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Published on: 19 Jul 2020 - The Canadian Journal for the Scholarship of Teaching and Learning (Society for Teaching and Learning in Higher Education)

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This is an electronic copy of an article that was originally published as: Walter, L. & Stouck, J. (2020). Writing the literature review: Graduate student experiences. *The Canadian Journal for the Scholarship of Teaching and Learning*, 11(1), 1-17. <https://doi.org/10.5206/cjsotl-rcacea.2020.1.8295>

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Summer 06-30-2020

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Recommended Citation

Walter, L., & Stouck, J. (2020). Writing the literature review: Graduate student experiences. *The Canadian Journal for the Scholarship of Teaching and Learning*, 11(1). <https://doi.org/10.5206/cjsotl-rcacea.2020.1.8295>

Writing the Literature Review: Graduate Student Experiences

Abstract

Difficulties with academic writing tasks, such as the literature review, impact students' timely completion of graduate degrees. A better understanding of graduate students' perceptions of writing the literature review could enable supervisors, administrators, service providers, and graduate students themselves to overcome these difficulties. This paper presents a case study of graduate students at a secondary campus of a Canadian research university. It describes survey data and results from focus groups conducted between 2014 and 2015 by communications faculty, writing centre staff, and librarians. The focus group participants were Master's and Doctoral students, including students situated within one discipline and those in interdisciplinary programs. The questions focused on the students' experiences of writing the literature review as well as the supports both accessed and desired. Data analysis revealed four themes: (a) literature review as a new and fundamental genre; (b) literature review for multiple purposes, in multiple forms, and during multiple stages of a graduate program; (c) difficulties with managing large amounts of information; and (d) various approaches and tools are used for research and writing. Using an academic literacies approach, the paper addresses implications for campus program development and writing centre interventions and furthers research into graduate students' experiences of writing literature reviews.

Les difficultés rencontrées lors de la rédaction de travaux universitaires, tels que les analyses de publications, affectent la date à laquelle les étudiants et les étudiantes peuvent terminer leurs diplômes de cycles supérieurs. Une meilleure compréhension des perceptions des étudiants et des étudiantes des cycles supérieurs concernant la rédaction d'analyses de publications pourrait permettre aux directeurs et aux directrices de travaux universitaires, aux administrateurs et aux administratrices, aux fournisseurs de services et aux étudiants et aux étudiantes des cycles supérieurs eux-mêmes et elles-mêmes de surmonter ces difficultés. Cet article présente une étude de cas d'étudiants et d'étudiantes des cycles supérieurs sur un campus secondaire d'une université de recherche canadienne. On y décrit les données d'une enquête menée entre 2014 et 2015 par des professeurs en communications, par le personnel du centre d'écriture et par des bibliothécaires, ainsi que les résultats de groupes de discussion. Les participants et les participantes aux groupes de discussion étaient des étudiants et des étudiantes à la maîtrise et au doctorat, y compris des étudiants et des étudiantes situé(e)s dans une discipline particulière et ceux et celles dans des programmes interdisciplinaires. Les questions se concentraient sur l'expérience des étudiants et des étudiantes pour rédiger des analyses de publications ainsi que sur le soutien que ces étudiants et ces étudiantes avaient reçu et avaient souhaité recevoir. L'analyse des données a révélé quatre thèmes : (a) la rédaction d'analyses de publications en tant que genre nouveau et fondamental; (b) la rédaction d'analyses de publications pour divers objectifs, de formes multiples et durant divers stades du programme d'études des cycles supérieurs; (c) les difficultés à gérer de grandes quantités de renseignements; et (d) les diverses approches et les divers outils utilisés pour la recherche et la rédaction. Par le biais d'une approche de connaissances universitaires, l'article s'intéresse aux implications pour le développement de programmes sur les campus et aux interventions des centres d'écriture, ainsi qu'aux recherches futures dans le domaine des expériences des étudiants et des étudiantes de cycle supérieurs concernant la rédaction d'analyses de publications.

Keywords

graduate students, graduate education, literature reviews, graduate writing, academic writing; étudiantes des cycles supérieurs, enseignement au niveau des cycles supérieurs, analyses de publications, rédaction au niveau des cycles supérieurs, rédaction au niveau universitaire

Cover Page Footnote

The authors would like to thank Dr. Carolyn Labun, founding director of the Centre for Scholarly Communication and initiator of this project. Thank you also to Barbara Sobol and Laura Thorne for their work in developing the project and collecting data, and to Megan Udala who helped with data analysis and provided constructive feedback. The authors thank the participants for generously sharing their time and insights.

Writing a literature review is a fundamental task most graduate students, and increasingly some undergraduate students, face during their degree programs. Badenhorst has characterized writing the literature review as complex, demanding, challenging, and overwhelming (2018a, 2018b) and states that “Literature reviews are a genre that many graduate students do not fully grasp and find difficult to write” (2019, p. 263). Since Boote and Beile’s (2005, 2006) and Maxwell’s (2006) productive discussions of the purpose and proper nature of a dissertation literature review, research focussing on writing the literature review has increased, particularly in terms of reporting on student perceptions and experiences of this genre, evaluating the success of specific interventions targeting literature review writing, and analyzing citation patterns in literature review corpora to inform pedagogy. Amidst calls for more research on graduate student perceptions and experiences of academic writing (Jazvac-Martek et al., 2011), concerns about graduate students’ timely completion and retention rates (Di Pierro, 2012; Tamburri, 2013), and recognition that difficulties writing the literature review can contribute to loss of confidence, delays in completion, and even withdrawals from graduate degree programs (Meloy, 2002), further research into the difficulties Canadian graduate students experience in writing this seminal document is timely and necessary.

This exploratory case study seeks to better understand the difficulties graduate students experience with writing literature reviews over the course of their degrees and how pedagogical and support practices could be improved. This investigation of Master’s and PhD students’ experiences of writing literature reviews was conducted at a major Canadian research university’s secondary campus, and included both participants with English as a first language and participants with English as an additional language. Participants were either working in one or more specific disciplines or enrolled in the institution’s interdisciplinary graduate studies program.

Literature Review

The literature review is a “keystone genre” (Badenhorst, 2019, p. 263) that facilitates graduate students entering into disciplinary (and interdisciplinary) conversations (Chatterjee-Padmanabhan et al., 2019) and asserting “disciplinary identities and alignments with specific groups” (Kwan, 2007, p. 54). Moreover, as research using an academic literacies approach has revealed, graduate students must navigate the development of professional research identities through such writing, managing the transition from novice to expert researchers as they pursue their graduate studies (Castelló et al., 2013; Ivanič, 1998; Pickering et al., 2015). Citing several previous studies, Pickering et al. (2015) have argued that “undertaking and publishing literature reviews demonstrates an author’s expertise and contributes directly to improving their performance and reputation in the academic community, and hence contributes to their identity as experts in their discipline” (p. 1757). Given that this genre is a pivotal site for demonstrating expertise, asserting alignments, and performing identity, it is not surprising that Kamler and Thompson (2014) in *Helping Doctoral Students Write* boldly stated that “literature reviews are *the* quintessential site of identity work” (p. 31).

Previous research on writing the literature review includes Chen et al.’s (2016) systematic review and synthesis of a range of primary and secondary research studies on the challenges novice researchers face when undertaking literature reviews. Their review synthesized a diversity of studies, not just those investigating student perceptions and experiences, and the results indicated that graduate students face linguistic, methodological, conceptual, and, importantly, ontological challenges when writing their literature reviews. Qian and Krugly-Smolka (2008), in their

exploration of Chinese students' experiences preparing a literature review in Canada, found that despite participants indicating that forming, developing, and organizing ideas were essential for a good literature review, they still tended to focus on the linguistic challenges of writing a review, specifically vocabulary and sentence-level problems. Chen et al. (2006) have suggested that poor writing is more likely caused by identity issues rather than linguistic challenges, and that "learning is not merely a process of acquiring skills. Learning is a process of becoming" (p. 57). Wisker (2015) also argued that the literature review involves "conceptual threshold crossing" because students' research and their own authoritative voice develop as they participate in the dialogue between new and established knowledge (p. 66). This participation also involves a complex and evolving discursive context, where students are "moving between research activity, reading, interpretation of theoretical perspectives, the importance of conceptual and interpretive findings, and the actual processes of writing" (p. 65), which Kwan (2007) conceptualizes as a nexus of reading, writing, and researching. Because producing literature reviews is an iterative process, process-oriented research studies will help with understanding the challenges experienced by graduate students throughout their literature review production process, which Chen et al. (2006) explicitly call for in their recommendations for future studies (pp. 55-56). In order to identify directions for pedagogical and support practices for this genre, it is essential to undertake longitudinal research on graduate student experiences of writing literature reviews to understand the diverse types of challenges they face, the complexity of their discursive context, and the role of identity in their transition from novice to expert researchers. In undertaking our research, we sought to answer this call by designing a study that aimed to gather data from students throughout their degree programs and focus on their process of writing the literature review at our institution.

Given the literature review's status as a threshold-crossing genre for graduate students, as well as a fundamental writing task for successful progression in a graduate program, numerous interventions have been designed to assist graduate students in writing them. Literature review interventions typically consist of workshops and seminars that target the acquisition of literature review specific reading, researching, and writing skills, usually through instruction by writing centres, librarians, and writing/communications faculty (see, for example, Anderson, 2013; Badenhorst et al., 2015; Bitchener & Turner, 2011; Busekrus, 2017; Chatterjee-Padmanabhan et al., 2019; Gordon & Stewart, 2002; Kucan, 2011; Leger & Sirichand, 2015; Rempel, 2010; Switzer & Perdue, 2011; Wette, 2017). However, Rempel (2010) noted that the topic-dependent aspects of writing any literature review necessitate an individualized approach, complicating instructional interventions. While such interventions have clearly arisen in response to needs articulated by graduate students, supervisors, and administrators, there is a tendency to focus on an additive model of skills-development instruction to support individual students "deficient" in these skills. Badenhorst et al. (2015) and Lea and Street (2006) have instead emphasized that writing is a social practice and students need to participate in ongoing learning and negotiation of academic literacy practices, as well as discourse practices within and across particular disciplines.

To better understand the academic literacies and discursive contexts related to literature review writing and to inform pedagogical and support practices, several researchers have analyzed citation patterns in literature review corpora. Badenhorst (2018a, 2018b, 2019) analyzed the citation patterns in the literature reviews of a set of 23 draft and 23 final papers from a Master's level research and development culminating course in a Faculty of Education. The aims of the research were to understand from citation patterns the students' academic literacies and to reveal the complexity involved in literature reviewing. These three Badenhorst articles also detailed pedagogical implications for supporting students completing literature reviews. First, this research

adds to growing evidence that focussing on the ontological challenges of writing literature reviews is key, which means exploring with students the identity work that occurs during this transition from student, novice, and onlooker to professional, expert, and insider. Pedagogical practices should include discussions about the constructions of “truth” in terms of source and student standpoints, the ongoing performance of identity, and the negotiation of subject positions when reviewing the literature (Badenhorst, 2018a, p. 133). In addition to focussing on students’ identity work, instruction also needs to locate this work in a discursive context that is social, situated, and process-oriented (Badenhorst, 2018b). In recent work, Badenhorst (2019) has suggested that intertextuality is an enabling concept that would help students “see” how texts are related to each other and make overt the often obscure discursive practices involved in writing a literature review. Peng (2019) has also highlighted intertextuality as integral for teaching literature review writing, particularly in an English as an Additional Language (EAL) context. This study examined citation practices in the literature review chapters of 20 doctoral theses written in English by native Chinese speakers, which included ten students from mainland China universities and ten from universities in the UK, US, or Australia. Peng (2019) concluded that understanding citation practices is essential for EAL students in their construction of authorial voice and negotiation of identity in discourse communities.

These pedagogical insights from studies analyzing literature review citation practices along with the results of research focussing on graduate student experiences of literature review writing contribute to improving institutional “interventions” that support graduate students. Moreover, Badenhorst et al.’s (2015) call for “sustained, disciplinary embedded writing pedagogies that allow graduate students to negotiate academic literacies over time” (p. 2) further complicates some of the typical interventions that institutions undertake to support their graduate students. These understandings informed our study as we sought to follow students through the process of writing their literature reviews and as we explored both the existing supports and support gaps that impacted the development of their research identities.

Method

The study design was a mixed methods case study, which included an initial quantitative survey and subsequent qualitative focus group interviews. The aim was to research graduate students’ perceived experiences with their academic writing tasks and of the supports available to them. Our research questions were:

1. What are graduate students’ past and present perceived experiences of graduate-level communication, particularly the literature review?
2. What supports or pedagogical approaches currently prepare students for graduate writing tasks? How can that support system be improved?

This paper focuses on graduate student experiences with writing the literature review; however, the research questions were more broadly framed to gather data about past and present writing experiences to inform pedagogical and support practices for all academic writing tasks.

The study was conducted through the university’s graduate writing centre (established in 2011) by communications faculty, graduate writing centre staff, and university subject librarians. Ethics approval was received from the University’s Behavioural Research Ethics Board. Purposive sampling was used for both the online quantitative survey and subsequent focus groups. Graduate

students were recruited for the online survey through campus email, posters, and social media. A FluidSurvey was open during January and February 2014. Survey data were analyzed by the Planning and Institutional Research office. The online survey received 65 responses (10% response rate). The low response rate was likely due to timing and that the survey was voluntary. Recent research suggests that lower response rates can still be representative in postsecondary contexts (Fosnacht et al., 2013; Wählberg & Poom, 2015), but the low response rate may be a limitation of the survey data. 25 respondents (38.5%) were working on a Master's degree and 30 respondents (46.2%) were working on a PhD, with the remainder having completed other kinds of degrees or not answering. Respondents were also asked to name up to two disciplines in which they were working. For the first discipline, 11 (16.9%) respondents were in the humanities, 25 (38.5%) were in the Social Sciences, 17 (26.2%) were in the Natural Sciences/Health Sciences, 9 (13.8%) were in the Applied Sciences, and 3 (4.6%) were Interdisciplinary. For the second discipline, 11 (16.9%) respondents were in the humanities, 16 (24.6%) were in the Social Sciences, 10 (15.4%) were in the Natural Sciences/Health Sciences, 2 (3.1%) were in the Applied Sciences, and 2 (3.1%) were Interdisciplinary. Thus, 41 of the 65 respondents (63%) identified as working in more than one academic discipline, indicating increasing interest in interdisciplinary graduate studies.

All respondents in the first year of a Master's or Doctoral degree were invited to participate in the focus groups that would gather data throughout the duration of the students' graduate programs. Six in-person focus groups were completed between April 2014 and November 2015. Two initial focus groups (April 16 and 28, 2014) were asked questions about writing tasks and accessing supports (see Appendix A), and the subsequent focus groups in November 2014, December 2014, April 2015, and November 2015 were asked versions of the same questions that recognized they were further along in their degrees (see Appendix B). Seven graduate students participated in the initial two focus groups. Six of these students participated in the subsequent focus groups (Table 1). There were no participants in the final focus group scheduled for August 2016 because most participants had either completed their degree or their PhD residency requirement and had moved from the region. Moreover, initial data analysis indicated that data saturation had been achieved. The participants in the focus groups were from various degree programs, disciplines, and language backgrounds.

Table 1
Focus Group Participant Information

Participant	Degree Program	Knowledge Area	EAL	Focus Groups
A	PhD	Applied Science	Yes	1
B	PhD	Social Science	Yes	1, 3, 5
C	Master's/PhD	Social Science	No	1, 3, 6
D	PhD	Social Science	No	2, 3
E	Master's	Humanities, Social Science	No	2, 6
F	Master's	Social Science	No	2, 4, 5
G	PhD	Social Science	Yes	2, 4

The focus groups were digitally recorded, transcribed, and analyzed (assisted by NVivo) by the research team. The first round of coding was completed by the two principal researchers, and a third coder was introduced in the second round of coding to strengthen the reliability and credibility of the data analysis. After the final round of coding was finished, the two principal

researchers completed the data analysis and finalized the themes. Member checking with two study participants was completed, and peer review of the results was provided by two external peer reviewers associated with the writing centre. Although this specific case study may not be generalizable to other institutions or contexts, it seeks to contribute to the growing body of literature about graduate experiences in Canadian postsecondary institutions.

Results

This paper focuses on the survey results associated with writing literature reviews and accessing supports. In the survey, when asked to self-identify areas for writing improvement from a list, 45.3% of survey respondents selected Literature Review and 39.1% selected Synthesizing and Analyzing (key activities during the literature review) as areas for improvement for their writing. Supports accessed for writing were identified as follows: supervisors (77.8%), the writing centre (52.4%), fellow graduate students (38.1%), friends and family (33.3%), a current course instructor (non-supervisor) (31.7%), past instructors (non-supervisor) (12.7%), a professional editor (7.9%), and other (6.3%). Library search engines and databases (50%) were the most commonly used research strategy, followed by Google (14%) and Google Scholar (14%). Librarian consultations (5%) and recommended reading lists (3%) were the least used. The semi-structured focus group interviews that followed the survey revealed four themes associated with graduate student challenges when writing the literature review and identified both helpful and absent institutional supports for this genre.

Literature Review as a New and Fundamental Genre

In response to the early focus group questions (see Appendix A) about past and present writing tasks and experiences, several participants identified the literature review as new to them at some point in their second undergraduate professional degree or graduate degree programs. After signaling their lack of experience with this genre, most participants almost immediately followed up with statements that revealed its ongoing importance as a fundamental genre for their subsequent graduate work. For example, Participant A pointed out that the literature review was a new genre and recognized it was necessary for publishing:

Because for our courses we never had to write that much scientific or, like, literature reviews for the courses. Yeah. For science in biology I found that, you need to do a literature review when you write your journal paper or publish, want to publish something.

Similarly, after saying that “At the Bachelor’s level ... I don’t think we ever did literature reviews other than just looking at case studies,” Participant B explained that in the Master’s program “quite an extensive literature review” had to be completed and it was “[my] first experience of the literature review.” Participant B then mentioned looking at numerous academic writing blogs “to get a handle on that process,” and stated “I continue to follow that to this day actually.” In an initial focus group, Participant C talked about taking a refresher course and the challenges of “getting back into [scholarly writing],” including “doing literature reviews,” after returning to university as an older student. Almost seven months later in a subsequent focus group, Participant C acknowledged that,

Neither one of the integrative reviews I'm doing are directly related to what I'll be doing in my dissertation, but the experience of doing those integrative reviews, of having to do the research and the process of it is a skill that I'll always need.

Although other focus group participants were not as explicit in their description of the literature review as a "new" genre, they still talked about literature reviews in a way that suggested this genre was fundamental and they were in fact struggling with writing them. Across all the focus groups, participants mentioned their difficulties with learning the approaches, skills, strategies, and tools necessary for researching and writing the literature review even as they advanced further in their programs.

Literature Review as Multiple

These difficulties graduate students encounter may stem from literature reviews serving multiple purposes, taking multiple forms, and appearing in multiple stages of a graduate program. The multiple purposes identified by the participants included conducting and writing literature reviews for coursework and directed studies (e.g., to gain practice and experience with this genre and/or to produce preliminary research and writing for their research proposal and thesis), for comprehensive exam reading lists, for journal publication (e.g., as a standalone review article or as a section of a research article), and for thesis chapters. While it was clear that all the participants were writing literature reviews for multiple purposes, Participant B was the most explicit:

So I guess maybe I'm thinking about literature review in two different ways, because I already have some sort of preliminary literature review and that's how I found the gap, and that's essentially what's going to go into the proposal, but I think writing a formal literature review will come when I start writing the dissertation.

In addition to serving multiple purposes, literature reviews take multiple forms, thus adding another level of complexity. Participants mentioned they were struggling with the specific forms their literature reviews were taking. Participant F described the difficulties of trying to incorporate the literature review content across the theory and methods chapter and the data chapters in a thesis, while Participant G described being required to write three separate literature reviews and thus being uncertain if they will appear in one chapter or not. Finally, two participants in the final focus group had a conversation that illustrates their struggles with the formal aspects of a literature review in terms of whether it is just a descriptive review or also contains critical appraisal. Participant E began the exchange with,

I don't feel that what I wrote and what [my supervisor] wants is the same as the lit. reviews that I've read. Because, and correct me if I'm wrong, the lit. reviews I read have a lot of opinion in them. My lit. review has zero opinion in it. It's just a review of the literature. Period.

This participant goes on to mention seeking support at the writing centre, but the information provided there differed from the supervisor's feedback:

... they were excellent with the writing centre upstairs; they asked me to add more personal opinion into it because I had kind of gone light on it. And then when [my supervisor] read it, he had me take it all out. So, that's how that process went. And so he's now got the new draft with no opinion in it.

Participant C responded by sharing a similar experience of trying to understand the formal expectations (i.e., synthesis, appraisal, and position-taking) of a literature review:

That is interesting, because I've been given, sort of the understanding from my committee is that my lit. review is literally just that ... the review of the literature is just to look at what's already been published out there and identify the gaps - so it's not really commenting or critiquing, but at the end sort of coming up with this and who knows, I'll probably write it and it'll get sent back to me. Um, [laughing] for a lot of revision.

In another focus group, Participant G also talked about seeking guidance on these issues before beginning a literature review:

I haven't actually started writing the literature review, but what I've seen of some things I've tried to write and check with my supervisor and some other professors, like, it's hard to get it all connected, like sometimes it looks like I'm just writing this guy said this, this guy said that and he said this, she said that and then this and that, but it's hard to actually kind of to build up a story and to make it more interesting and connected.

The participants' confusion and struggle with description versus opinion and summarizing versus synthesizing/appraising further complicates their navigation of the multiple purposes, forms, and expectations of the specific types of literature reviews they are writing at various stages of their graduate program. Their comments also suggest that they are navigating different audiences as well, recognizing that they are writing for their supervisors on the one hand but also contributing to scholarship for a wider audience on the other as they are transitioning from student to other identities in their field.

Difficulties with Managing Large Amounts of Information

Another key theme that emerged, despite not being explicitly addressed in the focus group questions, was that the participants had difficulties managing large amounts of information when researching for and writing literature reviews. The first comments related to this theme occurred early on in the first focus group and appeared across all but one focus group. Moreover, comments associated with this theme almost always elicited agreement from other participants and often led to further exchanges among participants offering the strategies and tools they used to manage information. For example, Participant C said:

Managing the information that you're getting is, is somewhat of a challenge, knowing how to keep when you're writing a literature review, you're getting great quotes, you're getting great ideas, and how to keep them sort of, so they make sense, so you can go back to them when you're actually get down and writing. And that's always been my challenge, because I tend to amass way more data than I need for the literature review.

This led to Participant B's reply, "I think we all do that. We tend to get piles." In another focus group, there was a robust discussion about managing sources, notes, and data, with Participant D summarizing a personal strategy in detail for the others and at the end declaring: "It's a blizzard, it's a blizzard out there." To which Participant B replied "The joys of being a PhD student." In another focus group, Participant E's comments revealed the high stakes associated with managing large amounts of information as well as the changing research expectations due to technology; at the end of a discussion about needing better supervisor and institutional communication and clarity about writing tasks, this participant declared:

With the amount of work that's required, with the amount of research that's out there now, it's a different process than what [our supervisors] probably went through, where they had two hundred, three hundred resources and we now have three thousand resources, it's a different process, so there's no time to fumble the ball and redo something three times.

In response to these comments, Participant C suggested the need for a repository of tools, research and writing processes, and techniques that could be shared among graduate students, particularly "to manage all this data." Although managing large amounts of information was of particular concern for a few of the participants, who brought it up repeatedly, it also appeared across other focus groups wherein personal strategies and tools for information and data management were also shared.

Various Approaches and Tools are Used for Research and Writing

It is interesting that Participant C envisioned a shared repository in the final focus group because another theme that emerged during data analysis was that participants were using various approaches and tools for literature review research and writing. Approaches and tools for research that were mentioned include: searching citation databases, using database research alerts, crafting sophisticated database search strategies, consulting reference lists, seeking both recent and seminal literature, reading key journals, following key scholars in the field, consulting with subject librarians, receiving references from supervisors or colleagues, filling out the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) template to map published research used in a review, and using reference management tools. Approaches and tools for writing that were mentioned include: dedicating blocks of time to writing, setting daily word count goals, notetaking, using literature synthesis grids, creating annotated bibliographies, using mind mapping techniques, visiting the writing centre, reading online and print guides, creating robust outlines, and citing and paraphrasing strategically. As the participants described their approaches, the iterative nature of this work became evident across all focus groups. For example, Participant F stated that "the literature review is sort of never ending," and in two separate focus groups this participant mentioned that new emerging themes often necessitated significant further research and writing. In another focus group, Participant D shared that "My process is really messy," and described going in circles during the writing process. Participant G later echoed this experience: "I'm also kind of messy, with the writing process," and Participant F inserted the phrase "write, write, revise, write, revise," into a description of a few personal approaches to writing.

Supporting Literature Review Writing

In addition to the survey questions about writing tasks and the focus group questions about writing the literature review, other survey and focus group questions were formulated to collect data about the services and supports that participants were accessing during their graduate programs. Subject librarian support was praised by five of the seven focus group participants for helping with literature searching and facilitating access to research materials. This finding differs from the survey results reported above where librarian consultations were by far the least used strategy compared to Library search engines and databases, Google, and Google Scholar. One of the most helpful supervisor supports mentioned across focus groups was guidance for finding key research for literature reviews.

For writing support, just over half of those surveyed selected Writing Centre while all of the focus group participants reported seeking support at the graduate writing centre. The focus group findings may be a result of self-selection bias, as the focus groups were conducted in part by writing centre and librarian staff in the writing centre space, and thus may not be generalizable across the graduate student population. When writing centre workshops were mentioned, it was either in the context of effectively addressing a particular need at a particular time (e.g., using citation management tools, researching for literature reviews, writing literature reviews) or as programming that helped throughout their degree. The students who sought one-on-one support in the writing centre overwhelmingly praised having such a service available. Multiple participants sought independent self-support by using online blogs/guides and print/ebooks for guidance on literature reviews and other writing. One participant mentioned using YouTube and other online videos. Help from direct supervisors was the most discussed support (similarly, as reported above, 77.8% of those surveyed selected Supervisor for where they go for writing support). Support from other faculty advisors, committee members, or lab members was also mentioned. However, students wanted more relevant examples of writing to align supervisor and student expectations for the writing of particular genre documents, including the literature review. As mentioned earlier, these student-supervisor misalignments may be arising as students navigate literature review writing while transitioning from novice students summarizing existing research to more authoritative positions and identities in the production of new knowledge.

Focus group participants were positive about existing services and supports, but they explicitly identified more peer support as a pressing need for all of their academic writing tasks. For example, Participant C explained:

When you start grad school having some ideas about how other people approach the shift, like what that looks like for some people, so you know tools and techniques that other people have used and how they have used them would have been, for me would have been really helpful.

Three other participants expressed the desire for more interaction and support from their peers. For example, Participant B wanted this support because “writing [is] a very isolating process”; Participants B, D, and F explicitly mentioned the lack of a “cohort” as a drawback of their program; and all three participants were interested in forming peer writing groups. Two participants also shared that they paid peer editors/proofreaders to review their writing before submission. Several participants across focus groups requested institution-specific examples of writing genres, which Participant E stated could be housed in the same repository that Participant C discussed for

institutional sharing of tools and strategies for managing data. Overall, the supports students mentioned included specific technical and organizational resources to accomplish the task of writing a literature review but also supports that would help them manage the more challenging identity-formation and position-taking aspects of the genre. This is shown by their repeated desires for more peer support and sharing of writing examples by both supervisors and peers.

Discussion

The focus group participants' identification of the literature review as a difficult new academic writing task is not surprising, and the scholarship on writing them is filled with negative adjectives (see, for example, Badenhorst, 2018a, 2018b, 2019) and disabling metaphors (see, for example, Kamler & Thomson, 2014). Although more universities are now providing undergraduates with research and research writing experiences, the literature review has typically been one of the first writing tasks assigned to new graduate students as they "transition from 'university student' to 'research student', and from 'novice' to 'knowledgeable scholar'" (Pickering et al., 2015, p. 1758). The participants' quick shift from articulating their struggle with the literature review as something new to discussing it as something fundamental and ongoing suggests an understanding that they need to learn how to participate in new discourses and perform new identities, a process that has been theorized in terms of mastering new academic literacies (Badenhorst, 2018a; Badenhorst et al., 2015; Kamler & Thomson, 2014; Pickering et al., 2015). The participants' comments about the literature review serving multiple purposes suggest they are shifting from just seeing the lower order functions of the literature review (e.g., a search for papers on a topic, a list of summaries of papers) to recognizing higher order functions (e.g., identifying a gap, producing preliminary research, reviewing throughout and across publications) (Chen et al., 2016). However, in practice, they are still grappling with the literacies required to move from knowledge telling to knowledge transformation that literature reviewing requires (Badenhorst, 2018b). This struggle is evinced by participant comments about difficulties incorporating literature throughout the thesis document and across publications and by the participants' lengthy discussions expressing confusion around summarizing versus synthesis and appraisal in their literature reviews. The participants may be still positioned—by both themselves and their supervisors—as "onlooker[s]" rather than as "agents who use and evaluate the research of others, in order to make a place for their own work" (Kamler & Thomson, 2014, p. 37). In particular, participants who were writing literature reviews without synthesis or appraisal (whether on their own or because supervisors asked them to remove this content) were perhaps not yet participating fully in the dialogue between new and established knowledge that facilitates the construction of their authorial voice (Wisker, 2015). Although the participants were progressing beyond seeing the literature review as a singular task occurring only at the beginning of graduate research, they were still struggling with understanding new discursive contexts, negotiating subject positions, performing new identities, and transforming knowledge through their literature review writing.

The complexity of literature review writing is also exacerbated by both its iterative nature, for example Wisker (2015) quipped that "developing a literature review is an iterative process masquerading as a foundational process" (p. 73), and the complicated nexus of reading, researching, and writing that it entails (Chen et al., 2016; Kwan, 2008). The participants, much like those in Kwan's (2008) study, seemed to characterize the iterative nature of literature reviewing as problematic or anomalous as opposed to understanding this aspect as part of its ontology. Perhaps the transition from understanding the literature review as a process and not a

final product (Badenhorst, 2018b; Chen et al., 2016), and the transition from onlooker to occupying a position and standpoint (Badenhorst, 2018a), would help mitigate the participants' difficulties with managing large amounts of information, which was an explicit preoccupation in the focus groups and became a major theme expressively stated by one participant as "It's a blizzard out there." Kamler and Thomson's (2014) work on supervision of graduate students discusses the myriad troubling metaphors used by students to describe the literature review process and instead aims to "to shift disabling metaphors so that writers can begin to imagine ways of being in charge of this journey, however hard it is" (p. 36). That the participants have begun to take charge of the journey and see writing as a social activity within a discourse community was evident in the spontaneous moments when participants started talking to each other instead of the interviewers, which seemed to occur specifically when sharing with each other the various approaches and tools they utilized for research and writing.

Finally, it is unsurprising that library, supervisor, and writing centre support for graduate writing formed a large part of the conversations in the focus groups, and these types of supports have been discussed extensively in the literature. It is also unsurprising that the most requested support by participants was for peer to peer support because this type of support facilitates community formation, identity-construction, and enculturation into academic literacy and discourse practices. Further discussion and implications of the results related to accessing writing support for literature reviews appear in the conclusion section below.

Conclusions and Implications

In response to the themes that emerged from this study, particularly because we were able to gather data throughout the course of students' entire graduate programs, the graduate writing centre at our institution has sought increased institutional collaboration to support graduate student research and writing throughout their graduate programs and has introduced new programs and services. In partnership with Graduate Studies, a co-sponsored peer writing group support network was initiated, and every year cohorts of graduate students participate in the program, with ongoing facilitation and support from the graduate writing centre. To specifically support students' research and writing for literature reviews, writing support experts and research support librarians are team-teaching several sessions in both disciplinary-specific and interdisciplinary graduate courses, instead of relying on one-shot instruction in a single class or a standalone workshop. Although Stooke and Hibbert's (2017) Canadian study focussed on graduate writing support in general, not specifically for writing literature reviews, they similarly have recommended that "instructors partner with writing specialists for certain tasks" (p. 13). This collaborative approach among graduate course instructors, writing specialists, and librarians should facilitate more embedded, sustained exposure to academic literacy practices and disciplinary-specific or interdisciplinary practices for graduate students throughout their programs and writing tasks. The graduate writing centre has also been collaborating with a campus undergraduate research award program to support advanced undergraduate research and writing, which helps with acquisition of academic literacies needed for graduate work to occur earlier and longer for students. To address the desire for a local repository of genre-specific materials, the writing centre has begun collecting, seeking copyright permission for, and distributing authentic examples of various genre documents. However, it is difficult to get permission to distribute the types of initial literature reviews students are completing. Instead, students are referred to their peers' literature reviews in theses, which are housed in the institutional repository, or to published literature reviews in journals.

Finally, the study's themes related to writing the literature review have prompted a review and assessment of programming related to this task. The graduate writing centre has begun a review of current literature review support as the first stage in the development of a new evidence-based, academic literacy-focused program for literature review support. Both the study results and the pedagogical implications in the literature reviewed in this article will inform new programs and services that address the ontological challenges/identity work, complex discursive contexts and practices, and knowledge transformation that graduate students are negotiating while writing literature reviews. Badenhorst's (2019) recent work on intertextuality is intriguing for transforming current academic integrity and integrating sources instruction delivered by the graduate writing centre into more fulsome discussions about how "truth" is constructed, subject positions taken, and identity performed in the literature reviews students are reading and writing.

In addition to these tangible supports for literature review writing undertaken in response to the study results, the research identified an area for further study. Specifically, the participants' experiences suggest a need for faculty and institutions to recognize and better understand the multiple, ongoing processes of identity construction occurring during the writing of literature reviews. Much of the research on academic literacy has focused on the initial stages of a degree, exploring how students adjust to the early demands of conceptualizing a professional research audience and identity (Paré et al., 2011). While these are undoubtedly important initial concerns, and indeed our participants did request more supervisor support at the beginning of their degrees, the focus group discussions also point toward the need for support throughout the graduate degree and particularly throughout the literature review writing process. Because data was gathered throughout the participants' programs, analysis revealed focus group comments relating to mid to late degree challenges, such as the transition to more authoritative and polished writing during later iterations of the literature review. Moreover, publication typically requires profiling a new national or even international audience and, as the participants noted, moving from institutional expectations in their literature reviews to narrower technical and professional expectations. As Participant G explained, "you have one way of writing for a dissertation ... and then you have to translate all this into a journal, and it's completely different so it's like doing double work." That such shifting expectations are ongoing throughout the literature review writing process is worth further exploration.

In conclusion, this study furthers research into Canadian graduate students' experiences of writing literature reviews and the institutional supports available to them, in the hopes of improving pedagogical practices and supports throughout a graduate program for this most challenging genre. The next stages of the research would involve the evaluation of newly created programs and services based on the pedagogical implications and research results discussed in this article. As novice scholars construct new identities throughout the literature review process, their experiences and shifting needs warrant greater consideration.

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Appendix A Initial Focus Group Questions

Questions for focus groups of **first-year Graduate Students**, Master's and PhD

The following questions will be asked on a short form that will state not to reveal any definitively identifying information:

1. Please indicate your first language: _____
2. Are you a Master's or PhD student? _____
3. Which of the following areas best describes your scholarly research and writing area?
 - Humanities (e.g. fine arts, English, languages, philosophy)
 - Social Science (e.g. management, psychology, social work, nursing)
 - Applied Science/Science (e.g. engineering, biology, chemistry)
 - Other: _____

The following questions will be asked verbally during initial focus group sessions, with follow-up discussion among participants:

1. What kinds of writing and scholarly research have you done in the past?
2. What was your past experience of that writing and research process or in previous writing tasks?
3. What scholarly writing and research tasks do you expect to encounter in your degree program?
4. As part of your program, you will probably be asked to write a literature review defined as a survey of published research on a specific topic. How might a person go about doing this?
5. What scholarly writing and research support have you found helpful in the past?
6. What support do you believe will be helpful as you work on your graduate papers and/ or thesis?

Appendix B

Later Focus Group Questions

The following questions will be asked on a short form that will state not to reveal any definitively identifying information:

1. Please indicate your first language: _____
2. Are you a Master's or PhD student? _____
3. Which of the following areas best describes your scholarly research and writing area?
 - Humanities (e.g. fine arts, English, languages, philosophy)
 - Social Science (e.g. management, psychology, social work, nursing)
 - Applied Science/Science (e.g. engineering, biology, chemistry)
 - Other: _____

In later focus groups, the following questions will be asked verbally, with follow-up discussion among participants:

1. What scholarly writing and research tasks are you currently engaged in?
2. What do you see as the role of that task or tasks? How do you think these tasks will contribute to your professionalization or ability to complete your degree program?
3. How is the literature review progressing? What have you done in your survey of published research on your topic and what remains to be done?
4. What is and has been helpful as you write your graduate papers and thesis/ dissertation while here at [blinded]?