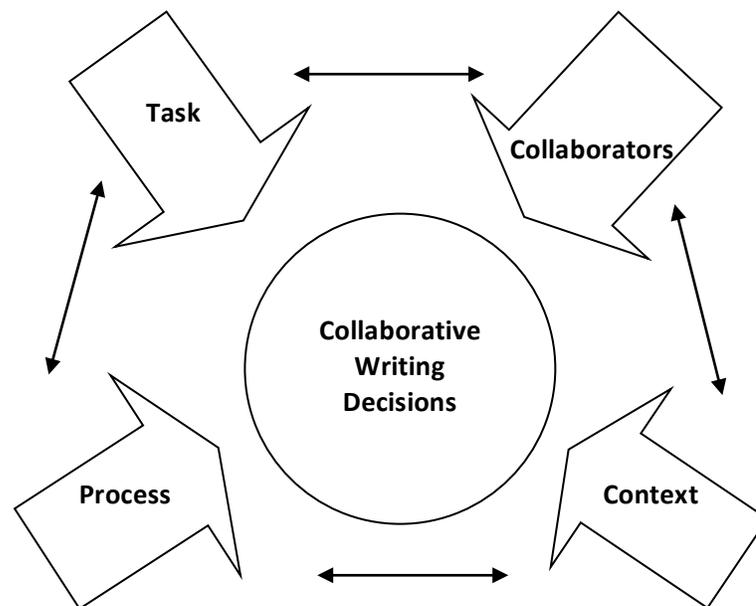
Figure 13: Factors influencing collaborative writing decisions

For example, a course instructor, tenure committee member, or journal editor may each have different criteria and methods of judging the success of a collaboratively written piece.

Relating to task, the *context* of discourse community or discipline will shape the collaborative writing experience. Related sub factors include genre, epistemology, conventions, and institutional policies. For writers to be aware of disciplinary conventions is an advantage; being able to identify research and writing practices within the ideological norms of the discipline helps writers to learn and emulate them. For writers in cross-disciplinary ventures, as Tara (Education student) pointed out, awareness of own norms helps to identify where convergence, new possibilities, or divergence are possible and necessary. Discourse community can refer to local environments such as a particular academic institution or a given lab or department with their attendant policies and procedures. Discourse communities are shaped by many factors such as language, societal culture, and idiosyncrasies of a given community's members, illustrating the interplay between factors.

While some *process* decisions are dictated by task or discipline, others are within the decision-making power of individual collaborators. In the research and writing process, writers move discursively between project inception, brainstorming, or idea (e.g., proposal writing); funding; context, in this case existing literature or previous studies (e.g., writing literature review); conducting the study; drafting; revising; editing; proofreading; final product; and dissemination. Many models of the research and writing process are available (e.g., Lowry et al. 2004, p. 83-84). Each writing or research activity has its own sub activities with related decisions. Decisions affected by process factors are

many. For example, though only one of many, deciding authorship can be one of the weightier decisions with consequences that can be taken personally (Jennings & El-adaway, 2012). In addition to research and writing processes, process sub factors include mode and technology.

The process sub factor mode as it is identified in the research literature has direct impact on decision-making processes. As already noted in Chapter 1, influenced by relationships and existing social structures or task demands, collaborative writing modes can be hierarchic or dialogic, vertical or horizontal, group or interactive. The way decisions are subsequently made can be seen on a continuum, where in the different modes, writers make decisions move from autocratic to democratic approaches, power over another to shared power, and low interaction to high interaction among group members. Decisions include how much involvement and what role to take in relation to the whole process or product. In this way, process necessarily overlaps with other factors influencing decisions.

Collaborators, the writers contributing to the joint product, can affect collaborative writing decisions. Sub factors include individual and interpersonal or relationship factors. Individual factors were emphasized in the data from the current study as affecting the collaborative writing experience. Taking the factors identified in the research literature together with those raised by the current study participants, Figure 2 illustrates potential considerations related to individuals when making decisions in collaborative writing. If time is scarce, for example, and choice of collaborators is optional, then choosing a collaborator whose individual skills complement one's own is optimal. If process is

privileged and collaborators have time, then writing skill, content knowledge, self-

confidence, or language fluency may not be critical factors in choosing a writing partner.
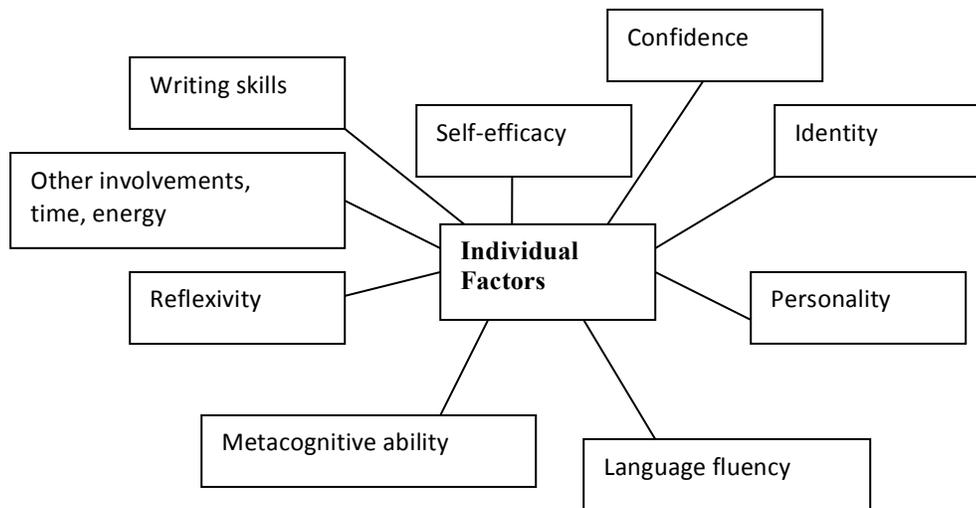
Figure 14: Individual factors affecting collaborative writing decisions

Self-awareness in terms of own writing abilities, ideology, level of power in relation to

other collaborators, and identity can contribute to a smoother collaborative writing

process. Lowry et al. (2004) describe these factors as manifestations of group awareness

(p. 29). Others have pointed to the importance of trust when navigating the various

decisions that need to be made in writing with others.

Although many factors can affect the process, the quality of a collaborative writing

venture may well depend on interpersonal and relationship process sub factors. As

mentioned in the previous chapter, not all collaborations are characterized by harmonious

interaction, nor are all collaborators necessarily compatible in their commitment and

participation. Adding terms such as *unequal collaborative writing*, or *forced*

collaboration, or *collaboration of convenience* to the language of collaborative writing

can help writers address potential inequities.

Participants of this study and in the literature noted the importance of trust and compatibility between writing partners related to a host of decisions ranging from order of authors to word choice. But they also described the trust as influencing the entire process. In some cases friendships ensued; in others, long-term research and writing relationships developed. Relational or interpersonal factors that affect decision-making include number of collaborators, nature of contribution to the writing project, collaborators' use of metalanguage, their ability in conflict resolution, expert knowledge, power, social roles, and the length and nature of the relationship. Some participants noted existing trust as a starting point for the collaborative writing.

Finally, considerations related to technology factor into the collaborative writing project. Again, these elements could affect the writing at any point in the research or writing process. Sometimes technology factors are within a writer's control such as when proposing a research study. Other times, choices are dictated by academic institution, budget, individual competency with technology, geographic location of collaborators, and time available. Factors include end product or purpose of collaboration, ease of technology learning or use, availability, and cost, whether the writing should be public or private, and the various features such as synchronous communication or version edits and tracking.

Conclusions

In addition to reflecting on the factors that influence decision making related to collaborative writing, I drew three conclusions from my multiple considerations of the study data interspersed with re/readings of the research literature. First, collaborative writing is happening in graduate studies. Second, differences in views and practices

regarding collaborative writing vary significantly according to discipline. Accordingly, the type and amount also varies according to discipline, and definitions of collaborative writing must be understood within their disciplinary contexts. Within the disciplines, it is likely that individual factors also affect its practice. Third, a shift seems to be occurring towards including more collaborative writing in graduate studies. Pedagogical change is not only possible but also happening.

Collaborative Writing in Graduate Studies

Collaborative writing is happening in graduate studies. The literature review included four reports of faculty writing with students (Andrew & Caster, 2008; Lapadat, 2009; Lapadat et al., 2010; Sakellariadis et al., 2008). In these cases, the collaborative writing was used to explore identity (Sakellariadis et al., 2008) and to learn qualitative research methods through memory work (Lapadat, 2009; Lapadat et al., 2010). Only the one article (Andrew & Caster, 2008) discussed the value of the mentorship in writing together, a benefit that participants of my study also described. Collaborative writing as a mentorship activity is commonly expected in some disciplines such as Business and Biology, and a literature search including key word mentorship indicated that mentorship through collaborative writing happens in other disciplines at the graduate level as well (Tierney & Hallet, 2010; Turner & Edwards, 2006).

Other types of collaborative writing at the graduate level found in the literature review included doctoral writing groups (Clark, Jankowski, Springer, & Springer, 2000; Ens et al., 2011; Ferguson, 2009; Maher et al., 2008), research writing teams (Bjornsdottir & Svensdottir, 2008; Eyman et al., 2008; Moore, 2004; Sweetland, Huber, & Whelan, 2004), collaborative thesis writing groups (Rice & Huguley, 1994), and

coursework (Duemer et al., 2004; Coutinho & Bottentuit Junior, 2007; Galegher & Kraut, 1994; Golden, 2000; Kasemvilas & Olfman, 2009; Meisher-Tal & Gorsky, 2010; Schindler, 2002). In this study, which focused on Canadian universities, most of the collaborative writing at the graduate level was described as occurring in pairs or in groups for coursework or conference presentations. Research teams, that is groups of four or more writers, were more common in Education and Business than in the other fields in my study. Nonetheless, the benefits and challenges, learning, and development of writerly and academic identities that were described by authors in the reviewed literature were similar to those of this study's participants.

A few findings from this study add to the existing literature. Noteworthy in this study was the number of English students in particular who were positively disposed to collaborative writing as part of their graduate studies. These included both English students with experiences of writing collaboratively and those who had none. Similarly, the English professor interviewed saw potential in collaborative writing in her field at the graduate level. Participants of this study also added to a more comprehensive understanding of the types of assignments and purposes for collaborative writing at the graduate level. In coursework, collaborative assignments were used to bring together expertise to extend learning of content and of Discourses. In other collaborative writing endeavors, the activity helped to form relationships with other researchers in the field and to provide opportunities to present or publish in supported ways.

Disciplinary Variation

A second conclusion is that differences in views and practices regarding collaborative writing vary significantly according to discipline. Although this may not be

a surprising finding given the silo like development of academic disciplines, in a changing academic landscape that is affected by globalization, digital opportunity, and knowledge proliferation (some might say democratization) via the Internet, cross-disciplinary work is becoming not only more common but more necessary. That is not to say that collaborative writing must become the new norm in all contexts. However, the reasons given for solitary writing offered by participants of this study did not satisfy the question of why collaborative writing might *not* be appropriate in a given discipline. The suitability of collaborative writing in a given discipline, thus, continues to be an area of interesting study.

In the humanities, even now, solitary writing is the norm and collaborative writing is uncommon enough barely to make it onto some people's radar. One might assume then that the way in which knowledge is conceived of or produced in these disciplines dictates whether its scholars and researchers write together. In this study, three reasons were cited for solitary writing in English and History. One was tradition. A second was disciplinary norms relating to knowledge construction or production. For example, in History, being able to identify arguments and their verity by understanding the chain of authorship and thus being able to accord credibility and understand biases is important. Or in English, the idea of individual genius and pure creativity was key in offering credit. And a third reason for solitary writing was the demands on time due to rigorous programs and urgent timelines.

Taking the example of History, recent work is emerging to challenge current understandings of how history is written (Dougherty, Nawrotzki, Rochez, & Burke, 2012). In their article, the editors reflect on what they learned from writing an online

digital volume on writing history. Specifically addressing collaborative writing of history, they assert that "as readers, we benefit when authors' thoughtful disagreements emerge more clearly through collaborative writing" ("Has digital technology transformed," para. 6), following their assertion with an example from the volume. The editors also point out ways in which "creating this collective work of scholarship on the web" showed them how new technologies are transforming historians' work. Although the range of creators of history has expanded, as have the types of products of writing, and the processes of distribution and evaluation have deviated from established norms, the authors were surprised to note the continuity in terms of content of historical writing: "a compelling narrative that unravels the past, supported by insightful argument and persuasive evidence" ("Has digital technology transformed," para. 1).

The work of Dougherty et al. (2012) is an example of the possible ways in which technology and collaborative writing can contribute to changing practice. As the book evolved, the editors invited public discussion. They explained:

> At present, the dominant work culture for historians is to produce single-author scholarship, often in isolation from others, and typically not revealed until final publication. We intentionally drew on web technology to interrupt this norm, by crafting a digital platform to make the idea formation and peer review stages of our scholarly work more public. ("How did you encourage," para. 1)

By inviting public discussion in the review process, the editors hoped to make the writing more meaningful and intellectually coherent. They also addressed process issues such as peer review, and they established ways of protecting editorial and intellectual property. In

short, their work provides an example of collaborative writing in History, which could readily include graduate students as writers, whether as authors or reviewers.

Looking at another example, in Engineering, multiauthored research publications have been the norm for some decades (Jennings & El-adaway, 2012). Prior to the 1950's, most publications had single authorship; today, research involves multiple collaborators who "may not have complete, or even any, understanding of their collaborators' work or the research problem the other collaborators are addressing" (p. 38). In their thought piece, Jennings and El-adaway strive to describe authorship practices in the field of Civil Engineering and propose a framework for defining and refining coauthorship guidelines in order to maintain integrity of research activity and publication. In describing practices, they list nine types of coauthorships, and in doing so, reveal many of the issues raised by participants of this study. Issues include power imbalances, inter-university conflict involving funding, and misuse of mentorship roles.

Of particular relevance to my study is their description of the "long-suffering and unrecognized graduate assistant coauthor" (Jennings & El-adaway, 2012, p. 41) in which the potential problems in professors mentoring their graduate students are explored. These include using student work to advance their own careers, seeing their students as competitors (as future faculty) and attempting "character assassination" (p.42), or mistakenly seeing student work as their own or that of the institution's rather than as the students'. Most students in my study did not feel misused by their supervisors; however, anticipating potential challenges can help to avoid them. Similar to Arthur (Biology professor), Jennings and El-adaway (2012) lay out the conditions of coauthorship. Efforts

to define, frame, and analyze conditions for coauthorship such as these will need to happen in all disciplines that include collaborative writing and multiple authorship.

Change is in the Air

Third, a shift seems to be occurring towards including more collaborative writing in graduate studies. Pedagogical change is not only possible but also happening. Those aspects of change that affect coursework or mentorship practices are discussed further in the implications section. In addition, professor and student study participants of this study mentioned the importance of solving complex problems in collaboration with specialists outside one's own field. Others have likewise identified this notion as relevant to research efforts addressing current realities (Pittenger & Olson-Kellogg, 2012; Taylor, 2008). And as this study's participants noted, funding organizations such as Canada's Social Sciences and Humanities Research Council of Canada (SSHRC) are specifically looking for cross-disciplinary research collaborations. "The work SSHRC supports encourages the deepest levels of inquiry. It spurs innovative researchers to learn from one another's disciplines, delve into multiparty collaborations and achieve common goals for the betterment of Canadian society" (SSHRC, 2013).

Developing mutually understood language that can be used in common processes such as research and writing can help to ease at least those parts of collaborative writing that have already been identified as tricky, troublesome, or gnarly. Given that in some disciplines the norms of collaborative writing have a long history and in some the idea is cutting edge, it is important to be sensitive to local factors at play. Considering the factors that affect decision-making when writing collaboratively can help to take some of the unknowns out of the process for those new to the practice.

Theoretical Implications

The theoretical implications of this study necessitate considering the goals of learning in a given academic sphere and the possibility of shifting views within entrenched ideologies. Collaborative writing has historically been supported by theories of social construction of knowledge (Ede & Lunsford, 1990) and is a natural extension of Vygotky's (1978) and Bakhtin's (1981, 1984/1994) work. In this study, participant descriptions of mentorship through collaborative writing illustrated the scaffolding and apprenticeship behaviors central to Vygotskian learning theories. In addition, the collaborative writing process allows for Bakhtinian dialogism in which a polyphony of voices constitutes authorship. Under the social constructivism umbrella, Gee's (1989) Discourses, Wenger's (1998) communities of practice, and Street's (2003) literacy practices all work well to explain and understand the practices described by study participants.

Where theories of social construction seem to conflict with writing practice is in the humanities. Others have written at length about this conflict (e.g., Hill, 2003). Study participants pointed to work done by Deleuze and Guattari, Gilbert and Gubar, and Marlatt that challenges solitary authorship in the humanities. In addition to the mentoring potential of collaborative writing, the possibilities for knowledge construction as understood through Bakhtin's theorizing (1981, 1984/19940) adds to the rationale for using collaborative writing approaches and constructive language. As Ede and Lunsford (1990) have pointed out, "Bakhtin's notion of heteroglossic language implies a polyphonic self, one that can never constitute the single 'voice' traditionally ascribed to the author" (p. 92). The possibilities inherent in considering the unstable concept of (sole,

pure) authorship point to collaborative writing as a good way of engaging in idea formation and articulation. The implication arising from this study of collaborative writing at the graduate level is that it is timely to re/interrogate understandings of how knowledge is viewed and constructed in fields where solitary writing is still the norm.

Practical Implications

Practical implications of this study arise from the research questions and study conclusions. Implications are most strongly noted in the areas of benefits and challenges, pedagogical change, technology, and the mandate of higher education.

Benefits and Challenges

This study confirmed many of the benefits and challenges of collaborative writing that have been articulated in the published research literature. The practical benefits of learning, knowledge construction, developing research and writerly relationships, mentorship into the field, and quality product are worth the potential challenges. Study participants offered specific assignment ideas as well as insight into the more difficult aspects of collaborative writing. The practical implications of this study, therefore, point to the importance of considering collaborative writing as a powerful pedagogical tool in graduate studies regardless of discipline.

Existing tensions between approaches that Nahrwold (2001) and Moore (2004) have identified, particularly between administrative policy and scholarly practice, suggest that changes in thinking and practice may involve discomfort. At the same time, change is happening regardless of whether there is intentional policy reformation. As increasing numbers of professors adopt online environments for learning and research with their graduate students, the nature of writing will change. Similarly, as more students who

have experienced the possibilities of collaboration in work or nonacademic settings enter

graduate studies or become professors themselves, collaborative practice will become

more of a norm, creating the kind of scenario that Charles (History professor) mused

might happen.

Pedagogical Change

Given the benefits and challenges of collaborative writing at the graduate level and

the sense that a shift is happening in academic settings, this study contributes to the

possibility of pedagogical change at individual and institutional levels. The views of

professors and students regarding attitudes towards and experiences with collaborative

writing at the graduate level provide insight that professors can use on how to change

their practice. This knowledge could also inform graduate students who may be unaware

of or resistant to collaborative writing tasks.

Of the attitudes towards collaborative writing expressed by participants in this

study, four are particularly useful for considering how collaborative writing might be

used in graduate programs in various disciplines. First, professors are willing to assign

collaborative writing or to write with students. Second, professors and students value

collaborative writing as mentorship. Third, professors and students believe in

collaborative writing as improving learning and final product. Fourth, professors and

students share concern over unequal contribution and the related issues of ownership.

Despite the tendency professors might have to emulate the instruction they received

as graduate students themselves, professors in this study indicated a willingness to assign

or engage in collaborative writing at the graduate level. So the opportunity for

pedagogical change is there; how professors might choose to view and use collaborative

writing depends on factors such as professor awareness of collaborative writing as an option and the suitability of collaborative writing for the end goals given programmatic constraints.

Second, quite a number of professors and students viewed collaborative writing as an opportunity for mentorship. Professors linked writing to thinking and the importance of both in developing critical thinking in graduate studies in their given fields. Wenger's (1998) communities of practice, Gee's (1987) Discourses, and Street's (2003) literacy practices all help to understand the power of the mentorship that study participants identified. Using collaborative writing as a way to mentor students as apprentices into a community of practice can be a fruitful learning experience on multiple levels. This observation has been made by others such Turner and Edwards (2006) who noted that "Mentorships provide invaluable contexts for experienced academic writers to 'make visible' for novice writers the invisible discursive practices (e.g., conventions, rhetorical devices) valued within scholarly communities" (p.175).

Third, the view that collaborative writing improved learning and quality of written product offers two ways of considering its potential in any discipline. Many participants, similar to those in the research literature, cited ways in which the collaborative writing had improved their learning or helped them to achieve a better end product. Perceptions of this study's participants regarding the success of their collaborative writing endeavors did not seem obviously aligned with whether conditions of the writing were mandatory or voluntary, course based or outside program requirements. They had more to do with compatibility of collaborators, bearing on student or professor needs (e.g., authorship for career advancement of graduate students versus making big projects more manageable for

professors) and time or programmatic constraints. For professors interested in involving graduate students in collaborative writing, it could be helpful to outline the advantages not only for improved learning and quality of product, but for creating long-term research or writing partnerships.

And fourth, concern about unequal contribution and the related issue of credit is an important attitude towards collaborative writing to consider. Thinking about expectations of a given writing task, its product, whether and how it should be graded, and how to scaffold the collaborative process is important for professors to do before assigning collaborative writing. How to determine individual accountability and weight of contribution and then to monitor them will depend on expectations. Whether there is need to assess individual writing competence or understanding of given subject matter, or whether the knowledge building and interaction that happens in the collaborative writing process is as important as the final product are contributing considerations.

Outside of course assignments, implications of ownership are complicated by rewards both academically and in terms of career development. As long as sole authorship is a primary way of moving up in the academic hierarchy, and as long as publication is so valued (over service or other forms of knowledge dissemination or application), students will likely continue to make choices regarding their own author status that may not reflect their beliefs about intellectual ownership or even their contribution to a given collaborative project. Likewise, professors will likely continue to make decisions about collaborators, authorship, and funding based on practical or personal considerations in addition to idea generation, complex problem solving, or pursuit of creativity.

Technology

The area of online technologies to facilitate collaborative writing, whether in the

graduate classroom or in other graduate research, learning, and writing endeavors, is rife

with possibility. Study survey respondents listed a range of software programs they used

to facilitate their collaborative writing. In addition, interview participants identified

access, ease, and speed as ways in which technology facilitates collaboration. However,

only one interviewed professor discussed assigning online collaborative writing whereas

a number of interviewed students offered examples of different types of online

collaborative writing they had experienced and found effective. In general, interviewed

student attitudes towards the impact of new technologies on collaborative writing were

positive. Study participants also offered insight as to what factors to consider when

writing collaboratively online. For example, the interviewed Education professor noted

how the public nature of online writing could affect students who are used to writing for

the private audience of one professor. Given the growing number of available software

programs for online collaborative writing and increasing availability of knowledge

resources and knowledge making online, this area should not be ignored.

Online collaborative writing holds much potential as pointed out in the example of

Doughterty et al.' s (2012) volume on *Writing History in the Digital Age*. The authors

"urge historians and other humanists to write more collaborative works" ("What next for

scholarly," para. 1). Furthermore, they invite an open review process that offers experts

and newcomers, insiders and outsiders to respond to works in progress, which "both

legitimizes and strengthens our scholarly work" ("What next for scholarly," para. 1). As

well, in my study Jacqueline pointed out the possibilities for the online medium to change

the way writers think about authorship and research. The interest in online collaborative writing is also exemplified by articles such as Nuutinen, Sutinen, Both, and Kommers' (2010) which examines collaborative writing with Woven Stories, what they describe as a social mind tool that offers an alternative to wikis. At the graduate level, the DigiRhet.net collective (Eyman et al., 2008) provides one example of students researching and writing together online. For professors and students hoping to pursue online collaborative writing, guides to online collaborative technologies such as Barton and Klint's (2011) are available for free download online.

The Mandate of Higher Education

Finally, as noted in the first chapter, collaborative writing can help to serve the mandate of higher education to contribute to human and social development through dialogue that interrogates "ideologies, philosophies, and epistemologies of knowledge and learning" (Taylor, 2008, p. 90). A few study participants indicated that their collaborative writing did this. However, it seems that the interactional challenges named and described by participants as also found in the reviewed literature continue to pose barriers to the kind of genuine dialogue that allows creativity, learning, and development of mutual respect. Power and hierarchy, whether arising from the academic system or from other societal norms, need to be acknowledged and in some cases, challenged. Addressing these persistent problems and creating mechanisms to work through them will be of great benefit to anyone hoping to engage in collaborative writing activity.

Despite the challenges that remain, gauging the interest of particularly the interviewed students of this study and accounting for voices of other graduate students who have written collaboratively, collaborative writing has a place in graduate studies.

Within academic institutions, faculty and administration need to find ways to better

acknowledge, support, and require collaborative writing at the graduate level. It would

seem that there are ample resources, models, and examples extant in the literature for the

shift alluded to by professors and students in this study to take place. In this way,

collaborative writing can contribute to building knowledge, partnerships, and respect in a

world where global interconnectedness has increasing power and consequences.

Implications for Further Research

This study offers a description of collaborative writing at the graduate level in six

disciplines in Canadian universities. A number of areas of further research are readily

apparent. First, building on existing research, further exploration related to the benefit of

collaborative writing for thinking from multiple perspectives. Second, more research

should be conducted to solicit views of professors who had not written collaboratively.

Third, research on academic policy at the graduate level and in different disciplines could

help to explore the potential for pedagogical or programmatic change. Fourth, research on

online technologies and collaborative writing at the graduate level would be timely.

First, many of the findings regarding collaborative writing at the graduate level

echoed similar findings in related research of collaborative writing in other contexts. An

important survey finding that was supported by subsequent interviews indicated that

professors believed that collaborative writing can foster thinking from multiple perspectives.

Given how integral the ability to consider information from various points of view is to

cognitive development and effective argument, further research focusing on this potential

relationship would be useful.

Second, a limitation of this study was the lack of input from professors who had no

experience of writing collaboratively. The data from graduate students who had and had

not written collaboratively shows that collaborative writing, particularly if designed in a way to fit programmatic demands, would be a welcome addition to graduate studies. However, the views of professors only represent those who had experienced collaborative writing. Further research could investigate the views of the professors who have not written collaboratively to confirm the sense of shift aroused in this study.

Third, research into academic policy in various departments including graduate studies would help to determine the barriers to rewarding and supporting the kind of collaborative work that seems increasingly desirable and necessary. It should be possible to create graduate programs that allow choice or a mix of individual and collaborative work, including in writing theses and dissertations. Again, pedagogical change is likely best viewed in a given discipline although presumably, each discipline is also influenced by institutional mandates. Although the university as a limiting factor was brought up by some participants, it was not a major focus of this study. Further study could address how policy change could help affect change top-down. Certainly Nahrwold's (2001) and Moore's (2004) studies offered helpful starting points for this type of research. Related research could investigate the possibilities for addressing power imbalances that become abusive, as these are deeply felt at an interpersonal level, whether collaborators become friends or strictly retain their professional associations or roles. And at the macro level, issues of intellectual property, academic integrity, and copyright could be addressed which would also help to resolve some questions regarding grading collaborative writing at the graduate level.

Fourth, given the studies in the reviewed literature involving online collaborative writing associated with coursework at the graduate level, it is surprising that this study

revealed so little in attempting to understand the relationship between new technologies and collaborative writing. Interviewed graduate students offered examples of how technology affected collaborative writing, particularly regarding the immediate sharing of information, ideas, and feedback and to some extent raising the issue of authorship. The tension between authorship, individual voice or ownership, and copyright on the one hand and collaborative efforts, free online access with a Creative Commons license, and blurring of voices on the other hand, will persist. This is another area that can benefit from further research. In addition, comparing writing practices inside and outside the academy, especially in terms of social media, could be illuminating.

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Appendix A
Professor Survey

Collaborative Writing-Professors

Collaborative writing: a process and product involving more than one writer. it is the activity of writing together and also the product of that coordinated action.

Introduction

Hello. My name is Anita Ens, and I am a doctoral candidate in the Faculty of Education at the University of Manitoba. Thank you in advance for participating in this survey for my doctoral research on perceptions of collaborative writing at the graduate level. I am interested in hearing from individuals who have no experience of writing collaboratively and those who have experience with collaborative writing. The survey should take about 15 to 20 minutes of your time. Data you provide will be anonymous and your computer IP address unknown to the researcher. You may opt out of the survey at any point, simply by exiting the survey. Should you wish to re-enter the survey, you have the option of doing so until December 23, 2011. By completing this survey, you are offering consent for your anonymous responses to be used for this research study. This study has been approved by the University of Manitoba's Education and Nursing Research Ethics Board (ENREB). If you have questions or concerns, please contact the Human Ethics Coordinator at margaret_bowman@umanitoba.ca my advisor Dr Stan Straw at stan_straw@umanitoba.ca or me at umensah@cc.umanitoba.ca. For the purposes of this survey, collaborative writing is defined as a process and product involving more than one writer: i.e., it is the activity of writing together and also the product of that coordinated action.

Section A: Professor Profile

The following questions are designed to create a profile of professors who do and who do not engage in collaborative writing in graduate studies.

What is your field of study?

○ Biology

○ Business

○ Education

○ Engineering

○ English

○ History

What is your rank?
○   Instructor

○   Assistant professor

○   Associate professor

○   Full professor

What is your age?
○   20-30 years

○   31-40 years

○   41-50

○   51-60

○   over 60

What is your gender?
○   Male

○   Female

What is the total number of years you have been involved with a university?
○   1-5 years

○   6-15 years

○   16-30 years

○   31-40 years

○   over 40 years

How many years have you taught courses?
○   1-5 years

○   6-15 years

○   16-30 years

○   31-40 years

○   over 40 years

How many years have you taught graduate students?

○ 1-5

○ 6-15

○ 16-30

○ 31-40

○ over 40

For how many graduate students have you been advisor?

○ 1-5

○ 6-15

○ 16-30

○ 31-40

○ over 40

Which of the following technologies have you tried? Which do you regularly use? Which do you use for teaching? Check all applicable responses.

	Not tried	Tried	Regularly use	Use for teaching
Blackberry or other personal device	☐	☐	☐	☐
Cell phone for texting and Internet use	☐	☐	☐	☐
Wiki	☐	☐	☐	☐
Smartboard	☐	☐	☐	☐
Blog	☐	☐	☐	☐
MS Word with track changes	☐	☐	☐	☐
Google Docs	☐	☐	☐	☐

Please provide the name/s of any other collaborative writing software you use.
(optional response)

Attitudes towards collaborative writing

Do you believe collaborative writing can
Check all that apply:

☐ Foster thinking from multiple perspectives

☐ Encourage conflict resolution

☐ Engage normally 'silent' class members to participate vocally

☐ Change classroom dynamics

☐ Engender community

☐ Other, please specify: _____

Do you believe that collaborative writing is
Check all that apply:

☐ Idealistic and impractical

☐ Time consuming

☐ Difficult to grade

☐ Discouraging for students

☐ Non-representative of student ability

☐ Other, please specify: _____

Section B: Your Experiences of Writing Collaboratively

Have you written collaboratively professionally? (*If* no, *respondents sent to "Were you ever offered the opportunity to write collaboratively."*)

○ Yes

○ No

Please describe your experience/s of writing collaboratively.

[   ]

Which of the following describes the kind of experiences you have had in writing with others:
Check all that apply.

☐ Met with a group that provided oral feedback on something I had written

☐ Gave feedback and editorial advice to a graduate student and was listed as coauthor

☐ Conducted a study with a graduate student and was listed as first author

☐ Wrote a document, e.g., policy, as one of many authors with discrete assignments

☐ Changed others' text on a wiki

☐ Participated in face-to-face, online, or telephone discussion regarding a joint written product

☐ Other, please specify: _____

What were the main purposes of the documents that you wrote collaboratively?

	none	one	several	many
To disseminate research results	○	○	○	○
To coauthor an article for publication	○	○	○	○
To present research findings at a conference	○	○	○	○
To write up lab results from an experiment conducted together	○	○	○	○

Why did you write collaboratively rather than individually?

○ To get to know colleagues

○ To develop interpersonal communication or language skills

○ To distribute or share responsibility for a project

○ To experience support from a mentor or colleague

○ To increase the number of published articles listing me as author

○ To involve others with different expertise

○ None of these options applies to me

If collaborative writing was a favorable experience, why? If it wasn't, why not?

[   ]

In your collaborative projects, how often did you work in the following conditions?

	Never	Once	A few times	Often
With one other writer	○	○	○	○
With 2 other writers	○	○	○	○
With 3 other writers	○	○	○	○
With 4 or more other writers	○	○	○	○

How were roles determined?
Check all that apply.

☐   Assigned

☐   Decided through negotiation and consensus

☐   Other, please specify: _____

Roles throughout the collaborative writing experience
Check all that apply.

☐   Were stable

☐   Changed depending on stage in process

☐   Changed due to other factors

Were you ever offered the opportunity to write collaboratively?
○   Yes
○   No

Given the opportunity, why did you choose not to write collaboratively?
Check all that apply.

☐   Not enough time

☐   Dislike working in groups

☐   Shy

☐   Worried about my English skills

☐   Worried about my writing skills

☐   Other _____

Section C: Assigning Collaborative Writing to Students

Have you assigned collaborative writing tasks to graduate students? (*If* no *sent to "Would you consider assigning collaborative writing in the future?"*)

○ Yes

○ No

The first time you assigned collaborative writing to graduate students, what influenced your decision?
Check all that apply.

☐ Ease of marking

☐ I benefitted from my own collaborative writing experiences and thought students could too

☐ My own enjoyment of collaborative writing

☐ When I was a student, my professors assigned collaborative writing

☐ Trying to make my teaching more interesting or engaging

☐ I wanted to try group work in my classes

☐ My reading about collaborative writing

☐ Other, please specify: _____

Purpose for collaborative writing assigned to students

What were the main purposes of the documents that you assigned graduate students to write collaboratively?
Check all that apply.

	Never	Once	A few times	Often
To synthesize literature in a given field	○	○	○	○
To present content in online textbook format	○	○	○	○
To disseminate research results	○	○	○	○
To coauthor an article for publication	○	○	○	○
To present research findings at a conference	○	○	○	○
To write up lab results from an experiment conducted	○	○	○	○

together

Thinking of collaborative writing projects that you assigned graduate students, did you assign the collaborative rather than individual writing task to

	Never	Once	A few times	Often
Teach students how to write discipline or genre specific documents	○	○	○	○
Teach students the writing process	○	○	○	○
Offer students an opportunity to work with peers	○	○	○	○
Encourage the development of interpersonal communication skills	○	○	○	○
Offer an alternative to traditional assignments	○	○	○	○
Improve the quality of student learning	○	○	○	○
Increase student motivation for writing	○	○	○	○

When you assign collaborative writing, which of the following hold:

	Never	Rarely	Sometimes	Often	Not sure
I orally outline to graduate students the benefits of writing collaboratively.	○	○	○	○	○
I offer students a written explanation of the benefits of collaborative writing.	○	○	○	○	○
I articulate to students the theory behind writing collaboratively.	○	○	○	○	○
I demonstrate how to give timely, descriptive, short, and ongoing feedback	○	○	○	○	○

When assigning collaborative writing to graduate students, do you
Choose appropriate response.

	Never	Rarely	Sometimes	Often	Not sure
Discuss with students the ways in which diverse backgrounds may affect the collaboration?	○	○	○	○	○
Ask students to consider their assumptions regarding content and writing process?	○	○	○	○	○
Offer students some method of addressing potential conflict?	○	○	○	○	○
Offer students some tips on how to listen actively or model active listening?	○	○	○	○	○
Assign student roles or ask students to discuss roles they will take throughout the writing project?	○	○	○	○	○
Ask students to think about to what extent they need to be in control of the writing process?	○	○	○	○	○

Evaluation

The following questions address assessment and evaluation of collaborative writing assignments.

	Never	Rarely	Sometimes	Often	Not applicable
Do you assign a group mark?	○	○	○	○	○
Do you offer individual marks?	○	○	○	○	○

If you offer individual marks, what are marks based on?
Check all that apply.

☐ Peer evaluation

☐ Individual reflective journals

☐ History and discussion on wikis

☐ Observation of group interaction during class time

☐ Track changes on MS Word

☐ Other, please specify: _____

When assessing collaborative writing assignments, which of the following do you consider?

☐ Quality of product

☐ Quality of interaction

☐ Balance of individual contributions

☐ Timeliness

☐ Gains in learning content

☐ Gains in learning language

Why do you not assign collaborative writing tasks to your graduate students?
Check all that apply.

☐ Not enough time

☐ Not sure how to mark collaborative assignments

☐ Students will contribute unequally

☐ Only certain students benefit from collaborative work

☐ Students will spend too much time socializing

☐ Writing should be done individually

☐ Other, please specify: _____

Would you consider assigning collaborative writing in the future? Why or why not?

Would you be willing to participate in a follow-up interview? The interview would last between 45 minutes and one hour. It would be conducted by email, phone, videochat, chat, or some other means acceptable to you.

○ Yes, here is my email address: _____

○ No

Appendix B
Graduate Student Survey

Collaborative Writing-Graduate Students

Collaborative writing: a process and product involving more than one writer; that is, it is the activity of writing together and also the product of that coordinated action.

Introduction
Hello. My name is Anita Ens, and I am a doctoral candidate in the Faculty of Education at the University of Manitoba. Thank you in advance for participating in this survey for my doctoral research on perceptions of collaborative writing at the graduate level. I am interested in hearing from individuals who have no experience of writing collaboratively and those who have experience with collaborative writing. The survey should take about 15 to 20 minutes of your time. Data you provide will be anonymous and your computer IP address unknown to the researchers. You may opt out of the survey at any point, simply by exiting the survey. Should you wish to re-enter the unfinished survey, you have the option of doing so until December 23, 2011. By completing this survey, you are offering consent for your anonymous responses to be used for this research study. This study has been approved by the University of Manitoba's Education and Nursing Research Ethics Board (ENREB). If you have questions or concerns, please contact the Human Ethics Coordinator at margaret_bowman@umanitoba.ca. You may also contact me, Anita Ens, at umensah@cc.umanitoba.ca or my advisor, Dr Stan Straw, Curriculum, Teaching & Learning, University of Manitoba, stan_straw@umanitoba.ca For the purposes of this survey, collaborative writing is defined as a process and product involving more than one writer: i.e., it is the activity of writing together and also the product of that coordinated action.

Section A: Student Profile
The following questions are designed to create a profile of graduate students who do and who do not engage in collaborative writing in graduate studies.

What is your field of study?
○ Biology

○ Business

○ Education

○ Engineering

○ English

○ History

What degrees do you hold?

┌─────────────────────┐
│   │
└─────────────────────┘

What is your age?

○   20-30

○   31-40

○   41-50

○   51-60

○   over 60

What is your gender?

○   Male

○   Female

I believe that good writing is critical to a graduate program in my faculty.

○   Yes

○   No

○   Not sure

In general, which of the following technologies have you tried? Which do you regularly use?

	Not tried	Tried	Occasionally use	Regularly use
Blackberry or other personal device	○	○	○	○
Cell phone for texting and Internet use	○	○	○	○
Wiki	○	○	○	○
MS Word with track changes	○	○	○	○
Google Docs	○	○	○	○
Other collaborative writing software	○	○	○	○

More specifically, what were the name/s of other technologies you've used for collaborative writing:

(optional response)

[   ]

Section B: Your Experiences of Writing Collaboratively

Have you written collaboratively in your graduate studies? (*If* no, *sent to "Were you ever offered the opportunity to write collaboratively?"*)

○ Yes

○ No

Please describe your experience/s of writing collaboratively.

[   ]

Which of the following describes the kind of experiences you have had in your graduate program?

Check all that apply.

☐ Met with a group that provided oral feedback on something I had written

☐ Worked as research assistant to professor and was listed as coauthor

☐ Conducted a study with other graduate student/s and was listed as first author

☐ Wrote a document, e.g., text chapter, as one of many authors with discrete assignments

☐ Changed others' text on a wiki

☐ Contributed text to a wiki

☐ Participated in face-to-face, online, or telephone discussion regarding a joint written product

☐ Other, please specify: _____

Product/Task

What were the main reasons you wrote collaboratively in your graduate program?
Check all that apply.

	None	One	Several	Many
It was a mandatory course assignment	○	○	○	○
To disseminate research results	○	○	○	○
To write to learn content within a course	○	○	○	○
To write to learn requirements of genre specific documents	○	○	○	○
To present research findings at a conference	○	○	○	○
To write up lab results from an experiment conducted together	○	○	○	○
To coauthor an article for publication	○	○	○	○
As part of my duties as research assistant	○	○	○	○

What was the purpose of writing collaboratively rather than individually?
Check all that apply.

☐ To work with peers

☐ To develop interpersonal communication or language skills

☐ As an alternative to traditional assignments

☐ To improve the quality of learning

☐ Not sure

Collaborative Roles & Processes

In your graduate level collaborative writing projects, how often did you work under the following conditions?

	Never	Once	A few times	Often
With one other writer	○	○	○	○
With 2 other writers	○	○	○	○

With 3 other writers	○	○	○	○
With 4 or more other writers	○	○	○	○

How were those roles determined?
Choose all that apply.

☐ Assigned by professor

☐ Decided through negotiation and consensus

☐ Other, please specify: _____

Roles throughout the collaborative writing experience
(Check all that apply)

☐ Were stable

☐ Changed depending on stage in process

☐ Changed due to other factors

When you wrote collaboratively, did you

	Never	Once	A few times	Often
Have a lead writer to whom each collaborator sent his or her authored piece	○	○	○	○
Write in sequence, moving one draft from writer to writer	○	○	○	○
Assign sections of a project to individuals according to expertise, interest or availability	○	○	○	○
Write individually, interspersed with group discussion	○	○	○	○
Share drafts frequently, tracking versions	○	○	○	○
Write concurrently and then merge documents together or have one writer merge documents	○	○	○	○
Sit side-by-side or together in one room talking and writing the text together	○	○	○	○

In your online collaborative writing experiences, did you

	Never	Once	A few times	Often
Write concurrently on a wiki, Google docs or using other collaborative writing software	○	○	○	○
Write online contributing text to a joint document but not changing others' words	○	○	○	○
Write online and offer changes in the discussion pages	○	○	○	○
Write online changing and adding to others' text freely	○	○	○	○

What level of difficulty did you encounter in writing with others?
- ○ Difficult
- ○ Somewhat difficult
- ○ Mostly smooth
- ○ Smooth
- ○ Completely painless

How would you rate the fairness of the division of labour in your collaborative writing experiences?
- ○ Not at all fair
- ○ Barely fair
- ○ Somewhat fair
- ○ Mostly fair
- ○ Completely fair

To what extent did you converse about topics that were not explicitly task related?
e.g., social activities, work or course experiences, family or personal matters
- ○ Always
- ○ Usually

○ Sometimes

○ Rarely

○ Never

How often was a collaborative writing approach suitable for the task or problem?

○ Always

○ Usually

○ Sometimes

○ Rarely

○ Never

If collaborative writing was a favorable experience, why? If not, why not?

Did any of your collaborative writing result in publication?

○ Yes

○ No

Learning to Write Collaboratively

An individual writer increases in proficiency through instruction, experience, and maturity. Similarly, individuals writing collaboratively become better at writing with others as they engage in collaborative writing activities. The following questions explore your experiences in learning to write collaboratively.

What factors influenced your collaborative writing?

None

When you were learning to write collaboratively, what did you find most difficult?

None

Which of the following were true of your graduate level collaborative writing experiences?

Check one or two boxes per row.

	Did not experience	Experienced	Found helpful	Did not help
Support from a mentor such as your professor or a peer	☐	☐	☐	☐
Discussion with other collaborative writers	☐	☐	☐	☐
Clear writing task	☐	☐	☐	☐
Clearly understood roles	☐	☐	☐	☐
Time deadlines	☐	☐	☐	☐
Familiarity with topic	☐	☐	☐	☐
Feedback from your professor	☐	☐	☐	☐

Attitude towards collaborative writing

Thinking about your experiences of collaborative writing, answer the following questions using the rating scale provided:

	Completely	Mostly	Somewhat	Barely	Not at all
How enjoyable was/were the collaborative writing experiences?	○	○	○	○	○
How satisfied were you with how you were acknowledged as author?	○	○	○	○	○

Authorship

	Yes	No	Sometimes	Not-applicable
Were you listed as first author?	○	○	○	○
Were you willing to put your name on the product?	○	○	○	○
Did you feel as though the writing was yours?	○	○	○	○

Were you ever offered the opportunity to write collaboratively? (*If* no*, respondents were directed to the next question. If* yes*, they were directed to the final question*).

○   Yes

○   No

Why did you choose not to write collaboratively?
Check all that apply.

☐   Wasn't aware of it as an option

☐   Not enough time

☐   Dislike working in groups

☐   Shy

☐   Worried about my English skills

☐   Worried about my writing skills

☐   Other: _____

Would you be willing to participate in a follow-up interview? The interview would last between 45 minutes and one hour. It would be conducted by email, phone, videochat, chat, or some other means acceptable to you.

☐   Yes, here is my email address: _____

☐   No

Appendix C
Survey Pilot Invitation Email

UNIVERSITY
OF MANITOBA | Faculty of Education

Dear [Name of Graduate Program Director, Dean, or Head and copied to the Administrative Assistant],

My name is Anita Ens, and I am a doctoral candidate in the Faculty of Education at the University of Manitoba. I am writing to invite professors and graduate students in your faculty to participate in a pilot survey for a research study investigating professor and student perceptions of collaborative writing at the graduate level. Specifically, I am hoping you will ask your administrative assistant to send the attached invitation to professors who supervise and/or teach graduate students and to graduate students in your department.

I will choose the first three faculty members and three students from those who respond to this email request which is being sent to department heads in engineering, business, education, biology, English, and history. Participants in the pilot survey will be assured of their anonymity and of the value of their responses in improving the survey instrument. In addition, they will be informed that they will receive no penalty or bonus from the university or faculty administration for their participation or non participation in the study, and of their right to withdraw from the study at any point. The survey pilot session should take 30-45 minutes.

This project does not involve any more risk than participants would experience in their everyday lives. While participants may perceive no direct benefit of their involvement in the study, this investigation will add to a growing body of research allowing for a more cross-disciplinary understanding of perceptions of collaborative writing in Canadian graduate programs. In addition, professors and graduate students may gain insight on their writing and teaching practices.

Thank you for your time. The attached invitation has more details of the study. If you have any questions regarding the survey, please call me at [*phone number here*] or email me at umensah@cc.umanitoba.ca.

This study has been approved by the University of Manitoba's Education/Nursing Research Ethics Board (ENREB). If you have questions or concerns, please contact the

Human Ethics Coordinator at margaret_bowman@umanitoba.ca. You may also contact my advisor, Dr. Stan Straw at stan_straw@umanitoba.ca .

Appendix D
Survey Invitation Email
Invitation to Participate in Survey

UNIVERSITY
OF MANITOBA | Faculty of Education

My name is Anita Ens, and I am a doctoral candidate in the Faculty of Education at the University of Manitoba. You are invited to participate in a survey for my doctoral research on perceptions of collaborative writing at the graduate level. I am very interested in hearing from individuals who have *no* experience of writing collaboratively **and** those who *have* experience with collaborative writing.

Research Project Title: Professor and student perspectives on collaborative writing at the graduate level

Researcher: Anita Ens, Phone: [*number listed here*] email: umensah@cc.umanitoba.ca

Advisor: Dr Stan Straw, Curriculum, Teaching & Learning, University of Manitoba
        Email: stan_straw@umanitoba.ca   Phone: 204-474-9074; Address: 270 Education
        Bldg, University of Manitoba, Winnipeg, MB   R3T 2N2

This document will provide you the basic idea of what this research is about and what participation will involve. Feel free to ask if you would like more detailed information.

The purpose of this study is to explore professor and student perceptions of collaborative writing at the graduate level. More specifically, the intent is to determine the extent to which graduate program participants are aware of collaborative writing as an option and what constitutes their knowledge of collaborative writing. Specifically, I want to find out:

1. What are professor and graduate student experiences of the collaborative writing?
2. What are professor experiences of assigning collaborative writing to graduate students?
3. What are professor and graduate student attitudes towards collaborative writing?
4. What are perceived benefits and challenges of collaborative writing?

To help me in this exploration, I have posted two surveys using Fluidsurveys.

Professors: [*link supplied here*]

Graduate students: [*link supplied here*]

By clicking the link or copying and pasting it into the address bar of your Internet browser, you will be brought to the welcome page of the survey. The survey will remain online for approximately three weeks. You can re-enter an unfinished survey at any point during that timeframe and modify your responses. The survey should take approximately 15 minutes to complete. A summary of the survey results will be posted online at http://home.cc.umanitoba.ca/~umensah by February 2012.

Your responses will be anonymous to me, and I will make no effort to identify survey respondents unless legally obligated in the event of inappropriate or illegal conduct. The results of the survey will inform a mixed methods study which will be reported on in thesis format for my doctoral dissertation.

You are under no obligation to complete the survey and will experience no penalty for non-participation from the university or faculty administration.

This project does not involve any more risk than you would experience in your everyday life. You may perceive no direct benefit of your involvement in the study; however, this investigation will add to a growing body of research allowing for a more cross-disciplinary understanding of perceptions of collaborative writing in Canadian graduate programs. In addition, you may gain insight on your writing and teaching practices. You will have the option of indicating your interest in a follow-up interview by checking a box at the end of the survey and offering your email address, which will be kept separate from the completed survey.

I welcome your questions. You can contact me at umensah@cc.umanitoba.ca or by phone at [*phone number listed here*].

This study has been approved by the University of Manitoba's Education/Nursing Research Ethics Board (ENREB). If you have questions or concerns, please contact the Human Ethics Coordinator at margaret_bowman@umanitoba.ca.

Thanks for your time.

Sincerely,
Anita Ens

Appendix E
Reminder Email

UNIVERSITY
OF MANITOBA | Faculty of Education

Dear

About a week or two ago you received an email inviting your department to participate in a survey on collaborative writing. The survey is part of my doctoral research study investigating professor and student perceptions of collaborative writing at the graduate level. If you sent out the invitation, thank you! Will you consider sending the attached letter as a reminder to those who may wish to participate but have not yet done so?

If you have not yet sent the invitation, please consider it now. Specifically, I was hoping your administrative assistant would send the **attached** invitation to professors who supervise and/or teach graduate students and to graduate students in your department.

The instructions and details of the study as I sent them in the prior email are in the attached pdf document which may serve as invitation and/or reminder.

I am inviting participants from Canadian graduate programs in biology, business, education, engineering, English, and history. Views from those who DO and who DO NOT engage in collaborative writing are welcome!

This study has been approved by the University of Manitoba's Education/Nursing Research Ethics Board (ENREB).

Thank you for your time.
Sincerely,

Anita Ens

Doctoral candidate
Faculty of Education
University of Manitoba

Appendix F
Professor Interview Questions

My study definition:
Collaborative writing: a process and product involving more than one writer. It is the activity of writing together and also the product of that coordinated action.

RQ 2: Assigning Collaborative Writing

The survey showed that of 61 professors who completed the survey, 57% (35) reported having assigned collaborative writing tasks to students and 43% (26) indicated they had not.

1. You indicated on the survey that you have assigned collaborative writing tasks to your students. Please tell me more about these experiences.

   Probe:
   a) What motivated the assignments? i.e., What were you hoping to achieve?
   b) How did students respond? (did it work)
   c) What did you notice about the quality of the written product?
   d) In what ways were these collaborative tasks?
   e) What were benefits/drawbacks?

OR: **You indicated on the survey that you have not assigned collaborative writing tasks. Can you tell me more about this circumstance?**

   Probe:
   a) What do individual assignments achieve that cannot be met with collaborative writing assignments?
   b) Do considerations of process and product enter the motivation for not assigning collaborative writing?
   c) What are benefits/drawbacks?

RQ 3: Attitudes/Beliefs towards collaborative writing

According to survey results of graduate students (n=187), (85%) in Business, (84%) in Engineering, (60%) in Education, (64%) in Biology wrote collaboratively, whereas fewer students English (24%) and History (20%) wrote collaboratively.

2. Do you think there is a relationship between discipline or field and the appropriateness of collaborative writing?
i.e given how knowledge is constructed or viewed in a given field

3. How well do you think collaborative writing fits the purpose of graduate studies? That is, if graduate studies are to prepare a student for active teaching, research, or practice in a given field, how well does collaborative writing work in supporting that goal?

Prompts/probe:
  a) For example, some professors felt that students first had to write individually to learn the academic expectations before writing collaboratively. So perhaps writing with an advisor would be work but writing with a peer would not.

  b) Others felt that collaborative writing was not an appropriate way to evaluate independent reporting of research and results. So if once a student has graduated, s/he is expected to be able to independently do research and report in writing, collaborative writing does not fit.

RQ 4: Benefits and Challenges of Collaborative Writing

4. What are benefits of collaborative writing at the graduate level?

5. What are challenges of collaborative writing at the graduate level?

RQ 1: Experiences of Writing Collaboratively

6. What do you think is the relationship between a professor's own experiences of collaborative writing and his or her choices to include or exclude it from graduate students' experiences?

Prompts/Probe:
a) Would a view of collaborative writing as means to an end, for example, influence whether or not a professor assigned collaborative writing tasks? (focus on product)
b) Or, if a professor had mainly negative experiences of writing collaboratively, how might that affect how the professor's choices?

Optional (given time)

7. What do you see as the impact of new technologies and ease of information sharing/creation on collaborative writing?

8. Is there anything you would like to add?

Appendix G
Graduate Student Interview Questions

My study definition:
Collaborative writing: a process and product involving more than one writer. It is the activity of writing together and also the product of that coordinated action.

The survey showed that of 61 professors who completed the survey, 57% (35) reported having assigned collaborative writing tasks to students and 43% (26) indicated they had not.

NO CW: You indicated on the survey that you **did not** or have not written collaboratively at the graduate level and were not offered the opportunity to do so.

1. What do you think of collaborative writing?
Prompts/Probe:
 Would you have appreciated being offered the opportunity to write collaboratively? (with peers or with professors)
 What kinds of tasks would you think would be amenable to writing collaboratively?
 Do you think it's fair to students?
 How would it affect the relationships among students in a graduate program?
 How would it affect your learning?
 How would it affect the quality of the end product?

YES CW: You indicated on the survey that you had experienced writing collaboratively in graduate studies. **Please tell me more about those experiences.**

According to survey results of graduate students (n=184), (85%) in Business, (84%) in Engineering, (60%) in Education, (64%) in Biology wrote collaboratively, whereas fewer students English (24%) and History (20%) wrote collaboratively.

2. Do you think there is a relationship between discipline or field and the appropriateness of collaborative writing?
 i.e given how knowledge is constructed or viewed in a given field

3. How well do you think collaborative writing fits the purpose of graduate studies? That is, if graduate studies are to prepare a student for active teaching, research, or practice in a given field, how well does collaborative writing work in supporting that goal?

4. Some students responding to the survey noted problems arising from differences in power among collaborative writers such as between professor and student or outside partner who controls the project funds and student research assistant. **What are your thoughts on power and the relationship dynamics within collaborative writing situations?**

5. Responding to a question about authorship on the survey, more students in Biology reported being listed as first author than those in Education or English. **What are your thoughts on authorship and collaborative writing?**

The following two questions may have already been addressed in previous responses, but at this point you may want to either summarize or add thoughts.
6. What might be benefits of collaborative writing at the graduate level?

7. What might be challenges of collaborative writing at the graduate level?

8. What do you see as the impact of new technologies and ease of information sharing/creation on collaborative writing?

9. Is there anything you would like to add?

Appendix H
Interview Invitation

Dear survey respondent,

Between November 23 and December 23, 2011, you completed a survey on collaborative writing in graduate studies and indicated your willingness to be contacted for a follow-up interview. Would you still be willing to participate in an interview? I am attaching a consent form which provides details of the study and your participation in the interview. Please read it over carefully. I look forward to hearing from you within the next week.

Sincerely,
Anita Ens
Doctoral Candidate in Education
University of Manitoba

Researcher: Anita Ens, Phone: [*phone number listed here*]; email: umensah@cc.umanitoba.ca

Advisor: Dr Stan Straw, Curriculum, Teaching & Learning, University of Manitoba
        Email: stan_straw@umanitoba.ca   Phone: 204-474-9074; Address: 270 Education
        Bldg, University of Manitoba, Winnipeg, MB   R3T 2N2

This study has been approved by the University of Manitoba's Education and Nursing Research Ethics Board (ENREB). If you have questions or concerns, please contact the Human Ethics Coordinator at margaret_bowman@umanitoba.ca.

Appendix I
Consent Form for Interviews

Consent to Participate in Research Study

UNIVERSITY
OF MANITOBA | Faculty of Education

Research Project Title
Professor and student perspectives on collaborative writing at the graduate level

Researcher
>   Anita Ens, Faculty of Education
>   Please contact me if you have questions: Email: ensah@cc.umanitoba.ca [*phone and address contact information supplied*].

Advisor
>   Dr Stan Straw, Curriculum, Teaching & Learning, University of Manitoba
>   Email: stan_straw@umanitoba.ca   Phone: 204-474-9074; Address: 270 Education Bldg, University of Manitoba, Winnipeg, MB   R3T 2N2

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The purpose of this study is to explore professor and student perceptions of collaborative writing at the graduate level. The intent is to determine the extent to which graduate program participants are aware of collaborative writing as an option and what constitutes their knowledge of collaborative writing. Specifically, I want to find out:

>   1. What are professor and graduate student experiences of the collaborative writing?
>   2. What are professor experiences of assigning collaborative writing to graduate students?
>   3. What are professor and graduate student attitudes towards collaborative writing?
>   4. What are perceived benefits and challenges of collaborative writing?

This project does not involve any more risk than you would experience in your everyday life.

If you agree to participate in my research, you will be asked to take part in an interview which will last between 45 minutes and one hour. You may choose your preferred interview medium: email, chat, webchat, telephone, or face-to-face if local. If the interview is conducted face-to-face, by telephone, via webcam or audiochat, it will be audio-recorded and handwritten notes will be taken. At any time, you may withdraw from the study with absolutely no penalty. Simply ask me to stop the interview, and I will remove any data I have collected from you from the study.

Your privacy is important. Your responses to interview questions will be kept confidential. A report of this research will be written in thesis format for my doctoral dissertation and defended before a committee. If passed, it will be posted on the institutional web repository for public access. In addition, based on the data, subsequent articles may be written for publication in scholarly journals or for presentation at conferences. In order to preserve your anonymity, pseudonyms will be used and any potentially identifying information will be masked. I will keep the interview transcript and hand-written notes in a locked cabinet at my office. The research assistant, my advisor, and I will be the only individuals with access to raw data. Digital data will be password protected and encrypted. Any confidential material will be destroyed within five years of collection.

Your time is valuable. If you participate in this research, you will receive a $20 gift certificate from Amazon.ca. In addition, I welcome your feedback on the interview transcript. You have the option of receiving a copy of the summary of the study results.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

The University of Manitoba Research Ethics Board(s) and a representative(s) of the University of Manitoba Research Quality Management / Assurance office may also require access to your research records for safety and quality assurance purposes.

This research has been approved by the Education and Nursing Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Coordinator (HEC) at 474-7122. A copy of this consent form has been given to you to keep for your records and reference.

Your name (please print)

Your Signature   **Date**

Researcher Signature   **Date**

Appendix J
Script to Introduce Interviews

Thank you for agreeing to participate in my study on professor and student perspectives on collaborative writing at the graduate level. As you know from the consent form, I hope to learn more about graduate program participants' awareness of collaborative writing as an option and what constitutes their knowledge of collaborative writing.

The interview should last between 45 minutes and one hour and will be audio recorded. You may refrain from answering any questions you prefer to omit, without prejudice or consequence. At any time, you may withdraw from the study with absolutely no penalty. Simply ask me to stop the interview, and I will remove any data I have collected from you from the study.

Your responses to interview questions will be kept confidential. Only my research assistant, doctoral advisor, and I will have access to interview data. In order to preserve your anonymity, pseudonyms will be used and any potentially identifying information will be masked. I will keep the interview transcript and hand-written notes in a locked cabinet at my office. Digital data will be password protected and encrypted. Any confidential material will be destroyed within five years of collection.

As a gesture of thanks for your participation, you will receive a $20 gift certificate from Amazon.ca. In addition, I welcome your feedback on the interview transcript. If you'd like a copy of the summary of the study results, please make sure the appropriate box on the consent form is checked.