The Pennsylvania State University

The Graduate School

College of the Liberal Arts

TRANSLINGUAL SOCIALIZATION IN THE DISCIPLINES:

A CASE STUDY OF MEDIATION AND DISPOSITION SHAPING THE ACADEMIC

LITERACY PRACTICES OF INTERNATIONAL GRADUATE STUDENTS

A Dissertation in

English

by

Shakil Sarforaz Rabbi

Submitted in Partial Fulfillment
of the Requirements for
the Degree of

Doctor of Philosophy

December 2017

The dissertation of Shakil Sarforaz Rabbi was reviewed and approved* by the following:

A. Suresh Canagarajah
Edwin Erle Sparks Professor of English, Applied Linguistics, and Asian Studies
Dissertation Advisor
Chair of Committee

Cheryl Glenn
Distinguished Professor of English and Women's Studies

Xiaoye You
Associate Professor of English and Asian Studies

David Post
Professor of Education

Debra Hawhee
Head of Graduate Program

*Signatures are on file in the Graduate School

Abstract

Graduate student socialization is an important part of a university's mission. Research on how writing shapes this process is needed. This study contributes to knowledge of academic literacy practices socializing students in their disciplines through a social practice perspective. Specifically I focus on aspects of the social in this study of academic literacies and international graduate student socialization by looking at literacy mediators and translingual dispositions. How are the academic genres and literacy practices of international graduate students being shaped by social elements in the socialization process? How are their literacy practices mediating and being mediated by interactions and mentorship in this process? How are students' translingual dispositions to communication shaping their literacy practices? What, in fact, are students learning – e.g. strategies, outcomes, and genre knowledge – through these literacy practices? This dissertation answers these questions using a naturalistic ethnographic study of literacy mediators and translingual dispositions shaping the literacy practices of article writing, conferences presentations, and grant writing of two international graduate students. It demonstrates that academic writing competence is a function of a network of mediators and mentors, and therefore graduate students' academic literacies ought to be recognized as "network activities." It also highlights the affordances of a holistic socialization process that draws from the translingual dispositions students bring with them. I show that participation in non-academic activities empowers the international graduate students to negotiate between their own attitudes to literacies and disciplinary specialization. It simultaneously acculturates them to a broader US social context and elicits continued investment into socialization activities, developing both general and academic English literacy and language competencies. Consequently, I argue for explicitly incorporating out of classroom writing support into graduate education programs, and developing a graduate curriculum that encourages collaborative and functional approaches to academic communication.

Table of Content

List of Figures

List of Tables

Acknowledgements

To my parents.

Chapter 1: Introduction

> I've been trying to catch a window of opportunity to work with him. I told him that I wanted to work with him when I was finishing in Turkey and that I wanted to work with him at the University of Puerto Rico. But he said no because it would be really hard and he couldn't give me a living wage, and we would have to live in a poor neighborhood. He became my reference in coming [to the PhD program I am in now] and he is working for my best interest. Him and my PI here had the same advisor at Harvard. That's how I ended up doing a PhD here. (Gunter, Interview, 20150930)

> [My parents] would be happier if I had a 9-5 job. They support me, but they don't get why I'm getting a PhD. That is interesting. Many Asian parents want our children to have a degree, but they want me to be happy. Well my mom wants me to be a financial analyst. When it comes down to getting a PhD, which is really hard, and a career in academia is really difficult. And I think it has a lot to do with me being a woman. If I wasn't a woman they would not be as concerned. (Susan, Interview, 20150112)

1.1 Introduction

This is a story about how researchers are made in the disciplines and how social elements shape their socialization and professionalization processes. More specifically, it is a story – in case study form – of the academic socialization of two international graduate students, told from a writing studies perspective. In this story, I show that writing and literacy practices support learning because they coordinate and enact activities that, when undertaken extensively, afford academic socialization and competence. I foreground academic genres and literacy practices to

better understand academic socialization and how graduate students develop as apprentice researchers and members of their disciplines. The primary research question guiding this study of academic literacies as social practices is:

- How are the academic genres and literacy practices of international graduate students being shaped by social elements in the socialization process?

Specifically, I focus on two major dimensions of literacy as social practices—literacy mediators and dispositions. These two dimensions, I believe, are uniquely generative to the writing and socialization of graduate students. Unlike knowledge of form, for example, once students are attuned to the nature of writing work, such resources are useful for both learning new knowledge and producing deliverables in both academic and non-academic contexts. I break my primary research question into three more specific questions:

- How are students' literacy practices mediating and being mediated by interactions and mentorship in the socialization process?

- How are students' dispositions toward communication shaping their literacy practices?

- What, in fact, are students learning – e.g. strategies, outcomes, and genre knowledge – through these literacy practices?

Since this dissertation presents case studies, generalizing its findings is admittedly difficult. What might the contextual aspects of socialization that I present in subsequent chapters reveal about socialization as such? In what ways can the examples of negotiations and mentorship I identify here be viewed as normatively representative of the practices by which graduate students learn to write and learn to be members of their disciplines? One might argue that case studies are the best way to examine phenomena in practice—in specific real-world situations. This is why, after all, Max Weber refers to case studies as the "ideals," as

representations through which we can make sense of complexities. They are a useful form of research because they present stories of things happening. This study aims to do just that: to tell a story about how graduate students learn to become researchers and academic authors.

As with most stories of personal development, the paths the two participants of my study, Gunter and Susan, took to become members of their professions were characterized by contingencies. Gunter states (in the epigraph) that his current graduate program was not part of his original plan. He actually wanted to pursue graduate work with another professor who he viewed as a personal mentor. However, that professor told Gunter that pursuing a PhD with him at the University of Puerto Rico would not be financially feasible and that it would be better to pursue a PhD at The Pennsylvania State University. To this end, the professor recommended Gunter to his current PI with whom said professor had shared an advisor at Harvard. Gunter trusted that his professor was "working for my best interest" and jumped into the PhD program at Penn State, believing that his hard work there would eventually enable him to collaborate, again, with his professor after his doctoral work. His story foregrounds how social capital functions in the socialization process and how mentors can shape careers and professional trajectories in both intellectual and material ways. In other words, his experience highlights the role of networks in the socialization process.

In describing the particular concerns of her East Asian family, Susan emphasizes a different aspect of the PhD career trajectory. She says that her parents do support her, but believe that starting a career in academia is unnecessarily difficult, especially for a woman in her thirties. Her choice to pursue a PhD thus comes with a clear sense of opportunity cost; that is, her family believes that "as a woman" Susan would be better served not spending the time it takes to start an academic career. In her view, if she were a man, her family would not express such concern

about a career requiring years of advanced training. In other words, Susan foregrounds the influence of gendered social norms in the socialization of a young graduate student.

1.2 Theoretical Approaches

My study is fundamentally informed by a translingual orientation to communication and literacy studies. Translingualism, a social practice approach to literacy and communication that assumes multilingualism as the normative context of language use, is a relatively new conceptual framework in writing studies and rhetoric and composition; though it does have a considerably longer history in the fields of applied linguistics and Teaching English to Speakers of Other Languages. In rhetoric and composition it has been taken up as pedagogical approach that highlights how differences in language practices and competencies are "a resource for producing meaning in writing, speaking, reading and listening" (Horner et al. 2011). This approach corresponds to a recognizing communication practices that Canagarajah (2013b) says is:

> "engaging with diverse codes, with the awareness that the shape of the final textual products will vary according to contextual expectations. While translingual practice might find expression in codemeshing for multilinguals in certain contexts, in others it might find representation in a text that approximates and reconfigures 'standard English'." (p. 8)

In this approach, language and language differences are fecund sites of learning and consequently language socialization, and translingualism therefore corresponds to and aligns with three theoretical frameworks I use to develop my analysis: academic socialization, rhetorical genre studies, and academic literacy practices. Like these older frameworks, translingualism views languages as "mobiles semiotic resources" or takes a functional view to literacies. However, these older frameworks have been around for decades in academic research

and have had considerable influence on writing studies, and how scholars of academic writing understand advanced writing in the disciplines. Consequently, I base my study around their frameworks rather than take a translingual approach. All three are based on a social (or more specifically "sociocognitive" as some term it) approach to writing and learning, developed partly in response to the limits of cognitive approaches to writing and post-secondary education that were prominent in the eighties and exemplified by the seminal works of Linda Flower and John Hayes (see Smit (2004) or Russell (2002) for more on the impact of cognitive rhetoric on writing studies and composition especially.) None of these approaches necessarily deny the insights or value of cognitive approaches. Rather, they see cognitive aspects as situated within a broader set of social dimensions involved in learning to write.

1.2.1 Academic Socialization: The primary theoretical framework my study draws from is academic socialization. Part of a sprawling, interdisciplinary approach to learning and human development, socialization is broadly defined as "the process by which persons acquire knowledge, skills, and dispositions that make them more or less effective members of their society" (Brim 1966). Influential in anthropology and sociology, it has also had a considerable impact on parts of education, arguably for its resonance with older Deweyan paradigms of pragmatism. These education scholars were in fields of learning and sociology, who understood learning as holistic development; being in school was about both individual cognition and social processes. Educators and pedagogues, in turn, focused not on persons as such, but on students, persons situated in schools or other delimited domains of learning. Regarding how this theoretical framework has been used to understand graduate student education, Weidman, Twale, and Stein (2001) write: "Socialization in graduate school refers to the processes through which

individuals gain the knowledge, skills, and values necessary for successful entry into a professional career requiring an advanced level of specialized knowledge and skills" (p.5).

In this school of research, scholars view graduate student education and training as a developmental process involving the creation of new roles and the grafting of these roles into coherent and continuously growing professional identities. They view it as a form of specialist education that often shifts "existing belief systems, [making the process a] form of resocialization" (Weidman, Twale & Stein 2001, p.97). Scholars understand graduate student education and training as combining knowledge acquisition, investment in the process, and involvement in disciplinary activities. Habitus, or the embodied and tacit set of dispositions students bring to this process, has been shown to greatly impact the success or failure of this process (Rea 2010). This concept, coined by French sociologist Pierre Bourdieu, has gained considerable traction in the social sciences in general, referring to the system of dispositions that potentially generates a wide repertoire of possible actions: "a structuring structure, which organizes practices and the perception of practices (Bourdieu 1990, p. 170). In the field of education, this concept has been productively used to think about how students' social histories (encompassing thoughts, tastes, beliefs, interests, and worldview) and primary socialization through family, culture, and educational milieu come to shape their individual practices.

Academic socialization models have been used to study how medical students develop as practicing doctors or academics (Becker, Geer, Hughes, & Strauss 1961), law schools train lawyers (Kay 1978), and arts and sciences disciplines produce new faculty or researchers (Olson & Crawford 1998). The ideas and insights generated by these studies overlap significantly with communities of practice (COP) approaches to learning (see Wenger 2008), advocating as they do for the use of mentors and authentic participation in the activities of the field. However, the

socialization approach often focuses more on education or training for highly technical and knowledge-intensive professions or domains, and accounts for the structural transformations fields undergo as they incorporate new members (this is the key difference between academic socialization and academic enculturation, which examines what individual students learn to fit themselves into the field).

In writing studies, similar naturalistic approaches to student writing and their socialization have focused more on understanding students' socialization and enculturation vis-à-vis discourse communities (Walvoord & McCarthy 1990.) Prior (1998) has emphasized that the notion of discourse communities is simply not applicable in practice because the concept of community can become too homogenous "or utopian" (Pratt 1987, p. 50) for research purposes. Socialization always involves socialization of the person into complex hierarchies and into domains organized by heterogeneous forces – be they domains of knowledge, skills, or values. Writing is regarded as key to understanding socialization because it either affords such development or is the actual practice through which this process takes place. Summing up his view of the role of writing in socialization, Prior (1998) writes: "In graduate education, [writing] is central to disciplinary enculturation, providing opportunity spaces for (re)socialization of discursive practices, for foregrounding representations of disciplinarity, and for negotiating trajectories of participation" (p.32).

Put simply, the study of writing in the academic socialization of graduate students is crucial because academic texts are "the total work accomplished by the system [and the graduate students who are a part of that system] and how each piece of writing contributes to the total work" (Bazerman & Prior, 2004: 326). Understanding how graduate students in the disciplines become apprentice researchers requires that we examine their academic writing to see how they

acquire competence in their new roles and vice versa – to see, in other words – how the development of new roles and knowledge through socialization also changes the ways they write. Writing is both the outcome of the process and how the process takes places.

1.2.2 Academic Genres: This study's use of the theoretical concept of genre draws mostly from its use in rhetorical genre studies (Bazerman 1988; Russell 1997; see 2.2.). This approach to academic writing or literacies draws from Miller's (1984) definition of written genres as "typified social actions based in recurrent situations" (159). That is, I use it as a methodological means of examining the texts under consideration as literacy events or rhetorical situations that occur regularly and repeatedly during the socialization process. For example, all graduate students are required to master the research article and therefore they are socialized into their disciplines through activities related to its drafting and execution. It socializes the students writing it because becoming competent in the genre also means seeing the text accurately as an activity of communicating knowledge to other members of a field in a collectively agreed upon manner. They have to acquire the knowledge that the text is a "stable for now form" that is embedded in both a "context of situation" and a "context of culture" (Devitt 2010) and understand textual production as effectively making use of the resources at hand in the given academic instance. This approach prioritizes the user's view, how people "classify texts into genres as they use them" (Devitt 2010, p.7). This approach aligns with, and in fact behooves, the use of ethnographic methods that represent the significance of the genres and their meanings for the socialization of the graduate students both subjectively (i.e., the emic view) and holistically (i.e., the etic view.)

The rhetorical approach to genres has prioritized "a functional, pragmatic theory of textual meaning" (Devit 2010, p. 169). As opposed to approaches that prioritized literacy norms

by looking at genres in terms of features, this approach holds that "[g]enres help language users achieve certain aims, fulfill certain functions, perform certain actions, do things with language" (p. 169). This functionality, the achievement of aims, the performance of certain actions, and the doing of things with language and texts, however, are predicated on the notion of the discourse community. That is, these functions take place within the context of a community – bringing up the fact that texts still have to adhere to the norms of the community – and that those texts might not be as functional in the context of other communities; in other words, they might be a genre in other contexts. However, as I mentioned above, researchers who utilize this approach are aware of the complexities of genres and discourse communities in practice; they acknowledge that not all readers of the same genre are members of the same community, and therefore many of them have increasingly turned to the notion of literacy networks to understand academic writing in practice (e.g., Tardy 2009).

The use of the concept of genre to understand texts and language has not been limited to the field of composition or writing studies. It was initially developed in literary studies (Bakhtin 1986; Beebee 1994), and has been most widely employed in the applied linguistics fields of English for Specific Purposes (ESP) or English for Academic Purposes (EAP) (Swales 1990; Hyland 2006) and systemic functional linguistics (Halliday 1994). Despite the different disciplinary foundations of these engagements with the concept, "there is considerable and important overlap" in the way written genres are understood (Freedman & Medway 1994, p. 9). In other words, rhetorical genre studies and these other fields have a lot in common. They all see genres as dynamic literacy forms with textual regularities, on the one side, and social functionality, on the other.

John Swales (1990) was one of the first linguistically-oriented researchers to look at academic texts as written genres, focusing on rhetorical structures, referential behavior, and syntactical and lexical features, such as reporting verbs and their tenses. In the process, he also directly connected his English for Academic Purposes (EAP) research (a school founded in large part on his work) into academic genres to composition studies by drawing on the concept of the discourse community (a term used by Patricia Bizzell to argue that composition should focus on socializing students into an academic discourse community rather than developing cognitive writing abilities) to explain the genres. However, EAP studies have foregrounded the formal features of genres, as researchers have stressed their "generic integrity" (Bhatia 2008) and focused on understanding texts as units of meaning, rather than on how writers are socialized within genres. At the same time, researchers have also acknowledged that the socialization functions of texts matter and that understanding communicative and pedagogical purposes is essential to understanding generic forms.

Unlike EAP research, the systemic functional linguistic school of research has not necessarily limited its studies of genre to written texts. Rather they have looked at the genres as part of situation types (i.e. communicative situations or linguistic action) and part of the potential meaning of given situations. Genres are part of the semiotic structure (a concept which speaks to the notion of language as a system while avoiding its overdetermining structuralism) because much of systemic functional linguistics work has been descriptive (i.e. what a text looks like) or functional (i.e. what the text does). The point of studying academic texts has been to show to people interested in educating students about the genres (literary and oral) commonly used in disciplines and professions, so that they may start to acquire competence in that semiotic repertoire for future participation and interaction in the field. Such studies have not necessarily

provided a critical juxtaposition to those practices, or a way to think differently about communication.

Given the complex application of genres across various fields, in using of the concept of genre to study international graduate students, I foreground academic writing as genre practices. Thus, I aim to combine genre approaches with social practice approaches, understanding academic writing as an activity and a social practice situated in the socialization process, and as a networked activity. In this model, genres function as shared ways of understanding and responding to experience, always situated as practices within networks. Success in the academic discourse communities graduate students aspire to join requires appropriately addressing audiences and acquiring the resources to participate in the networks. Heath (1982) points out that not all of these homes are able to effectively translate the textual practices into school literacy practices and genres. What Heath describes as literacy events in her research could largely be understood as genres of interactions based on literacy practices. What she calls literacy events, I call genre practices in this study in order to incorporate the academic activities graduate students participate in as social practices and events of a broader literacy network, and situated in "contexts of situations" and "contexts of cultures."

Both the activity theory-oriented work of rhetorical genre studies (RGS) and the corpus-based work of English for Specific Purposes (ESP) and EAP have looked at texts in terms of their immediate situations and what graduate students glean from such writing. My study aims to frame understanding of academic genres in terms of academic socialization by focusing on aspects of practices – e.g. strategies, outcomes, affordances, and constraints – over features. It is an analysis of genre that foregrounds how writing academic texts draws involvement and

investment from graduate students. It also views writing as embedded through sets of genre practices in a broader set of simultaneous networks.

1.2.3 Academic Literacy Practices (ACLITS): The third theoretical framework this study draws from is new literacy studies research applied in academic contexts – looking at academic literacies as social practices. This school of research and approach to writing pedagogy has a great deal in common with writing in the disciplines (WID) and writing across the curriculum (WAC), though ACLITS foregrounds a more critical stance to the teaching of writing in higher education. The ACLITS approach is unique in writing pedagogy for its emphasis on dialogue over "the nature of student writing in relation to institutional practices, power relations, and identities, in short to consider the complexity of meaning making" that standard models of writing pedagogy as a part of study skills or a part of academic socialization "fail to provide" (Street 2009, p. 26).

This approach to teaching writing or understanding academic writing draws from the basic and fundamental insight that all forms of literacy must be understood "not as an issue of measurement or of skills but as social practices that vary from one context to another" (Street 2009, p. 21). When teaching academic writing – i.e. academic literacies – we have to understand that reading and writing practices vary across disciplines and stages of socialization, and that the type of literacies required for graduate students to socialize themselves into apprentice researchers in the disciplines are not what we might understand as required for pedagogical genres. To think of writing as transferable even within graduate programs is to slip into a study skills model akin to the forms advocated by widely disavowed "current traditional rhetoric" (Crawley 1998).

Critical scholars of writing (Lillis & Curry 2013; Canagarajah 2013a) have reconsiderd even the more literacy-sensitive approaches advocated by socialization models as inadequate to the actual practices and differences most academic writers bring to the socialization process. They have argued that the socialization process focuses too unequivocally on the acculturation of students into a discipline without accounting for the different goals and divergent practices the different actors bring to the process, and that certain hegemonic and institutional pressures must be explicitly recognized and discussed in academic writing pedagogy and socialization. These theorists have also argued that scholars must foreground and address the fact that literacy in writing research and pedagogy is always contested and rooted in particular worldviews accompanied by a "desire, conscious or unconscious, for that view of literacy to dominate and marginalize others" (Gee 1998). In US composition and writing studies, the contested nature of academic writing has received particular attention from those who adopt a translingual approach to writing, which sees and works with "differences in language… as a resource for producing meaning in writing, speaking, reading, and listening" (Horner et. al. 2011, p. 304).

Advocates of both ACLITS and translingualism are similar in that both see literacies as always multiple and social practices that are sites of contestation between institutional and social pressures, on the one hand, and individual and disciplinary objectives, on the other. The social practice also foregrounds the need to see ACLITS as "networked activities" (Lillis & Curry 2010) and to recognize that different writers in a "literacy network" bring different competencies (this is a major point of my focus on dispositions in Chapter 5.) Given my focus on disciplinary writing and institutional socialization, my theoretical framework draws more directly from the ACLITS approach; however, I believe that the analysis I provide using this model could be directly applied to work connected to translingualism. In particular, I draw from the ACLITS

approach a fundamental view that the literacy practices that make up the socialization and writing activities of my participants must be understood as a form of:

> "practice.., a routinized type of behavior which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge. A practice… forms so to speak a 'block' whose existence necessarily depends on the existence and interconnectedness of these elements." (Reckwitz 2002, pp. 249-250)

Although my study of literacy practices and graduate student socialization does not explicitly address many of these elements of practice that relate to translingualism research (see Jordon (2015) for a translingual treatment of language and communication that foregrounds 'things' and their use, etc.), I still assume that Gunter's and Susan's literacy practices are interconnected to other elements outside their immediately observed domains of socialization (i.e., they are networked to other domains). I incorporate these unseen or distant elements principally through approaching their genre practices and participation in networks as a product of a "habitus [that sees] semiotic production not as the outcome of static norms or pre-given and cognitive techniques, but rather as the effects of the dynamic positions of individuals within a linguistic, semiotic, and conceptual 'market'" (Baynham & Prinsloo 2009, p. 8) and a "set of dispositions" related to literacy practices. Social elements come to be incorporated into their genre practices and literacy networks both in the way they react to others' feedback on specific texts and in the socialization process as such.

1.3 Disciplinary Socialization of International Graduate Students and Writing Studies

This study is motivated by a recognition that graduate student education is a growing part of a globalized knowledge economy; an increasing number of graduate students researchers in US disciplines have international backgrounds. Beyond serving as teaching assistants and research assistants, they go onto become professionals in diverse technical and specialized industries. Having been previously socialized into different social and cultural ethics in their families and schools in their home countries, I would argue, re-socializing such students into the institutional cultures and ideologies of US higher education represents a whole new challenge. Because these students will become professionals in the disciplines, writing studies must seek to understand the role of writing in their disciplinary practices and socialization processes. Unlike the demographic changes higher education underwent in previous decades, these new populations encompass more diverse nationalities (as well as different cultures and genders) than traditional graduate students. This new social wrinkle means these students must adjust to language and cultural differences simultaneously in the socialization process. Given the relative sophistication of the socialization processes of graduate students, researchers of writing must develop understandings of writing in this process beyond mere English language competence, which EAP studies (see Benesh (2001)) have generally focused on, and work to see the process holistically.

In 2013/14 about 329,584 international graduate students were enrolled in US universities, up 6.0% from 311, 204 in 2012/13 (Davis 2016). The majority of these students can be found in STEM fields: over forty percent at the MA level and over fifty at the doctoral level (DeSilver 2015). Because of their transnational backgrounds, these students have to adjust to cultural, social, and legal norms domestic students from previous "demographic shifts" did not

have to (i.e. the working classes and students of color who came into higher education institutions during the 70s were still U.S. Americans.) The fact is some of these international students do not necessarily want to work in US academic disciplines (as academic socialization generally assumes), but might prefer to return to their native countries or other contexts where norms and expectations vary considerably (Smith 1993). Oftentimes these other contexts these students will move into upon completing their higher education means "emphasizing the professional rather than academic" (as is the case in business, engineering, or nursing, etc.) and subsequently pay concomitant attention to non-academic genres and literacy practices, such as the public presentation, than the more scholarly disciplines in the liberal arts generally assumed was needed during graduate student socialization.

Added to this dynamic, scholars in writing studies have recognized the complexity of international student socialization processes and how internationals must make adjustments that domestic students simply do not have to make. Belcher (1994) points out that while disciplinary competence in new members is uniformly lacking regardless of backgrounds, cultural competence vis-à-vis the US higher education context of culture can differ significantly between domestic and international students. Canagarajah (2002) characterizes academia in non-western contexts as organized around "civic consciousness," a culture of seeing disciplinary activities in terms of social relevance as much as disciplinary innovation and specialization (p. 189). Therefore, students coming into US universities from such backgrounds often have to rethink their research situations as they learn "the grammar of the [cultural] context" of US graduate education. They find it incongruous that disciplinary work is independent of the local communities to which the academies and professional fields are connected. The faculties and departments socializing such students often fail to see these culturally modulated views of the

academic profession as meriting intervention or they do not account for the fact that international students might be going to countries where norms and expectations vary considerably from those in US higher education (Weidman, Twale & Stein 2001; Reutten 1998).

In this conversation about international graduate student socialization, my naturalistic study of graduate student literacy practices examines how aspects of socialization help educate students into a US disciplinary context. I present case studies of literacy mediation and sponsorship, and how such literacy networks enable socialization (i.e. what socialization scholars identify as the involvement imperative and COP researchers call participation in activity systems). Gunter's point about his mentor makes it clear that the way graduate students become socialized has a lot to do with the type of social capital they are able to leverage in the process; his point also highlights that substantial parts of this process take place in the literacy networks where graduate students interact with other writers and incorporate feedback.

Case studies about dispositions make up the other aspect of socialization in my study. The way my two research participants approach literacy practices and the socialization process of their disciplines has a lot to do with their individual histories, and how those individual histories situate them in the education process. So, for example, calculations about gender expectations figured in Susan's decision to pursue a PhD in ways that they never really did for Gunter. As a man from Turkey, whether or not he should invest the time in pursuing a PhD in Entomology was not a matter of concern; the question of gender was something Susan had to weigh in her own work, and possibly her choice to pursue a question about gender and political participation in her dissertation. Her own identification may have also created a disposition that hinders her negotiation of the norms of academic genre practices.

Such situated case studies enable me to develop a messy "thick description" of academic writing and its role in the socialization of these two graduate students. This picture suggests a way of understanding academic socialization as a process that does not necessarily differentiate between international graduate students and mainstream graduate students, even when the former are English as second language writers. It shows that aspects of language and literacy are interwoven with disciplinary activities in the process, and best practices for the socialization of international graduate students correspond to what we know about socialization as such. Academic writing, to put it reductively, is not a native language for anyone. Socializing for it works best when new members are afforded scaffolded participation that enables them to acquire knowledge, invest in disciplinary practices, and involve themselves in disciplinary activities, of which literacy practices are particularly crucial. These aspects remain critically important regardless of the fact that my two participants come from linguistic and cultural backgrounds that differ from the mainstream student hitherto assumed as the default postsecondary and graduate student.

1.4 My Investment in This Research

My choice to study the socialization processes of international graduate students in the disciplines stems in large part from the fact that I am a multilingual international graduate student. It can be traced to my realization that graduate students must identify themselves as "anything but students" if they are to succeed in the PhD socialization process (I've often heard that US professors push graduate students to start using first names when talking to faculty because it encourages them to begin regarding faculty as colleagues rather than teachers). My ideas on these matters originated from my experience working as a lecturer and junior faculty member in Bangladesh. Once I became a lecturer, I found myself working with academics who

had been my professor only a few months prior. To do my job correctly, I had to negotiate a complex and dynamic relationship of respect for one's elders and teachers particular to the South Asian context, on the one hand, and the requirements of professionalism, such as enforcing deadlines and peer-review practices, on the other.

The salience of these negotiations of complex identity trajectories in the graduate student socialization process returned to my notice when I worked as a consultant at the Penn State Graduate Writing Center. The students who came to the center regularly communicated issues related their status as liminal subjects: people who are competent in their fields but lack the institutional and disciplinary authority to be considered as such, and the "procedural knowledge" (Giesler 1994) to communicate that expertise adequately in textual forms and genre practices. In terms of research competence, I found that these graduate students had the characteristics of what sociologists, Harry Collins and Robert Evans, refer to as "proficient contributory experts" in their work (in contrast to the unqualified "contributory experts" of early career researchers with doctorates and with some professional experience in the field) (Collins & Evans 2007.) David Russell (2002) also recognizes the categorical nature of the distinction between PhD candidates and researchers when he says that the term all-but dissertation (ABD) is an implicit recognition that the dissertation is ritualistically fundamental to the socialization process; completing it signals a level of interactional competency and authority aligned with membership but not fundamental to the explicit knowledge of the field's subject matter that all members must possess.

Consequently, the most significant writing-related issues graduate students who came to the center regularly communicated to me related to such 'tacit knowledge" (Beaufort 2007.) They discussed their difficulties understanding academic genres as professional disciplinary texts

mostly related to contexts and networks outside the classroom and seeing them in terms of academic situations (i.e. grants, research papers, teaching or research philosophies, etc.) and practices. In describing the problems of writing instruction by members of specific disciplines (which is what graduate students at the center were getting in their graduate classes), Beaufort (2007) points out that they often fail to explicitly explain the work a text is doing and how it is doing it because such literacy practices become "tacit knowledge" for them during the extended time they spend as professionals who no longer have to learn new genre practices. Even issues directly related to language, such as shuttling between active and passive voice based on genre, were often about issues of the larger situation, and developing such writing competence meant socializing into the disciplines in ways debating the assumptions and distinctions that make up academic literacy practices.

My own intellectual disposition—my curiosity about what makes experts—also fueled my interest in my participants, how Gunter and Susan could become fully accredited members of their disciplines. I have been interested in this question ever since encountering the work of C. Write Mills and Timothy Mitchell early on in my PhD studies. Moreover, I have studied in English departments for over a decade and reading postcolonial and social theories has inculcated in me a critical attitude and a propensity for abstract debate. Put simply, I believe understanding the socialization processes of the apprentice researchers studied here will help me to understand how they become authoritative and how they become academic authors. Michel Foucault (1980) points out that the name on a printed text represents not simply an author, but also a function: "The author is … the ideological figure by which one marks the manner in which we fear the proliferation of meaning" (p.113). In my mind, Foucault's argument about literary authors applies to disciplinary authors – i.e. academics – as well. The fact is that publication in a

research journal signals expertise and institutional undersigning meant to allay concerns other members of the discipline might have about a given researcher. Socialization bestows the academic or other literacy practices of graduate students with legitimacy by signaling to other members of the discipline that the latter can be considered apprentice researchers – i.e., somewhat authoritative – because they have been trained in the knowledge and practices of the field by the "old-timers" and have received institutional accreditation. Publication signals a similar legitimacy, indicating that the graduate student has undergone the peer review process and has been able to communicate his or her competencies in disciplinary knowledge and practices through the negotiations and activities that make up the publication process. Socialization and publication activities are also increasingly overlapping as disciplines now expect graduate students to have published during their graduate programs.

Gee (1989) points out that membership in specific communities is fundamental to being literate in modern society. Literacy is "control of uses of language in secondary discourses…developed in association with and by having access to and practice [with secondary institutions]" (Gee 1989, p.5-6). It seems to me that being a competent a researcher and writing as a competent researcher in the disciplines thereby corresponds to this sense of control over uses of language in the disciplinary domain. Academic authority and professional literacy cannot happen without this sense of linguistic control. My interest in understanding how students learn to become literate in their disciplines thus serves as a way of thinking about what expertise and authority distinguishes the apprentice researcher from the graduate student as such, and what literacy networks can tell us about this distinction. Given the firmly entrenched view of expertise as individual, specialized, and technical competence, I also want to question how such cultural views can make socialization of internationals into US universities more difficult.

The training of academics and researchers in higher education is widely regarded as exclusively about fitting new members into narrow specialized academic and industrial fields and reproducing the fields as such. This can confound students who see a higher degree as part of the process of learning to become an intellectual, a citizen, or a member of a bureaucracy. Graduate students might sometimes find that the process of graduate education as a highly specialized training in a self-contained field does not resonate with their own goals, or they might misinterpret the goals and expectations of graduate student socialization (having been in higher education contexts that value civic consciousness) as general academic socialization during the crucial early stages of the process. Divestiture in early stages, possibly stemming from such misunderstandings, can severely constrain graduate students' advancement in later stages, as they must play catch-up for the remainder of their programs. As an international graduate student, I initially found the representations of disciplinary contribution too esoteric and I believe many internationals often also find such disciplinary specialization grating. Coming from cultures where academics and researchers have a large footprint in social discourses more tied to social impacts than pure academic value means international students like Gunter possess a habitus that prioritizes a social disposition that values public communication interactions. As I show in 5.2, this disposition has greatly impacted his overall disciplinary socialization process into the US culture and communicative competence as such.

1.4 Breakdown of the Chapters

This study is broken into six chapters. Chapter 2 reviews the literature examining how texts and writing are understood in the disciplines. It is broken down into text approaches, ethnographic approaches, and power sensitive approaches to understanding academic genres and literacy practices in the disciplines. I end the chapter discussing how the current state of research

on the topic still merits more naturalistic studies highlighting how literacy networks and dispositions can shape literacy practices and the socialization process as such.

Chapter 3 lays out my research methods and methodology. It provides details about the participants, Gunter and Susan, and methods of data collection, including lists of interviews and field recordings with the participants and the memos I drafted during the course of my study. I also provide small details about each of these datasets – including, for example, the general content of the interviews and memos. I also provide lists of the genres collected with their original names (name and date) and the way I name them in this study. I conclude the chapter by discussing how my methodology represents a form of reflexive ethnography, connecting my triangulation and "constant comparative" (Heath & Street 2008) with my own subjective reflection as a researcher and fellow multilingual international graduate student.

Chapter 4 presents a case study of literacy mediation in the genre practices of Gunter and Susan. I apply the concept of literacy sponsors to show how certain institutional activities in the lab and the classroom represent the literacy networks of entomology in ways that have become foundational to Gunter's view of writing in the discipline as transactional and functional. I also show how pre-submission feedback socializes Gunter into the collaborative norms of the discipline and illustrate a practice of "concerned interventionist" feedback (Curry and Lillis 2016), which sees language work as a collective endeavor and writing competence as a networked phenomenon. I finally show that Gunter's socialization benefits significantly from co-writing with his PI and another expert in entomology. He learns about the distinction between professional and pedagogical genre practices through the changes his PI makes to the text of a review literature to make it a review article. These changes represent a form of "literacy brokering" (Lillis & Curry 2010), which aids in the recontextualization of a pedagogical genre

practice into a publication genre practice. I then provide a picture of literacy mediation in Susan's socialization to show a contrastive picture of feedback from her advisor and other members in political science. Such practices, representative of what writing studies would normally regard as academic socialization into disciplinary norms (i.e., individual activities for acquiring knowledge of discursive norms rather than explicit involvement in authentic activities through scaffolding practices.)

In chapter 5, I discuss how a translingual disposition affords or constrains Gunter and Susan's academic socialization through literacy practices and participation in networks. In the first part of the chapter, I focus on Gunter's progressive social values and how he engages in civic oriented and non-academic literacy practices during his graduate socialization. In the second part, I discuss how the literacy practices in Gunter's academic genres rely on a collaborative disposition. His use of communicative strategies, such as confirmation checks, to maintain negotiational norms between himself and his collaborators evinces the collaborative disposition producing such practices. More importantly, I show that collaboration and interactions across multiple networks enable him to produce new knowledge and understanding. The third part of the chapter considers Gunter's functional – rather than formal – approach to communication. This functional view of communication also manifests in Gunter's openness to using multimodal literacy practices, which align with the norms of scientific communication. I end the chapter by providing an example of the frustrations Susan faces in trying to develop a case selection rationale during in her dissertation and research genre practices; I suggest that the constraints she encounters stem from the normative context of the disciplinary field and her own language ideology. She winds up believing that certain literacy practices of the discipline simply cannot be negotiated and academic socialization means accepting them.

In the final chapter I recap the findings of my case studies, explaining what they tell us about academic and extra-academic literacy practices, and how they fit into the academic socialization of graduate students. I discuss the implications of regarding academic literacies and genre practices as fundamentally shaped by literacy networks and dispositions for students who are transitioning into apprentice researcher roles. For these liminal subjects that must signal expertise in specific domains even as they work to acquire experience and competence in other domains during the socialization process, what does it mean to write? I also discuss how, through their mentors and sponsors, international multilingual graduate students come to be socialized in ways drawn not just from the norms of their disciplines but the norms of the disciplinary culture in the US context. I conclude with a short discussion of the ways writing studies can intervene in the academic socialization of graduate students to foster reflexivity in the process and thereby reveal the networks that compose it, and how work in graduate writing centers and writing groups can be leveraged to facilitate this process. Writing studies must be part of a general higher education-wide initiative to address the needs of graduate students, regardless of their national origins and linguistic backgrounds; furthermore, we must take to heart the Council of Graduate Schools (2010) *Ph.D. Completion Project's* recommendation to provide graduate students trained writing support that can both reduce attrition rates, and enable research and socialization as such.

Chapter 2: Literature Review on the Role of Writing in the Academic Disciplines: Textual, Ethnographic, and Power Sensitive Treatments of Literacies in the Disciplines

> Since I'm a foreigner I do get feedback from native speakers. They bring language expertise and I lack that. For the publication thing, I need experience in publishing. (Gunter, Interview, May 30, 2015)
>
> To be honest, if I really had an issue with my English it was never brought up in my last six years [my advisor and I] been working on things together [in my PhD]. But all of a sudden, at the end, she said that I should hire someone for my language issues. I was a little offended. (Susan, Interview, August 25, 2016)

2.1 Introduction

Gunter has a self-assurance rare in PhD-students and carries himself with the alert confidence of a person who loves what he does. This distinction is especially clear when I compare him to Susan, a PhD student in political science, who more clearly conveys the insecurity and uncertainty often regarded as the common condition of graduate students undergoing socialization (see Weidman et. al. 2000). Given his self-assurance, we can assume Gunter knows what he is saying when he claims the best feedback on articles comes from those with publishing experience. Also noteworthy in Gunter's comment about feedback from native speakers is his conflation of an international identity with English as a foreign language. His description characterizes English as a country and native speakers are citizens. In other words, when he says he gets feedback from native speakers, he recognizes that doing so enables him to better traverse the foreign terrain of the academic situation – unfamiliar to him, as a graduate student and native of Turkey, in both language and culture. He does not view publishing in

similar terms, however; he characterizes it as a comparatively more professional domain of practice where expertise is acquired through prior experience.

What are we to make of such a view of language and scholarship in the disciplines? Do Gunter's interpretations of his social capital and writing situations correspond to scholarly views of graduate student writing? Could I advise Gunter that he should do otherwise when asking for advice from mentors to best facilitate his academic socialization? For example, when asking for feedback from more experienced academic writers on his drafts, he could also ask them to explain the way their articles state their niche or research gap. Similarly, in relation to language expertise, rather than asking for feedback related to grammar or idiomatic expressions, he would also get more from readers if he simply asked if his arguments were clear (the principle of "Would my mom understand this?"). In comparison, what are we to make of the general sense of offense that Susan communicates in her view that the recommendation to use an editor had something to do with her L2 identity rather than developing a literacy network?

This chapter will provide an overview of the scholarly conversation in writing studies related to these topics. Whereas advocates of English for Academic Purposes (EAP) or English for Specific Purposes (ESP) have produced considerable literature on academic English and disciplinary functions, I believe that by focusing on language competence – i.e. English – they have tended to background rhetorical and literacy understandings of academic socialization, which I believe necessary to understand Gunter's (and comparatively, Susan's) socialization through writing and literacy activities. I focus explicitly on writing, following Brandt (2015) in arguing that writing is the "literacy experience of consequence" (p. 3) and seeing it as a "networked activity" (Lillis and Curry 2011). This approach singularly foregrounds a collective and translingual notion of writing competence, especially in the context of the knowledge

societies that the domains of academic disciplines and US higher education, in particular, represent.

The first part of this chapter explores the relevant research carried out on this topic through a text-focused approach in writing in the disciplines. I show that the rhetorical genre approach these studies employ presents a view of academic literacies and writing in terms of "typified rhetorical actions." Scholarly genres are situated and dynamic literacy practices that graduate students and new members might struggle to master not because of a lack of writing or language competence, but because they lack sufficient experience. I subsequently discuss a selection of relevant ethnographic approaches to the academic socialization of writers that focus on experiences in academic communities and interactions with more experienced members. These studies provide a compelling argument that graduate students' practices in the disciplines are intimately connected to prior educational experiences and everyday practices. Learning to write and becoming members of disciplines are complex processes of identity development spread over multiple domains, spatially and temporally. Finally, I provide an overview of power-sensitive scholarship on academic literacies and academic socialization, broadly motivated by the new literacy studies agenda of recognizing structural inequalities masked as language issues in academic literacy practices. More internationally grounded than the previous two bodies of research, this final list of scholarship illustrates literacy practices and academic activities does not assume US-centric approaches and therefore better recognizes the global academic situation into which international graduate students are socialized.

I conclude this chapter comparing the general themes and findings of the significant studies presented in the various sections. The picture I present highlights the need to examine two facets of literacy practices and the socialization of apprentice researchers. The first, in line

with the call made by Lillis and Curry (2010), is empirically-based studies of academic literacies (what EAP has called high-stakes genres) as networked social practices that push back against notions of individual writing competence. I believe the views of graduate writings reviewed here generally come from studies of activities situated within the overall education process and how individual writing competencies are developed through this process (see, in particular, my recapitulation of Prior (1998) and Casanave (2002) in 2.3).) Few studies, to my knowledge, have talked about academic socialization in terms of the literacy mediations apprentice researchers undergo through involvement in the literacy networks of collaborators and support systems. We have to ask how mentors specifically factor into the literacy practices of apprentice researchers and, by extension, how can we come to identify their importance. What sort of practices foster good graduate student mentorship? In other words, how can we begin to think of academic socialization and literacy competence not solely as the obligation of the apprentice research or scholar and recognize that "it takes a village" to enable writers to become competent in their disciplines' repertoires of literacy practices?

I believe my ethnographic and naturalistic case study on this topic (in chapter 4), focusing on a multilingual graduate student, Gunter, and using another, Susan, as a point of comparison, and grounded in both "text-oriented ethnographies" (Lillis & Curry, 2010) is useful in answering such questions. Along with extended observations and interviews conducted throughout the research process, the entextualization of textual interactions, diverse modes of literacies, and multiple drafts in advanced academic literacy practices offers a significant set of data for me to examine. The data provides a fact-based understanding of the various social and contextual elements that mediate the academic writing of multilingual apprentice researchers as they develop their texts. Not only do phenomena like literacy mediations reveal entextualizing

practices in both publication and socialization, it also foregrounds the fundamental function of feedback and social capital (i.e., literacy networks) in the writing of standardized English texts by apprentice researchers (Prior 1998). This phenomenon simply is not visible if we only examine such genre practices in their transactional – i.e. published or submitted – forms or view literacies in terms of individual competence.

The second facet of graduate student socialization through literacy practices that I consider has to do with the ways dispositions shape the practices in and outside the academy. As the studies below illustrate, advanced genre practices such as articles for publication elicit greater investment from graduate student writers (Tardy, 2006) and, in producing them, they learn to write for the general field rather than necessarily focusing on what is of interest to them. I believe these practices are structured by the dispositions, or habits of mind, the writers bring to them—dispositions which, for multilingual writers, Canagarajah (2013b) has termed translingual dispositions. In my view, we therefore need to consider how such dispositions facilitate and constrain the socialization of apprentice researchers in the disciplines. To ignore writers' dispositions is to ignore the very capabilities that animate their literacy practices.

To this point, research on dispositions (Leonard, 2014; Canagarajah, 2013; Lee & Jenks, 2016) simply has not examined writing in the disciplines (WID) or the writing of graduate students – I do not mention these previous studies in the subsequent sections for this reason. As such, the ways dispositions affect disciplinary literacy practices and their role in academic socialization remains unexamined. In my view, a translingual disposition for co-operative communication is at the core of Gunter's practice of drawing different feedback from different types of people. Without seeing it as a part of his understanding of communication activities (in this case academic writing) as something done with others, we risk not seeing his agency and

ownership of his writing when he calls native speakers language experts. We risk thinking that he automatically defers to feedback on language and argumentation on a topic he has expertise in solely because he does not see himself as a L1 writer.

2. 2 Text Focused Understandings of Disciplines Writing

A significant body of research with a text focused understanding of academic or disciplinary writing has taken a rhetorical genre approach to understand academic literacies and their role in phenomena like academic socialization. Initially aligned with the cognitive models dominant in composition in the 1970s and 1980s, some researchers in WID came to view academic texts and genre practices as "literate activities" or the typified rhetorical actions of their disciplines. Furthermore, within this contextual approach to writing in "historicized" disciplines, academic genres were primarily seen as transactions between the various stakeholders; they were constitutive (Bawarshi, 2000) and communicative, rather than the *belle lettres* genre of the academic essay (Russell 2002). Put simply, academic genres represented distinct rhetorical situations – with the writer, reader, exigence, and language all functioning together to constitute knowledge (this is the main difference between rhetorical genre studies and the formal approaches to genres taken by EAP.) The text's function in training or socializing members operated, therefore, in terms of this general role of facilitating the activities of the disciplinary field.

Bazerman's (1981, 1988) seminal works in this area of research and also illustrate how "textual analysis" (1981) evolved into rhetorical genre approaches. In his early work, Bazerman (1981) looks at the academic genres of scholarly articles in physics, psychology, and literary criticism using textual analysis and argues that their textual forms emerge situationally, at different developmental moments. Drawing on Miller (1984), he subsequently conceptualizes

academic texts as the social actions of particular disciplines. Bazerman's (1988) mapping of the APA citation manual's growth from a six and half page list of recommendations into a 132 page-book demonstrates the historicity of the disciplinarian genres *vis-a-vie* their conventions. The codification of citation-practices brought consistency and reliability to the disciplines in the social sciences. Standardization was crucial to facilitate communication within and across the disciplines of the social sciences as they matured and sprawled. In response, the list of recommendations initially aimed at psychologists was collectively expanded to address the needs of other disciplines and made a required practice for scholarship. This also legitimized it as a (social) science, which had espoused a standardization of methods since the days of Isaac Newton and Carl Linnaeus and where successful socialization ensures that the academic "author becomes a follower of rules to gain the reward of acceptance of his results and to avoid the punishment of non-publication" (Bazerman, 1988: 272).

Bazerman (1988) extends the point about genre forms developing historically into a commentary on scholarly literacies and genre practices in terms of their contemporary disciplinary contexts. That is, since previous forms such as the research article developed in the situational contexts of their times, it is safe to assume that, as situations change, the forms continue to develop. One feature being its function as a site not "defined by a structured arrangement of textual features, but a sociopsychological category which [the members] use to recognize and construct typified situations" (1988: 319); academic genre practices are transactions made-up of the languages, values, motives, and methodological imperatives of the disciplines. Extrapolating his thesis, one could argue that academic socialization through literacy practices involves understanding this practical role of texts in the academic network of activities. In a mature hard-science discipline such as physics, for example, the article serves as an

antagonistic text where "each player – seeing the moves of the others – makes countermoves attempting to defend his position and to eliminate his opponents from the field" (1988: 131). The intensity of scholarly competition in physics means that its tone is adversarial, its language designed to defeat potential critics. By comparison, the psychology texts Bazerman (1988) examines – written when the discipline was still maturing – evidence a "cult of empiricism" with "limitations of allowable questions, method, and data." Similar to the APA citation manual, the development of literacy practices shows a distinct ordering of disciplinary norms. The literature review, for example, is both a formal requirement of the text, and a sociopsychological site signaling socialization and participation in the legitimization of disciplinarian literature. An appropriate literature review section shows that its writer is sufficiently literate in the knowledge of the field and also espouses that knowledge. Legitimate knowledge or disciplinary literature is therefore a body of texts created through such rhetorical iterations organized around features like "the object under study, the literature of the field, the anticipated audience, and the author's own self" (Bazerman, 1988: 24). When new members are socialized into the disciplines, it follows that they must exhibit competence in both content and the capacity to reproduce legitimate knowledge.

Analyzing biology texts, Myers (1985, 1990) elaborates on a rhetoric of academic genres and literacy practices through discussions of the ways negotiations between readers and writers impact the articles and the persona presented to produce "the cultural authority of [scientific] knowledge" (Myers, 1990: ix). In other words, these works reiterate Bazerman's (1988) point that disciplinary texts act as typified social action through their attention to the aspects of audience response and authorial ethos. These studies indicate that negotiations about research saliency and arguments being asserted are carried out indirectly through discussions over form –

i.e. word choice – between the writer and peer reader, and such interactions have significant implications for the ways disciplines circumscribe knowledge. Myers (1990) shows that reviewers recommend that authors reconsider using evaluative phrases such as "well defined," "speculative," or "highly significant" in relation to a given body of literature, and such suggestions push for navigate refutations of published scholarship so that the standard body of literature continues to be recognized. In effect, it is "the literature of a scientific field reproduce[ing] itself even in the contributions of those who challenge some of its assumptions" (p.67).

In his analyses of the grant proposal genre, Myers (1985, 1990) examines persona and its connection to authorial ethos. Through the persona (what literacy practices scholars term "discursive identity"), grant proposals situate and signal the expertise of the researcher. Myers argues that disciplinary expertise in the genre is communicated through a positioning of the researcher and the research question in terms of the scholarship of a particular field (1985: 221). In other words, the researchers' authority or ethos is articulated by the writer's connection to disciplinary knowledge and texts. When the researcher is an expert on the topic, her position manifests in the literature review and the citations to her work in the review. When the researcher or research is new to the field, Myers (1990) finds that researchers use the proposal to overcome their deficit position by rhetorically positioning the "new idea within a new context," which connects the research question to multiple fields, and subsequently underscores the researchers' expertise "in one of the fields or redraw[s] the field around that work" (p. 42).

Building on these studies of disciplinarian texts and literacy practices by foundational authors or experienced scholars, Blakenslee (1997, 2001) uses rhetorical genre approaches to study how academic writing enables learning through "cognitive apprenticeship." These studies

foreground the notion of rhetorical audience to show that advisors and disciplinarian hierarchies substantially shape and mediate graduate writing practices related to publication. Blakenslee (1997) illustrates that, through their interactions, a professor, Swenden, and his advisee, Bouzida, continuously navigate issues of social hierarchy, pedagogy, and membership to discourse communities; their interactions thus represent learning through involvement and investment in the disciplinary context of situation. Bouzida writes with his advisor as the primary audience rather than the disciplinary field, as such, even when drafting scholarship for publication. In response, using feedback that is "suggestive and unelaborated" and rarely "fully explicit," Swenden tries to extend Bouzida's conception of actual readership to the salient field (1997: 134). Swenden deliberately chooses this approach: he wants his advisee to use his suggestions to work out the answers himself. However, this strategy makes it difficult for Bouzida to understand Swenden's expectations for the writing and identify his audience. In other words, Bouzida cannot participate effectively in the rhetorical situation and perform academic literacy practices appropriately. Graduate writers' need for prescriptive feedback becomes a catch-22 for graduate education: direct expert advice provides a clearer path to genre participation but also potentially undercuts the development of scholarly competencies (Blakenslee, 1997: pp.167-68.)

Blakenslee (1997, 2001) argues that audience-awareness is fundamental to graduate students' scholarship, and is one key distinction between graduate writing competence and expertise. Bouzida's academic literacy practices as an apprentice researcher reveal that he is interested in presenting what he finds interesting rather than trying to understand how "it might not be interesting or novel to the members of his [expert] audience" (2001: 91). Such competence is the knowledge of the full-member, Blakenslee (2001) concludes, and can only be acquired through extended participation in the discipline. Bouzida can only develop this

competence as he becomes capable of assuming the role of "self-identified [expert] interlocutor." However, as Blakenslee (1997, 2001) also shows, such practices of "cognitive apprenticeship" (also explicitly covered in Belcher (1994, 1997) and Poe, Lerner, & Craig (2010), treated respectively in 2.4) are complex and often contradictory, and can truncate the development of graduate writers. Participation in disciplinary communities leads in multiple directions and students' own attitudes towards academic discourses and practices often inhibit them from embracing the extended involvement and investment they need to develop as scholars.

The issue of language difference – implicit in Bouzida's multilingual and international background (Blakenslee 1997, 2001) – becomes an explicit topic in understanding advanced academic literacies and academic socialization in Tardy (2005, 2009). Her ethnographic studies of multilingual graduate students participating in the advanced academic literacy practices find that genre practices represent key sites of rhetorical knowledge and language acquisition. She shows that these authentic interactional activities of the field are more conducive to learning because they elicit more investment from the graduate students, enabling a more fundamental restructuring of rhetorical knowledge and genre competencies. In one example of a multilingual graduate writer writing a thesis (Tardy, 2005, 2009), the extensive feedback received from the advisor and use of models acquired from more senior students in the program enable a rethinking of the genre and the introduction in particular. The writer initially sees an MA thesis as solely communicating his knowledge about the field and topic (i.e. both are external objects). The literacy practice of writing it – the continuous drafting and redrafting, and the incorporation of feedback, etc. – forces the writer to recognize a rhetorical situation where "the reader [had to be persuaded to] be interested in the logic of the thesis. It was about convincing them that [his] experiment was important to understand this new technique" (Tardy, 2005: 332).

The advanced academic literacy practices of another student, Chatri, suggest that disciplinary texts can facilitate understanding of the disciplines as local domains of knowledge through textually illustrating rhetorical situations: "the research genres came to be seen as central to disciplinary knowledge construction rather than knowledge communication" (Tardy, 2005: 336). Students acquire this perspective by engaging in literacy practices related to academic genres and reading models of published work (Li (2006) and Li & Flowerdew (2007), covered in 2.4, also find the same practice as common among the academic writers from Hong Kong who they study) in collaboration with experts and mentors. Published papers are read as instructional models with help from literacy sponsors; from them, Chatri learns to pick out "phrases and learn about how reviewers might respond to such persuasive strategies" (Tardy, 2005: 337). This perspective does not develop smoothly, however; like all language acquisition processes, it has to work through contradictions. Chatri initially struggles to effectively voice direct claims using "boosters" and "hedges" in ways advised by his mentor, a postdoc. He begins to internalize the discursive styles only after repeated practice and subsequently Chatri feels comfortable using those rhetorical devices in his own literacy practices. That is, Chatri has to keep practicing disciplinarian literacies until he develops the "critical genre awareness" (Devitt, 2002) to generatively synthesize tensions between his own identity and "the values and practices of the community [he] was joining" in a given rhetorical situation (Tardy, 2005: 336; also see Casanave, 2002 in 2.3). Successful graduate socialization and acquisition of literacy competence in this process require both sponsorship and student perseverance.

If these works on academic texts focused on the rhetorical dimensions of a discipline, Berkenkotter, Huckin, and Ackerman (1988, 1991), written a decade earlier, added sociocognition to such discussions. In their case study of a PhD student in composition, Nate,

they argue that the texts he produces are the "visible index of his initiation into an academic discourse community" (Berkenkotter, Huckin, & Ackerman, 1988:11). Looking at the discursive and stylistic struggles Nate continues to face even as his writing shows competence in discipline content, they argue "conceptual" or "declarative" knowledge does not mean that the graduate student is a legitimate member of a discipline. Analyzing Nate's texts, they show that he only gradually comes to produce work that applies the discipline's discursive norms, expository patterns, syntactical complexity, and that avoids hyperbole and minimizes personal pronoun use.

Yet, at the same time Nate's texts evidence problems producing disciplinary cohesion, and Berkenkotter, Hukcin, & Ackerman (1988) argue that this signals his lack of competence in procedural knowledge long after he is fully literate in the methods and techniques of composition. In other words, linguistic or social competencies do not automatically guarantee competence in a discipline's literacy practices since the latter requires its own situated practices. Disciplinarian enculturation does not automatically translate into "procedural" knowledge, and members of the field must be competent in both.

These difficulties suggest that procedural schemata develop through dynamic processes grounded in a writer's history, and are not accurately seen if the texts are understood purely in terms of disciplinarian enculturation. Berkenkotter, Huckin, and Akerman (1991) argue that transitions from one context or knowledge domain – whether an undergraduate program or a profession – into another involves transitioning from one culture to another, and literacy practices, and the mental schemas they reflect, do not transfer automatically across them. The disciplinarian background of Nate's undergraduate education in the humanities does not mean he is able to easily pick up and master "the conventions and language of social science reporting" needed for socialization by an apprentice researcher in composition (1991: 211). Yet, he is able

to draw on his experience as a composition teacher to learn formal genres of social science writing. He draws on the informal notes to himself and memos to professors to generate ideas and synthesize contradictions between his person identities and motives and those of the discipline. In other words, Nate is shown to possess a habitus wherein he can "adapt [his] discourse as the situation requires" and draw on his "previous writing community of friends and teachers [or social capital]" (p.212), to produce practices that bolster his classroom instruction and graduate student socialization.

As shown above, studies of academic texts utilizing a rhetorical genre approach enable us to understand academic texts beyond their formal features. By viewing academic genre practices in terms of typified rhetorical situations, these studies open up ways of accounting for literacy practices as historicized sites of social transactions and learning. We now understand that both traditional and multilingual graduate writers, must gain competencies in tacit disciplinarian and rhetorical practices, in addition to acquiring content knowledge, during the socialization process if they are to learn to write as experts. They cannot simply learn the forms, but must intuitively see them historically and transactionally. Literature reviews, for example, must function both in terms of transactions (provide something to the reader) and performativity (signal membership to the community). As Devitt (2010) points out, however, genre-based approaches do not allow the devotion of sufficient attention to the ways culturally shaped competencies impact writing practices. In other words, genre approaches to studies of academic texts have yet to sufficiently deal with the "context of culture" writers bring to developing texts. An emic-perspective is needed to highlight this aspect of socialization, which might show how literacy practices negotiate forces and elements outside the writer, especially when the writer is multilingual and

international. The interactionally focused research covered below has provided such pictures through their ethnographically grounded studies of academic socialization and writing.

2.3 Interactionally Focused Studies of Disciplinary Writing

Research into how academic and disciplinary writers learn disciplinary practices through interactions with other – often more experienced – members of their disciplines provides a picture of academic language socialization with an emic-understanding. Academic writing, however, has generally been of secondary focus in the majority of this research, which primarily aims to understand the overall "development [of the graduate student] as culturally situated, as mediated, and as replete with social, cultural, and political meanings in addition to propositional and ideational meanings carried or *indexed* [sic] by various linguistic, textual, and paralinguistic forms" (Duff, 2010: 172). Studies adopting this approach have drawn heavily on ethnographic techniques in applied linguistics and education, and the use of these genealogies (for lack of a better word) means that they look at academic writing (the form that Duff (2010) refers to) with diverse theoretical frameworks, ranging from activity theory to communities of practice (CoP). Such studies have also given more intent consideration to academic writings in English by multilingual writers than the textually focused studies discussed in the previous section (aside from Tardy 2005).

Prior (1997, 1998) uses activity theory to address questions of academic socialization similar to Berkenkotter, Huckin and Ackerman (1991), with a view of discourse communities as activity systems, or "disciplinarities." Activities, or "object-directed, tool-mediated" interactions (Russell, 1997), reveal themselves in these studies as particularly useful for describing the complex actions that surround and mediate graduate writing, and Prior (1997, 1998) notably finds that graduate students draw heavily from prior activity systems (e.g. schools) to understand

professor's guidelines for disciplinary literacies and involvement. In other words, they draw from what they learned in those literacy networks as social practices to participate in new literacy networks. Given the differences between schools and research disciplines as activity systems – school is about what John Dewey famously termed "social processing" whereas research disciplines are about producing new knowledge and knowledge professionals – such strategies of interpretation often lead students to misrecognize the expectations of academic practices because they are different social spaces. Put simply, writing as activity complicates understandings of academic writing transfer from one classroom to another as part of discrete rhetorical situations by highlighting that a reading of an instructor's expectations for a given genre practice draws on knowledge connected to prior experiences. This argument recognizes reading as fundamental to graduate writing and research production (a point fundamental to the academic literacies model, such as has been spelled out in Lea and Street (1998, 2006) or Russell, Lea, Parker, Street, and Donahue (2009)) and graduate student socialization must recognize this if it is to help students write better.

Prior finds that academic socialization happens primarily through participation in academic and non-academic activity-systems, with graduate students continuously "laminating" education and everyday life. Prior (1997) says this is what he means when he terms academic writing as disciplinarities, "the ongoing, mediated constitution of a kind of sociomaterial network" (p. 277), where literacy practices and academic socialization is simultaneously situated in the multiple every day and disciplinarian activities of the stakeholders and literacy networks. This manifests in the case of a writer in a PhD sociology class, Lilah, who gathers information for a seminar project at a local restaurant she frequents. Doing so she connects everyday practices with a research activity. In the text she produces for her final project, therefore,

multiple micro and macro level cultural and historical contexts are "laminated" in complex, impalpable ways.

What these studies term "chronotopic lamination" and what I refer to as entextualization in chapters 4, 5, and 6, explains that writing academic texts is a form of academic socialization, but within "the specific nature of those appropriations, their contextualizations, and their consequences differed along multiple dimensions" (Prior, 1998, p. 277). The graduate writer, carrying out her research and writing outside of the academy, laminates everyday practices with academic activities. In doing so she also extends the situatedness and reiterations of academic discourses and connects multiple networks. Rather than leave academic activities in the university, the graduate writer continuously laminates activities in multiple "timespaces" and this makes the discourses associated with those activities internally persuasive. In other words, academic literacy practices make disciplinarian literature become inner speech. As they put together projects, cite literature, fit findings into the discourses of the field while, for example, eating dinner or doing laundry, they internalize the disciplines they are being apprenticed into and disciplinarian activities come to socialize them.

Even as they can be laminated, activities also conflict with each other. Graduate students must negotiate contradictory goals and situational hierarchies continuously, usually sacrificing their own interests to those of the discipline (the issue of hierarchy is where discourse communities falls apart as a way of understanding graduate student socialization because it sets up asconceptually too utopian, to paraphrase Pratt (1985)). In one example of such a conflict, Prior (1998) discusses Han, a multilingual PhD student, writing a research proposal for a class as "groundwork for her actual dissertation… [which means she does not] optimize her performance in the seminar" (p. 62). Han's lamination of this genre practice into the genre-chain of her

dissertation shows that she comes to it with different intentions than those typically associated with a pedagogical genre practice. Perhaps concerned primarily with completing her PhD within the time allowed by her F-1 visa designation, Han's performance pushes against a process of socialization through immersion in the multiple activity systems of the classes of her program. Prior (1998) suggests that Han might have thought that it would be acceptable to write the class assignment as a "working-draft" of her PhD research proposal, assuming that the class instructor would be satisfied with a "work in progress" text for the assignment. Her final grade and the feedback on her assignment laying out the "problems with the proposal suggest[ing] that she had not taken up the task he intended" (p. 62), however, suggest otherwise. Like Bouzida's confusion over Swenden's expectations, Han needed the expectations of the writing situation and genre to be explicitly elaborated.

Casanave (2002) employs the metaphor of "writing games" to foreground the complexity of academic socialization and how certain identities are positioned in this process. Approaching the question using a "general theory of practice" (cf. Bourdieu,1990), Casanave (2002) emphasizes how academic literacies consist of "rule- and strategy-based practices, done in interaction with others for some kind of personal and professional gain" (p. 3). They are games with serious stakes: professional training, educational success, and knowledge creation. A way of looking at socialization that highlights it as a social practice, where "learning to write is as much a localized social and political as a cognitive activity" (p. 2). A concern for identity in the social practice model, she argues, accounts for language differences as salient analytical concerns, but does without assuming native language speakers or L1 writers have *a priori* advantages in the socialization process or discounting the context of culture (something that translingualism has foregrounded in composition and language studies.)

In one analysis, Casanave (2002) presents a case of truncated socialization: seeing "the game," a graduate student in sociology "decided she did not want to play, and thus moved on" (p. 150). Virginia, a non-traditional graduate student, cannot align the specialist and disciplinarian language used by sociologists with the "populations she wished to communicate with at home and in future work: women, ethnic minorities, educators in racially and culturally mixed neighborhoods" (Casanave, 2002: 161). Such inability to align her own goals and those of her future role as a disciplinary member bifurcated her "academic life… from her personal life to a degree that could not be bridged." Perhaps such a moment of tension could have been addressed with mentoring support, but absent this support, Virginia disinvested in the socialization process and eventually left the program to "regain a sense of coherence and purpose in her life, enabling her to begin constructing a new biographical narrative" (Casanave, 2002: 174). Tensions, Casanave (2002) argues, between oneself and disciplinary expectations impact the way language socialization and academic writing takes place. Without looking at the overall practices of graduate students, structured by the array-of-capital that identities represent, socialization will not properly address the needs of such apprentice researchers and graduate students and how they find their ways into the literacy networks of "research projects and teaching assistantships and engage in [the] informal associations with classmates and professors" needed to develop as disciplinarian writers and members (p.174).

Thus, Casanave (2002) suggests that, as part of academic socialization, literacy practices are games that work best when writers align their identities with the activities and objectives of the discipline. Oftentimes this means developing entirely new identities that actually put the graduate students into a disadvantageous position – e.g. a privileged student in a non-English speaking society has to transform into a "linguistically marginalized" graduate student in the

English-only practices of US disciplines. A coherent yet malleable set of identities and attitudes enable such a developmental process of "coming to understand what one's relationships are with the key players and to know in particular who the allies are (in literature and in person)" (Casanave, 2002, p. 276). This is what happens in Nate's case in Berkenkotter, Huckin and Ackerman (1988, 1991) as his previous education and general social background (i.e. cultural capital) means that he is able to adjust to fit into the new field. Conversely, as Virgina's story illustrates, identities that cannot synthesize as easily with professional identities based on disciplinarian norms and expectations, often go "awry" when it comes to the development of new identities (Casanave, 2002, p. 142). Put directly, the fact that Virginia is Hispanic and working class, and Nate is white and middle class means that the latter came from a culture closer to that of the academy, and this made his socialization into the professional discipline easier.

In a series of autoethnographies, Casanave and Li (2008) highlight the fact that socialization is usually a very costly personal and ideational investment. These stories suggest that multilingual scholars' identity development through a leveraging of their material and social capital becomes a confounding process given their positioning in multiple national and linguistic fields. Even as it stresses the stark adjustments multilinguals must make in US universities, regarding socialization, the study concludes: "In all cases, learning to become a member of graduate school academic community requires the students become familiar with new cultural, literacy, and sociopolitical practices while under the pressure of time, financial hardship, and possibly unclear authority relationships with faculty members" (Casanave & Li, 2008, p. 3). PhD writers, in the dissertation genre, one chapter points out, practically take on the identity of "experts on their given topics" (Casanave & Li, 2008, p. 69) even as they find themselves

learners of the genre. ESL writers find this duality especially difficult to manage as they face the need to learn the language and culture of the US academy, in addition to feeling silenced and unsure of their own identities in a new society. Within the socialization process, the professional and novice roles the graduate students "cloak themselves in" are too far apart to be successfully "intertwined" (Wiedman et. al., 2001: 29).

Another significant thread of writing research has looked at graduate student socialization in terms of a community of practice. In this approach, mentorship rather than instruction is the key form of interaction for new members being socialized through "legitimate peripheral participation." In such model classrooms, instructors function as guides and literacy practices become as close to authentic models as possible rather than general academic discourse – Han's proposal would actively be seen as good classroom writing precisely because it was not classroom writing. Using this methodology, Belcher (1994) shows that ESL graduate students rely on mentors for cultural socialization as well academic socialization. Without proper explication or modeling of the practices of academic communities, Belcher (1994) illustrates, ESL graduate students from other cultures find it intimidating to critically engage with scholars in a field they are not yet competent in and this inhibits their knowledge acquisition and involvement. Advisors are ideally placed to inculcate such practices through directives, Belcher (1994) says, but must do so carefully and deliberately to adjust for graduate students' lack of competence about the context of the community of practice in question. A more collaborative approach can also prove costly as it might not provide enough opportunities for the graduate writer to invest in the activities and practices needed to acquire the skills and methods of a field when more experienced members take on completing the texts (Belcher, 1994, pp.28-34) – the points I referred to earlier in my delineations of Blakenlee's Bouzida and Prior's Han.

Belcher (1997) points out that graduate students' prior literacy experiences can often be drawn on to enable legitimate peripheral participation and innovate the community, but only if mentors mediate to ensure effective uptake. Using the example of an ESL graduate writer in Art Education, Belcher (1997) shows that a Japanese style of art criticism – rhetorically "more subtle, more amicable" (p. 13) – adds a new perspective to the scholarly practices of the discipline. This innovation only becomes recognizable through Hiko's advisor framing it as deliberate for the readers – the committee – on the one hand, and teaching Hiko how to predict and respond to the field's expectations regarding discursive practices. Without Hiko and her advisor negotiating disciplinary expectations so that she could appropriately participate in the community's practice of criticism without directly refuting disciplinary literature, such rhetorical innovations would be censored as a lack of procedural competence in the genre practice. This is a form of mediation that literacy studies scholars, whom I discuss below, call sponsoring.

Poe, Lerner, and Craig (2010) represents more recent work that applies the communities of practice (CoP) perspective to writing, and posits that classroom instruction should also be reorganized to facilitate "legitimate peripheral participation." Their study argues that disciplinarian writers in science learn genres through "cognitive apprenticeship," inside and outside the classroom, and such sites of academic socialization "dramatically… influence graduate students' experiences and their views of science" (Poe, Lerner & Craig, 2010, p. 103). The findings suggest that writing in the graduate classroom must be as authentic to the overall-disciplinary practices as possible, requiring the entire genre-set for that particular profession. They argue that such an approach to socialization enables students to rehearse their expertise in simulations of disciplinary rhetorical situations under the mentorship of experts (p. 9). Subsequently, they recommendsthat experts explicitly spell out their tacit knowledge in such

activities to the graduate students they are working with so that the latter can begin to demystify disciplines: "it is important [that they try to] present the knowledge as standards widely help by the professional community rather than idiosyncratic beliefs from one instructor" (Poe, Lerner, & Craig, p. 191).

Often this will necessitate the reorganization of classrooms to simulate professional academic activities, such as the grant review process; these activities facilitate the acquisition of the academic genres by learning-through-guided-experience of the cognitive and metacognitive, based on simulations of rhetorical situations (p. 9). Poe, Lerner, and Craig (2010), however, also stress the importance of "trajectories of identities" to the ways graduate students engage with the discipline during their socialization – in they stress they place on identities they echo points about discursive persona that Myers (1990) makes and the harmonization of identities that Casanave (2002) advocates. Poe, Lerner, and Craig (2010) find that practicing the grant proposal genre pushes graduate students in the sciences to develop identities as apprentice researchers, a sense of how to selectively cite literature, and helps them "come to see science as a human enterprise in which persuasion shapes how science itself proceeds" (96). A focus on identity enables such students to get involved and invest in academic literacy practices through more mediational processes, where they are able to marshal the resources at hand to write more effective proposals. The focus on identity in their research also shows how multilingual graduate students often use English as a register rather than everyday speech; English, for them, is situated mostly in disciplinary classrooms and not everyday interactions.

Research into interactions and academic writing has produced considerable insights about graduate students' literacy practices and academic socialization. It has connected understandings of writing with understandings of learning and education as such. Students are not blank slates;

they bring prior experiences and connect multiple activities in their literacy practices. Identity and mentors play crucial roles in the interactional process through which graduate students learn to write and communicate as apprentice scholars. Moreover, this body of research also raises questions about which identities and dispositions afford socialization and which do not. What they have not been able to do as yet, I believe, is situate academic literacy practices within a non-individual notion of competence and the dynamics of the broader social forces at play in a given socialization process. More power-sensitive research, which I address below, takes up these issues in greater detail and lays the groundwork for situated perspectives that foreground academic writing as networked activities.

2.4 Power Sensitive Approaches to Disciplinary Writing

Research on writing using new literacy studies approaches, which see literacies as situated ideological practices, argues that its value to learning stems from a critical focus on the contested nature of academic writing. It explains that the genre practices of the academy can teach us a great deal about the nature and role of reading and writing because the stakes involved are so high. Literacy practices approaches also distinguish themselves from writing studies and academic socialization research based on their emphasis on the difference between the writer and status quo understandings of writing. In other words, they adopt a power sensitive approach to understanding literacies and their structuring of the knowledge into which graduate students are being socialized. Literacy practices approaches see academic texts by graduate students and apprentice researchers in the context of the institutional views of writing in higher education, a "centripetal force" (Bakhtin 1986) that does not recognize potential divergences in identity and epistemology between the various stakeholders in any given genre. Subsequently, these studies argue that dialogue over these differences is key to teaching graduate students and addressing the

"nondiscursive" requirements of writing in English-dominant disciplinary contexts. Dialogue, these activist-researchers argue, generates the ethic of "pluralizing academic writing" (Canagarajah, 2002) or "transforming academic writing" (Lillis et. al. 2015), which writing studies can often use to elicit investment and involvement by international graduate students, many of whom are not interested in reproducing academic norms based on US-centric institutions and marginalizing the academic practices of their home countries.

Brodkey (1987) is a progenitory work in the application of a literacy practices (i.e. social practice) lens to academic writing. Taking a critical feminist approach, Brodkey reveals the popular image of the author writing in isolation as a modernist trope that misrepresents writers as "sentenced to solitary confinement, imprisoned by language, and condemned to write without understanding either why they do so or for whom" (Brodkey, 1987: 55). Refuting this misrecognition, she advocates looking at academic writing, "the coin of the realm" (Brodkey, 1987: 39) more accurately as situated practices of domains organized around exchanges of information or discourse, on the one hand, and unified by objects and methods, on the other.

In an ethnography of two scholars writing for a feminist conference, where "feminists are conceptualized both as an audience they seek to affect and as a speech community affecting them" (p.110), Brodkey (1987) also finds the two scholars – one a tenured professor and the other a graduate writer – enacting their negotiations primarily in texts. This, Brodkey (1987) argues, speaks to the culture of the academic domain and the fundamental differences each writer brings to the "literacy event" (p. 189). Bill and Mary work near one another and could have easily used speech to communicate and negotiate facets of the texts as it was being developed. However, the culture of academic literacies means literacy is privileged and so they preferred to enact such interactions textually in the genre practices of the conference paper.

These literacy practices shape the development of negotiated knowledge claims in complex ways. For example, the two writers bring contradictory "ideational positions" in their claims, but through their literacy-based negotiations they are able to articulate a position they both accept. Bill (the male and more senior participant) develops his utterances as a "literary phenomenologist" (p.121) and initially approaches writing the joint paper "as problem solving;" Mary is less declarative about her position and does not think of the activity as problem solving. His statements and questions are initially written in "third person pronominal," representing his perceptions as independent and seemingly objective. Mary's statements are first person plural, couching their perceptions as theirs and the "'the symbolic universes' of texts to be empirical realities, independent of Bill and herself" (Brodkey, 1987: 128). Brodkey's ethnography shows that the two positions are never synthesized, but each of the writers do see and work to avoid contradicting the other's positions in their writing.

Giesler (1991, 1994) combines a situated understanding with a sociocognitive lens to explain how writers come to the literacy practices of higher education with fundamentally different understandings and epistemologies. Comparing novice and expert writers of philosophy texts, Giesler (1991) shows that experts communicate a "socially configured mental model… [that] creates, in effect, a new plane of intersubjective knowledge, a third dimension of culturally shaped abstractions" (pp.186-87), and these models represent different ways of knowing. These socially configured mental models run parallel to the idea of "procedural knowledge" (Berkenkotter, Huckin, and Ackerman,1991) and must be acquired through practice rather than learned. However, by placing it in the model of literacy practice, Giesler (1991) terms them not knowledge, but "problem spaces…[one] where experts explore the domain content of a particular field [and the other] in which they consider the fields rhetorical dimensions" as

"attributes of the social axis" (182). In other words, these spaces represent situated cognition operating in relation to social practice and literacy networks.

Giesler (1991) points out that experts in philosophy use authors' names to index the discourses and positions they are refuting. The academic practice of refutations is structured inductively, with the most faulty approaches addressed first and "less faulty" positions subsequently. The novice writer, on the other hand, does not use authors' names as discursive positions, but as the writers of specific texts. The arguments she makes also do not developmentally build on each other through a literacy practice of refutations of progressively "less faulty" positions; rather the majority of her writing process "construct[s] her own position with little attention given to the positions of the authors [she] had read" (1991:182).

As literacy studies, Giesler (1994) explains these differences between the types of writers in different problem spaces. The study presents the distinction between the expert and the novice with regard to the problem space of content and rhetoric as akin to "a great divide" in terms of "differences in cognition and differences in value" (1994: 209) and ways of knowing. This practice of using authors' names as discursive positions coherently brings together the way expert philosophers think, their way of knowing, and finally what they value. The novice writer, by contrast, is not able to mentally develop this same position because they have not been sufficiently socialized into the disciplinary contexts to acquire situated competencies in its content and rhetoric, and therefore are unable to see authors as discourses and ways of knowing.

Contrastingly, Canagarajah (1996, 2002) and Blommaert (2008) explicitly use the literacy studies paradigm to make compelling polemical arguments regarding the structural and nondiscursive inequalities of academic publishing in a global context. In effect, they articulate the points made by Bazerman (1988) and Myers (1990) about disciplinary knowledge as situated

within a discursive and material space through a geopolitical lens; questions of legitimate academic literacies are shown to be overdetermined at the geopolitical scale. Local material and the cultural requirements of non-western societies mean that "Third World scholars experience exclusion from academic publishing and communication; therefore the knowledge of Third World communities is marginalized or appropriated by the West, while the knowledge of Western communities is legitimated and reproduced" (Canagarajah, 2002, p. 6). Blommaert (2008) shows that one way this is done is through the reproduction of autonomous literacy models in academic knowledge; these models view the forms of knowledge as context-free and authoritative, so that even peripheral scholars view peripheral literacy forms as illegitimate.

The case of a Congolese artist, Tsibumba, Blommaert (2008) argues, clearly bears this argument out. Tsibumba produces a "strangely unaesthetic" book even though he is an accomplished artist and has a comprehensive knowledge of the history of art in the region, which is what the book is about. However, seemingly disavowing his own cultural area and expertise in literacy practices, Tsibuma produces a text on art without pictures because he misrecognizes academic and scholarly knowledge as monomodal. Therefore his work shows a prioritization of linguistically-based literacy as "something that transcends the level of popularly circulating stories and that creates an authoritative record" (Blommaert, 2008, p. 169). He believes monomodal literacy practice is the only legitimate mode of academic practice and multimodal literacy practices are popular culture. Given his lack of experience with the former, however, the text and genre practices Tsibumba produces are "rather inconsistent, even clumsy, and [he has] difficulties sustaining the rigor of chronological sequencing throughout" (p. 173).

Citing the ubiquitous form of this misrecognition, Canagarajah (2002, p.145) argues that scholars without "the opportunity to interact intimately with center-based disciplinary

communities," end up viewing the introduction-method-research-discussion (IMRD) form of the article as the only legitimate form. They fail to see that the genre or textual form assumes the linguistic and disciplinarian formation of the sciences in center institutions and that these are social practices of that context and its literacy networks. In actuality, the model requires knowledge of deductive logical skills and access to scholarship that, for historical and material reasons, peripheral scholars do not generally possess. So when asked to produce work in IMRD forms, many "off-networked scholars" (Belcher 1994), struggle to produce texts using argumentative forms they are not familiar with or to posit a detailed review of scholarship because they do not have access to such studies, and their research work is subsequently rejected by the scholarly communities of the center.

Another way scholarly inequality is structurally perpetuated is through the delegitimization of peripheral scholarly practices as academic knowledge practices and the attendant argument that legitimate knowledge practices must be imported from western academics. Canagarajah (2002) argues that in the cultural, historical, and intellectual traditions of peripheral universities oral presentations are more common, and expertise is seen in terms of "generalists" (190) and academic socialization prioritizes "a civic consciousness" – an expectation to contribute to the community's good. In contrast, the development of the academic disciplines in the west has meant that legitimate knowledge is seen as specialized and in literate form, and academic socialization for expertise means training for such practices. He points this out using the example of a peripheral scholar, A.J., who espouses an approach similar to critical pedagogy in his scholarly writing and is unable to publish his work in center journals because his situatedness in a Sri Lankan university meant his main academic literacy practices were oral presentations using a generalist authorial stance, and as such he does not accrue a sufficient

number of publications on the topic to be recognized as a legitimate expert who could advocate for a new pedagogical theory.

Canagarajah (2002) argues that such institutionalization of disciplinary community based on print and specialized literacy is particular to the west. He suggests this is problematic because the structural privileges of the center mean that the situated practice of western scholarship becomes decontextualized as autonomous literacies and "earns universal recognition" (p. 236). Peripheral scholarship ends up becoming either illegitimate local knowledge or oral discourse, or makes up "primarily a reading, rather than a writing, community." Even wealthy Asian nations end up weaker in terms of academic and scholarly institutionalization because "power in each domain… doesn't always correspond in a one-to-one fashion. In other words, economic superiority doesn't necessarily mean that the country will also be powerful in political and cultural terms" (p. 40). Blommaert (2008) corroborates these conclusions through a comparison of grassroots and elite literacies, finding that knowledge of literacy regimes are more "democratically distributed than accessibility and use of the literacy environment" with the latter two being almost exclusively the domain of western academic institutions.

Flowerdew's (1999, 2000) research, based on a series of surveys of scholars in Hong Kong, also supports the notion that peripheral scholars receive unequal treatment. These studies indicate that language issues are only one facet of this inequality. Flowerdew (1999) finds that "92% [of] scholars" in Hong Kong rate journals in English and those based in the west as the most "important." The sciences especially privilege publication in English journals because they do not regard scientific journals in Mandarin as high-impact. While this is less the case in the humanities, the structural inequality of academic publications is also maintained those fields. Regardless of discipline, Hong Kong scholars must publish in international English journals to

advance in their careers and, given their language backgrounds and the non-western topics they typically focus on, this entails a more difficult writing process. Flowerdew (1999, 2000) reports scholars must deal with comments from center-journal editors and audiences about their nonstandard English, a lack of assertiveness about their claims, parochialism, and significant difficulty in drafting the rhetorical moves required in the introductory and discussions sections of scholarly articles in an L2 language. Scholars writing in L1 and working in the center hold distinct advantages in aspects of literacy practices. Flowerdew also fiinds that lack of confidence in language proficiency means non-native scholars are also sometimes reluctant to engage with qualitative work, which they believe requires more rhetorical and expository writing skill and competencies. Consequentially journals in the qualitative fields lack work from scholars with non-western backgrounds.

Flowerdew (2000) describes the years-long process a scholar in communication, Oliver, goes through as he publishes a paper in a center journal using a case-study approach. Presenting an in-depth picture of the points reported through the surveys. Flowerdew shows that the contributions of editors and other mediators are fundamental to the success of this process and the development Oliver's article overall. In other words, a literacy network helps him in this genre practice. The in-house editor makes a "huge edit" (Flowerdew, 2000: 142) that affects the organizational structure by cutting down the methodology section. Oliver's disciplinarian identification in mass communication means he foregrounds methods and results in his initial draft. The editors of the journal cut the methods section because the journal focuses more on analysis and interpretation rather than the data and the process of data-collection. The experience with meditations teaches Oliver that practices and notions of value signaled through academic genres differ across fields even within one discipline, and he subsequently comes to "appreciate

the rhetorical dimension of scholars' work, which may well be as important as the actual content" (Flowerdew, 2000: 143).

Li (2006) and Li and Flowerdew (2007) provide additional cases of multiple mediators and institutional pressures that make up the academic socialization of ESL graduate students writing for academic publications. They find that learning from models is a common literacy practice of graduate students from non-western backgrounds – Tardy (2005) supports this finding in her study of Chatri. Whether these models come from the textbooks or published articles or their advisors, seeing explicit illustrations of the textual and rhetorical moves becomes crucial to their drafting process. They are better able to develop the complex argumentative and rhetorical work required in the introductions and discussion sections of academic papers in English, often directly repurposing entire sections from published texts in other own works (at times veering very close to what western norms would condemn as plagiarism). Li and Flowerdew (2007) find that ESL scholars often work with other ESL scholars in their literacy networks, and as such, contribute to the language and editing work on the papers. Providing disciplinarian and language feedback, these editors become invaluable mediators; people outside the field are only ever propositioned to provide feedback related to language.

Institutional pressure has a fundamental impact on the way advanced academic literacy practices play out in the socialization of these graduate students and the general cultures of their situated fields. Li (2006) and Li and Flowerdew (2007) find that a majority of the writers are driven to publish because of institutional imperatives as opposed to a desire to communicate expertise and knowledge. In other words, their work has to mediate a culture of academic excellence as well as communicating knowledge. Sometimes this drive to publish results in "textual plagiarism" instead of modeling – where authors use the texts of models directly rather

than using them to develop their own writing. This is not the case for Chatri, studied in Tardy (2005). Li and Flowerdew also find that the institutional pressures and power differentials that manifest in the suggestions of advisors are often accepted without question by apprentice researchers and graduate students. Rather than negotiate their advisors' feedback, they "trust" the advisors' expertise and see rewrites as directives (Li and Flowerdew, 2007: 108). In other cases, the advisors fix the errors in citations themselves rather than suggesting corrections – which would help the graduate students learn – to save time and expedite the publication process. Instead of using academic writing as a way to socialize newcomers into the professional discipline, the practice is about producing publications quickly.

Finally, in their studies of European scholars producing scholarly articles for publication in national, regional, and international journals, Lillis and Curry (2006, 2010) highlight the impact of the dominance of English as well as situated rhetorical practices of writing and knowledge. Their studies show that mediation by networks and brokers significantly impact scholars' abilities to publish articles in local and international Anglophone journals. Additionally, they show that scholarly writing involves being situated in immediate and imagined locality and globality, wherein decisions are made with both a desire to speak to a universal audience and to be locally relevant. Often the functional distinction to publish on the applied aspects of their work in local journals and their more theoretical concerns in international journals becomes a way of negotiating against hurdles they might face in placing research in high-impact international journals (2010, pp.126 -140).

Using "text-oriented ethnography" Lillis and Curry (2006, 2010) show that issues of publication related to language and competence mask fundamental differences and inequalities of knowledge. Knowledge situated in the national fields of eastern and southern Europe are

placed into vernacular platforms with more local readership and ranked lower in measurements

such as the international science index. Knowledge or relevance to Anglophonic cultures gets

published in international platforms because journals situated in the west are by default

international even though they might only be relevant in US or UK contexts. A "centripetal"

scholarship network perpetuates these differences into structural inequalities in three ways: first,

through the impact factor measured through a metric that implicitly privileges English-writing;

secondly, local citation indexes, situated outside of their peripheral contexts (e.g. the Chinese

Science Index) generally orbit the ISI index, reproducing the prestige and power of center-based

publications (these new indexes also model themselves on the same methods as the ISI and so

those methods – i.e. its privileging of English – are perpetuated.); thirdly, the centripetal pull

towards the dominant practices and ideologies of western institutions ensures that what counts as

fundamentally relevant knowledge is always framed by the center (Lillis & Curry, 2010: 161).

This last pull is what Canagarajah (2002) explains in his arguments about the situated local

knowledge practices of generalist academics and the academic literacy practices of western

institutions.

Such geopolitical forces underscore the need for social capital in the literacy practices of

off-networked scholars and divergent academic literacy practices. Rather than the more neutral

mediator or sponsor and the more learning-oriented mentor, Lillis and Curry (2010), therefore,

coin the term literacy broker to explicitly "signal the economic and power dimensions to text

interventions, and their consequences in the academic marketplace" (2010: 88). The first type

they identify is the academic broker; usually an academic in the center institutions can provide

information about center-based journals and is competent in the new information. The academic

brokers substantively aid in the publication process of peripheral or "off-networked" scholars by

helping them tailor their texts to the center-based journals and ensuring the texts' uptake in the international disciplinary network (similar to what Hiko's advisor does for the dissertation committee in Belcher (1994)). Though not providing academic information, the language broker often makes substantial changes to the texts, which, Lillis and Curry (2010, 2006) find, contribute significantly to the language of the text. The paid-for editors or friends with English writing competencies are common examples of this type of broker.

Lillis and Curry (2006) present a case study illustrating brokering in the publication process of an article written by an Eastern European scholar and how it substantially changes the significance of the scholarship. Unknown to the peripheral scholar who initially developed the text, based on the recommendation of the journal editor, a statistician is added to their writing team; this individual subsequently contributes to the "redrafting process of the whole article" (p.25). In the process, the article's argument is transformed from contradicting a previous study to partially confirming it and this comes about through the collaboration and contributions of the statistician and the editor. The peripheral scholar concludes that the periphery becomes localized in center-based journals; she sees the experience as one that signals arguments and findings from non-Anglophone contexts are seen as valid and legitimate only when confirmed by knowledge from the center (2006: 30-31). She says that new knowledge is not published in international high-impact journals when that knowledge is situated outside of the Anglophone centers of academic knowledge production.

This last body of research has highlighted how academic writing is a social practice, which more often than not is shaped by the complex dynamics of global structural inequalities. From distinctions between experts and novice writers in the disciplines to peripheral scholars writing articles for local and international journals, these studies highlight the considerable

influence of mediating forces and literacy networks. They provide informative snapshots of academic writing and publication networks in globalized disciplinary contexts, and demonstrate how language and experiential knowledge can overdetermine both the structure and the function of academic writing. They also show that writers perceived to be situated in peripheral positions are read as positing local knowledge or following local practices, differentiating themselves from the norms of academic knowledge as determined by the center-based disciplines, which presents themselves as autonomous. The socialization of graduate students through literacy practices, therefore, often tacitly ends up privileging these status quo practices because the new students are becoming members of those academic networks. This often means that diverse literacy practices end up being socialized out of international graduate students.

2.5 From Rhetorical Situations to Situated Practices: What We Do and Do Not Understand.

Decades of research on disciplinary writing and literacy practices by novice, intermediate and expert writers have highlighted that texts are important to the ways disciplines are organized and new disciplinary members are socialized. Furthermore, even as graduate students become early career researchers – having successfully completed a PhD and secured a research or academic position – they will still have to practice the work of the professional through the text and learn to write for new situations. The role, it seems, of writing and literacy practices in the disciplines becomes increasingly salient as the socialization process progresses.

Writing is the way "[academic] professionals maintain their organization, power, and activity in large part through networks of texts" (Bazerman & Paradis, 1991, p. 4). Scholars of writing studies currently believe that academic literacies are both "constitutive" (Bawarshi, 2000) and communicative (Russell, 1997). We also now believe that there is no alternative to

praxis, and we must work collectively to persuade administrators that literacies in the disciplines are "demonstration[s] of the acquisition of institutional, subject, and disciplinary knowledge and insiderdom" (Russell et. al., 2009, p. 413) and networked activities rather than transparent communication. Social context is a key animator and motivator of this acquisition among graduate students and people must continue learning as the context changes. Learning language – in any form – is always a "lifelong and lifewide" (Duff 2010: 171) and distributed activity.

In terms of disciplinary literacies, Bazerman (1982, 1988) and Myers (1990) provide rhetorical understanding of how texts and genre practices make up and structure the disciplines. These early works show that disciplines are socially circumscribed, and genre practices are fundamental to the make-up of academic knowledge and the disciplines. Canagarajah (1996, 2002), Blommaert (2008), and Lillis and Curry (2006, 2010) have since complicated such views by showing that issues regarding language and literacies in scholarship are part of larger nondiscursive requirements privileging Anglophone institutions and knowledge practices. Flowerdew (1999, 2000, 2001), Li and Flowerdew (2007), and Li (2006) further supported these points using surveys and case studies to show that language differences and pressures to publish in English push scholars to pursue topics and literacy practices overdetermined by the norms and practices of western academic fields and higher education to initiate new members into this status quo if they want them to succeed.

If there is a consensus within this work it is that understanding the rhetorical situation and interactions with other members of the field is key to academic knowledge practices. In other words, understanding academic literacies – especially as they relate to socialization – means understanding mediations in practice. Formal readers, as Myers (1990) and Flowerdew (2000) show, often ask for changes that, in stressing the saliency of research in a given field,

circumscribe the arguments. These mediators generally tend to try and maintain the coherence of the discipline, providing a centripetal force through their gatekeeping functions. Informal readers and collaborators, as Blakenslee (2002), Li (2006) and Lillis and Curry (2006, 2010) show, have a more dynamic role in academic literacies, from both providing language and academic (material and discursive) support to ensuring uptake of novel knowledge claims and maintaining the field's status quo. Academic genres and literacy practices would be more accurately seen as networked activities.

However, studies on the topic of mediation and social capital that aim to understand this way of looking at academic writing simply have not focused on how graduate students – whether multilingual or monolingual – are socialized though working with others as they develop their academic literacy practices (Blakenslee 2002 and Tardy 2005 both take individualist approaches that look at what the graduate student learns or does not learn through interactions with other members). What effect do sponsors and brokers have when the writer is still learning the norms of the field or lacks the disciplinary position to resist? What does it mean to be competent in academic literacy practices as networked activities? The impression one gets from reading studies such as Blakenslee (2002) or Tardy (2005) on mediation and interaction is that graduate students must learn to fulfill rather than negotiate the expectations of the rhetorical situations of their disciplines; that is, they must acquire and hold that knowledge as individuals. We simply do not pay enough attention to the ways the resources making up literacy mediation can afford the socialization process and we thereby fail to recognize that disciplinary competence requires such material resources. We have to recognize this aspect of socialization if we are to advise graduate students on how they can make best use of the various mentors, sponsors, collaborators, and brokers at hand in the university and their broader social network. For example, when we

recognize the need for material support in the writing process, we might actually suggest to Susan that engaging a long-term language editor – or language broker – is not a bad idea, especially if one needs to produce a scholarly output that can meet the requirements of tenure. Doing so at an early career stage, actually might be even more beneficial since it will afford a long-term working relationship during a foundational time for her future scholarly activities.

The second understanding of academic literacies is that the ways graduate students approach such practices impact the socialization process in multiple ways. Prior's (1998) and Cassanave's (2002) ethnographies argue that people's identities continue to develop as they take on new roles and modify existing ones as they move into their disciplines and that this is not a one-way process – a point also explicitly recognized by Weidman et. al. (2001) and other academic socialization researchers. In such negotiations, graduate students draw on their "arrays of capital" (Bourdieu, 1986) and "laminate multiple activity systems" (Prior 1998) to get the most of their educational experiences as they move into new literacy networks. Some research shows that prior experiences frequently inculcate ways of knowing and disciplinarian practices that interfere with students' current work (Berkenkotter, Hutchin, & Ackerman, 1988; Prior, 1998) or dissuade them from participating in the disciplines (Cassanave, 2002).

Poe, Learner, and Craig (2010) and Belcher (1997) provide more positive stories of cultural capital affording the academic socialization and writing of graduate students. These works show prior experiences syncing nicely with the work of the disciplines and rhetorical differences translating into innovations in disciplinarian analysis. Poe, Lerner, and Craig (2010) explain this socialization through their arguments of "identity trajectories," where graduate students learn to enact their roles in the classroom, and understand their identities in terms of the growing expectations and transforming roles they must write to as they take on increasingly

authentic disciplinarian tasks. Brodkey (1987) also shows that the writers' views of themselves as members of their fields shape how they write and the form their arguments take. She also shows that professional identities are substantially about communicative practices in the written form: professionals communicate through literacy and oral interactions are always ancillary to the inscribed word.

That being said, none of the studies of the ways literacy practices afford or constrain graduate student socialization have talked about the dispositions writers bring to the process. The way writers react to situations – are predisposed to react – can tell us a great deal about their abilities to accomplish the activities of their disciplines as they become members. Such a treatment must also account for how dispositions change through socialization. Working with others to develop texts for publication, the dispositions Gunter brings to these literacy networks shape his literacy practices and Susan's reaction to the suggestion that she acquire an editor also speaks to how she approaches writing as intimately connected to herself. How do they thereby view disciplinary communication? Do they limit themselves to approaching all academic writing situations as strictly formal and rely predominantly on English as an academic register? It seems that such positioning is simply not possible in the context of an R1 university in the US. As the only Turkish-speaking person in the department, Gunter uses English regularly to communicate with everyone else in his lab. Additionally, given the regular communication scholars in the lab have with bee farmers in the region and nationally, he has also had to perform in non-academic networks, which means competence in everyday English and intercultural communication. In other words, in contrast to Poe, Lerner, and Craig's (2010) contention that international graduate students sometimes only ever use English as a register, academic English is not enough for Gunter. Rather, he must be wholly comfortable with academic and non-academic English, even

if it is with an accent. The same point applies to Susan. Given that she works in the highly culturally situated field of political science and women's studies, many of her activities are discursive and argumentative.

In the later chapters, I will focus on these two areas using case studies of Gunter and Susan writing in ways shaped by literacy mediations and their own dispositions. My point will be to develop a conversation about the topic of writing and literacy practices in graduate academic socialization through naturalistic studies. My treatment of literacy mediations shows the fundamental impact of literacy networks on the development of texts and the socialization of graduate students. It foregrounds the fact that we need to think of academic writing competence as distributed and networked rather than as an individual characteristic. My treatment of how translingual dispositions afford investment and interactions in Gunter's socialization, I believe, demonstrates the development of literacy practices that are functional in both academic and non-academic domains. It also informs him, and those of us who can learn from watching him negotiate such literacy expectations. In contrast, my presentation of the disciplinary constraints Susan faces highlights the limits of our arguments that language is a semiotic resource during the socialization process – showing that dispositions can modify the literacy practices of situations in as much as they do not completely go against the norms of the discipline.

Chapter 3: Research Methods: The Who, Where, How, and Why of Case Studies

> To find a honey tree, first catch a bee. Catch a bee when its legs are heavy with pollen; then it is ready for home. It is simple enough to catch a bee on a flower: hold a cup or glass above the bee, and when it flies up, cap the cup with a piece of cardboard. Carry the bee to a nearby open spot – best an elevated one – release it, and watch where it goes. Keep your eyes on it as long as you can see it, and hie [sic] you to that last known place. Wait there until you see another bee; catch it, release it, and watch. Bee after bee will lead toward the honey tree, until you see the final bee enter the tree. Thoreau describes this process in his journals. So a book leads its writer.

> Ann Dillard *The Writing Life*

> Ethnography is deep hanging out.

> Clifford Geertz *Deep Hanging Out*

3.1 Introduction

My dissertation examines the social dimensions of advanced academic literacy practices of graduate students in the disciplines through a case study. In particular, it focuses on how mediators and a graduate student's disposition to literacies and communication shape disciplinary texts, and how we can understand these social elements in terms of affordances to academic socialization of international graduate writers.

How do literacy practices socialize multilingual international graduate students into their disciplines? How do literacy mediators impact this process? How do graduate student dispositions to literacy and communication impact academic practices and academic genres? This chapter will first provide an overview of the research context and the methods used to

answer these questions, moving from the macro level of the university and the disciplines to the "meso level" of literacy events and genres (Devitt 2010). I will then describe the methodological orientation, data collection methods, and the analytical framework of ethnographic triangulation I use in this study. In many ways my study was built as I discovered patterns, like the process Dillard describes in the epigraph: my research led me as a researcher.

3.2 The Research Context

I collected the data for this project primarily at the University Park campus of the Pennsylvania State University. One of the largest universities in the US and a prominent land-grant institution, Penn State sees itself as a world-class graduate education institution, with specific strengths in the applied sciences and the liberal arts. Graduate education makes up a crucial part of the university's overall education and research activities. As of Fall 2016, the number of in-resident graduate students at the University Park (UP) campus numbered 6508 (Graduate School 2016). The number of undergraduates at the UP campus, by comparison, numbered at 40,472 (College Data 2017).

Graduate education at the university was institutionalized in 1922 with the establishment of the Graduate School to oversee a "diverse line of graduate offerings… [and] stand as a symbol that Penn State recognized that higher education did not end with baccalaureate degree" (Bezilla 1985). The school oversaw the management of a small number of teaching assistantships and fellowships for pursuing graduate education at Penn State. As of 2016, the school employs the majority of students pursuing research degrees through graduate assistantships (TA or RA) or a handful of extramural funding sources. This is not necessarily the case for the advanced professional degrees such as law, since the school does not provide funding through

assistantships in these areas, seeing such degrees more as a form of academic accreditation that graduate students must pay to pursue.

In short, Penn State focuses on research work and graduate education substantially. While a majority of students are supported in socialization through their advisors and departments at large, the Graduate School also provides significant additional resources to supplement their research work, from career services to funding fairs. For example the Graduate Writing Center operates under the Graduate School and provides free writing consultations for any graduate student; they recognize that writing skills at the graduate level are different than what might be expected for disciplinary writing at the undergraduate level. Explicitly acknowledging the language needs of the large number of multilinguals or ELLs enrolling in graduate programs, the school also offers a graduate-level academic writing for ESL writing (ESL 116G) and English communication program (ESL 114G) through the applied linguistics department; respective programs also provide introductory graduate level courses that often implicitly address language needs through modules and assignments introducing the required genres of the discipline.

Internationals and multilinguals make up an important part of the student body at the UP campus. According to the office of global programs, there are about 7000 international students at Penn State (Global programs 2017). Of those, about 3,132 students are graduate students, pursuing advanced research degrees (PhDs, MAs, MSs) or advanced professional degrees (D. Ed., D.M.A., D.N.P., D.P.H., M.B.A., M.Eng., M.F.A., M.P.S.). A research university with very high research activity, multilingual and international enrollment at Penn State is well above the US average: 48% of graduate students at the university are international, compared to 18.9 % of graduate students enrollment overall in US higher education institutions (Okahana, Feaster, &

Allum 2017). In sum, attracting and socializing highly skilled international students in US disciplines has become increasingly fundamental to the university's research activities.

3.2.1 The Research Context: Entomology

An empirical life science, until recent decades entomology was generally considered a narrowly defined discipline. It initially focused on studying and categorizing different types of insects and situating them in the catalog of family, genus, and species. In recent decades, however, it has built on this foundation to develop ecological understandings of insects that position them within the broader eco-system and interventionist research meant to impact insect populations, especially as it relates to endangered species, pollinators, and agricultural pests. Put simply, as a scientific discipline, entomology closely parallels the way the disciplines have evolved in the life sciences, carefully incorporating ever more holistic approaches to biological systems and functions, on the one hand, and to crafting interventions aimed at preserving natural resources and diversity, on the other.

Located within the College of Agriculture – one of the original colleges of Penn State – the Department of Entomology houses a large research agenda and graduate program. In 2014 the department was the professional home to 24 full-time tenure-track faculty, 58 graduate students, 33 postdoctoral scholars, and more than 40 technical and office staff. It ranks in the top five entomology departments in the country, according to the national research council rankings, and in recent years has honed its focus to become a preeminent department in pollinator health and management, chemical ecology, pest detection and response, vectors and diseases, among other areas (Felton 2012). Collaboration across departments and with parties outside of Penn State has been crucial to this growth, wherein "active synergies among [the groups making up

parts of the university] are apparent when reviewing the funded projects, published papers, and active collaborations" (Felton 2012).

The department's graduate enrollment has doubled since 2005, from 25 to 45 in 2012. PhDs make up the largest section of the graduate class; standing at over 41. Including graduate students enrolled in intercollegiate programs within the College of Agriculture, the total number of graduate students rises to about 60, with PhDs making up the majority. The program also runs a visiting graduate student and scholars program, hosting researchers and apprentice researchers from Europe, Asia, and Latin America. The result of such activities has been the strengthening of the department's reputation as "leader among colleges of agricultural sciences around the country for providing international opportunities for its faculty, graduate, and undergraduate students" (International Focus 2017).

Entomology has also grown significantly through faculty hires over the last ten years, resulting in the establishment of new research centers, increased publications across a variety of disciplinary and interdisciplinary journals, and extramural funding. These faculty have also created the need for ever-increasing graduate student recruitment and interdisciplinary partnerships, often funded by grants the faculty themselves secure. The immediate impact of this growth has meant that the number of publications sourced out of the department has increased significantly. A count of the four labs in the department listing their publication on their websites shows a total of 169 publications from 2010 to 2015. Such a prolific research output has been important to the department's academic prestige.

In addition to its academic activities, the Department of Entomology is a key part of Penn State's Cooperative Extension program. Funded by the USDA, the program is a "network that gives people in Pennsylvania's 67 counties access to the University's resources and expertise"

(About Extension 2017). The Center for Pollinator Research, established under initiatives by the department, does both research and extension work through its facilitation of collaboration for research and stakeholder education activities. The center has hosted several international conferences on pollinator biology, policy, and health, and developed workshops and other outreach activities to engage beekeepers, the public, and the scientific community (Center for Pollinator Research 2017).

Extension activities were especially invigorated under recent federal initiatives to promote sustainable agriculture, environmental protection, and pollinator health. A presidential memo in 2014 and a report by a specially appointed task force *National Strategy to Promote the Health of Honeybees and other Pollinators (2015)* provided the support the department and the cooperative extension program at Penn State greatly benefitted from. In particular, Penn State was able to leverage its education resources to align research with federal prioritization "efforts aimed at training the next generation of scientists and/or educating the public, as well as expanding the knowledge base with respect to pollinators and their environment" (National Strategy 2015, p 23).

In sum, the entomology department at the university is one of the best in the US and a great place to do research, extension, and outreach. While the culture of excellence often means that publications and funding are prioritized, the program remains able to support graduate students and apprentice scholars in their academic socialization. In recent years, the program has become "significantly more competitive and dynamic…[since] when the [NRC rankings] were compiled" (Felton 2012). The culture and context of the graduate student's writing and academic socialization in entomology, in other words, has provided excellent resources to develop the

literacy practices appropriate to research and profession, for both disciplinary and extension activities.

3.2.2 The Research Context: Political Science and Women, Gender and Sexuality Studies

The Department of Political Science and the Department of Women, Gender, and Sexuality Studies are both housed in the College of Liberal Arts. The Department of Political Science sees itself as "an intellectual community of approximately fifty graduate students and thirty full-time faculty members" (Department of Political Science 2017). Similar to the extramural fund-seeking culture at other departments, the program also lists itself as an elite program (it was rated 5th out of 105 institutions by the 2010 NRC report). The program believes in supporting and training students through teaching assistantships and coursework; in other words, it does not rely as much on research assistantships as the applied sciences might. Seeing itself as primarily a quantitative social science, political science at Penn State regards itself as grounded on scientific methods rather than being a liberal art. It also sees its aim as primarily training academics and PhDs are rarely encouraged to pursue careers outside of academia.

The Department of Women, Gender, and Sexuality Studies is not a standalone graduate department. In her interview, Susan said she had wanted to pursue a graduate degree in women's studies but they did not offer that at Penn State and so she enrolled in the dual political science/women's studies PhD degree. Currently, only one other PhD student in political science is pursuing this dual-degree. One tenured faculty member in political science is cross-appointed with women's studies (Susan's advisor) along with one newly hired junior faculty member. Susan says that she had always been interested in women's issues as they relate to society as such, and was more attracted to the women's studies department's stance on research, which she believes to be more open than political science allows. Compared to political science, women,

gender, and sexuality studies, according to Susan, is more concerned with answering questions of social and cultural significance than adherence to social scientific methodological norms.

Political science, as a discipline, is about academia and academic research, and so the program focuses on training new academics for professorships. Like most liberal arts departments, it emphasizes its students' placement rates in their initial discussions with graduate students and provides the type of mentorship support singularly organized around academic research. The culture of the department emphasizes research and training future academics who will serve as professors and teachers. For the former, graduate students are expected to fit themselves into extant networks of professor and student research activities. For the latter, they are often expected to serve as teaching assistants either assisting faculty or – usually this is the case for political science graduate students – instruct their own "undergraduate courses after they reach advanced status" (Department of Political Science 2017).

More recently the program has begun to emphasize competencies in extramural grants, following the sciences' lead in this area. It mentions that faculty in the department have been successful in securing "funding from organizations such as the NSF and Russell Sage Foundation" (Department of Political Science 2017), signaling its view of where the discipline is heading as public funding for the academy recedes. This culture of fund-seeking is also threaded into specific courses taught by departmental faculty (the course description for "Writing and Professional Development" in political science explicitly states that it is about finding funding sources for research). One might argue that this culture is directly responsible for the fact that Susan puts together six different grant proposals – for organizations such as the NSF and the Taiwanese Ministry of Education – during the last two years of her graduate studies despite having a TAship with the department.

3.3 Research Methodology

To present a picture of academic socialization and literacy practices in in my study, I adopted an ethnographic case study approach, using triangulation and constant comparatives to develop my analysis. In this section, I describe the ethnographic approach and its use in education and writing studies. I then provide a picture of how researchers have articulated a reflective ethnographic orientation that makes use of self-reflexivity in the research towards analytical affordance. Finally, I argue that my use of a case study approach is appropriate to provide the type of analysis needed to address my research questions.

3.3.1 The Ethnographic Approach

Ethnographies usually focus on theory building and studying users from an emic-perspective. In the field of education, they have been used to understand literacy as social practices or "Discourses" (Gee 1989) at schools and at home. Ethnographers use phenomenological methods to comprehend how communities interpret and practice their own behaviors, and "share in the meaning that cultural participants take for granted and then to depict the new understanding for the reader" (Bogdan & Biklen 1992, p. 39). A research tool developed in anthropology, it has been broadly taken up in social science disciplines in recent decades, either for its methods of data collection (interviews, observations, case studies, etc.) or its methodology involving multiple data-sources and extended participation used towards a goal of contextualization of findings.

Hammersly and Atkinson (2007) say that ethnographies are concerned with collecting and analyzing empirical data drawn from real world contexts, sustained engagement in particular sites, and making explicit use of observations and relatively informal conversations. Ethnographies study a relatively small number of participants and informants since the method is

about focusing on small groups, subcultures, or distinct organizations. Often they focus on only one individual – when, for example, the topic in question relates to "life history research." Green and Bloom (1997) say that the disciplines' adoption of ethnographic approaches has produced so many perspectives on ethnographies that there is "no single place to go to define what counts as ethnography, only local sites inhabited by particular groups" (p.183). This means that, rather than talk about ethnographies as such, researchers should recognize that there are ethnographies, and there are studies that either use ethnographic methods or adopt ethnographic perspectives.

In the field of composition and writing studies, scholars have frequently used ethnographic methods to investigate literacy in the university classroom, either through interviews or classroom ethnographies. This use of ethnographic methods came about as researchers moved away from cognitive approaches and into naturalistic accounts of academic literacies, seeing them in terms of sociocultural or cultural-historical activities. The use of ethnographies and ethnographic methods has revealed how classroom literacy instruction has been ineffective in taking advantage of the individual and group expertise students bring with them to writing. It has demonstrated that literacy practices in schools must contend with the larger political and historical forces that shape instruction and situated classroom activities in their disciplines.

Heath and Street (2009) say that ethnography is "this constant back and forth, observing, noting, reading, thinking, observing, and noting [multiple] constitutive data collection toward fieldwork as an ethnographer. Consider that this may well be a set of practices distinguishing ethnography from other forms of qualitative research, such as classroom observation or interviews that may be less recursive, with less back and forth among historical, comparative, and current fieldwork source" (p. 33). Lillis (2008) has argued that the point of ethnography as a

methodology is thick description "that is, observe and collect everything that may prove to be significant, building up a detailed picture of people places and resources, and thick participation, which involves a form of socialization in order to achieve a threshold for interpretive understanding" (p.367). My study, relying on continuous triangulation and constant comparison between my various data points, and extended participation over the course of two years on site, fulfills the requirement of "a classic ethnography." However, since I focus on one aspect of my paticipants' cultures – how their literacy practices shape their graduate student socialization as apprentice scholars – I prefer speaking about my study as applying an ethnographic perspective to academic literacies.

3.3.2 Case Studies

Case studies are most simply understood as stories of phenomena in situated contexts. Yin (2013) says that case studies "investigate a contemporary phenomenon in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident" (p. 18). In language research, the case study (the qualitative case study in particular) has been a powerful tool to study phenomena such as the "learning of another language, code-switching, engaging in intercultural communication or language play, performing a multilingual identity… within the case-in-context and against the backdrop of existing theory and research" (Duff 2014, p.237). In other words, a case study approach is ideal for understanding something as a social practice, which is what my study of graduate students' literacy practices as situated socialization focuses on.

The findings of case study research and ethnographies are often not generalizable because the objects of study are by definition unique. However, aligning with most social practice researchers in literacy studies, I argue that the un-generalizable nature of ethnographic case study

findings does not invalidate them. Case studies can be used as tools and heuristics to represent instances of "ideals" through which researchers make sense of complexity (Weber 1949, pp. 89-93). Lea and Street (1998) contend that this is their strength for education research; they show "how theoretical perspectives and principles manifest themselves in a given circumstance" (p. 4). The case study's ability to show practice in situated contexts is something large-scale quantitative approaches cannot do and therefore literacy researchers still draw on this research approach to show "intraindividual variation at any given time and over time, as well as significant variation across individuals in terms of developmental patterns and processes" (Duff 2014, p. 235).

3.4 Data Collection

The ethnographic case study approach is grounded in the collection of multiple forms of data, enabling a triangulation of practices from multiple perspectives (Heath & Street 2008). In this section, I will first describe my two participants: Gunter, a PhD-Candidate in entomology, and Susan, a PhD-Candidate in political science and women's studies. I will then list the sources of the data collected in this study for each of the two participants: structured and semi-structured discourse-based interviews with the graduate students, textual artifacts their academic literacies produced as a part of their academic socialization activities, participant observation of literacy events, and additional textual artifacts informing or shaping the activities of the research context. The data and analysis I present in chapters 4 and 5 comes from literacy practices related to the academic socialization of one participant in entomology at Penn State University, with the Susan and some of her experiences in political science providing background and a point of comparison.

I collected the data for this ethnography utilizing "intermittent time mode" with the aim of identifying "culture as a verb" (Heath & Street 2008) and how this culture shapes literacy practices as the graduate students are socialized into their disciplinary fields as apprentice researchers through an IRB approved protocol (IRB #12197196; see Appendix A). The intermittent time mode was ideal for my purposes because it enabled me to collect data flexibly and specifically during times when participants were engaged in literacy events. The goal of developing an emic perspective through triangulation meant that I had to collect data in multiple sites based on salience to the literacy practices of my two participants. This "multisite study" (Shultz 2002) – defined for my purposes as sites of academic literacy practices rather than completely different locations – enabled me to understand their writing and literacies as practices, disciplinary ways of doing things and as "a 'block' whose existence necessarily depends on the existence and specific interconnectedness of these elements" (Reckwitz, 2002: 249-50).

3.4.1 The Research Participants

Before detailing the different types of data used in this dissertation I want to first describe the two participants studied in this dissertation:

1. Gunter: The first and main focus of my case study is a PhD-candidate in entomology. He is from Turkey and received all of his education there prior to coming to Penn State to pursue a doctorate. About himself, Gunter states: "As a person, I would call myself progressive, which means decent" (Interview, May 30, 2015). He describes his family thus: "We grew up thinking about [being] honest and my mother always said 'I'd love you even if you're a garbage man. Just do it right.' Our background was pretty unreligious. My parents were both members of the communist party of Turkey" (Interview, May 30, 2015). He calls himself an anarcho-syndicalist

(or a leftist anarchist). However, he also describes his only sibling as different from him: "My brother is more ok with the system. He is not a neoliberal, but I can call him a Capitalist. He is more into his own business" (Interview, May 30, 2015). About his wife, he says: "My wife got more radicalized after we met. She comes from a socially conservative background. After her interactions with others while at university, she got radicalized, sort of" (Interview, May 30, 2015). Gunter says that he went to a very good school in Turkey, but it was an institution catering to the upwardly mobile middle class students ("It was a very white-Turk school. There is this privileged part of society, who were Europeanized and they really did not have to deal with a lot of social issues. I was definitely one of the lower-classed persons in the school" (Interview, May 30, 2015)). Upon graduating high-school, he attended a top technical university in Turkey "I was able to go to [the best technical university in Turkey] because of [my good grades] which is very leftist and a great school. I liked it a lot and got my BS and MS [in Biology] there" (Interview, May 30, 2015). All of this indicates that Gunter believes himself a contrarian. He describes himself as someone grounded in an anti-elitist and egalitarian values. From his personal domain to his social positioning at his school, he says he has always been aware of a certain status quo value system, and he has generally rejected it.

Professionally speaking, Gunter says he wants to do "research in any capacity [in the long-term]; it can be at a university, the USDA, or a private institution. My research goals are things that combine certain levels of biological approaches, starting from genetics to ecology, to behavior. I'm usually matching the bottom to the top in biology. I'm a strong supporter of the idea that there is a genetic basis of all the things we see around in the living world and most of my research is related to that" (Interview, May 30, 2015). Though his Ph.D. research relates to agricultural work, he says he is more interested in evolutionary work and eventually wants to run

a laboratory on evolutionary genetics. He also wants to work as a general science communicator, whether through writing or just presenting interesting things about science to the public. He is not blindly committed to being an academic; he wants to do scientific work in any possible capacity.

2. Susan: My second participant, whom I use in this research more as a point of comparison for Gunter's literacy practices, is Susan. Born in Canada, growing up in Taiwan, and coming to the US at the age of 14 to pursue High School and college, Susan has had a life of "moving around a lot" (Interview, January 12, 2015). Arguably her lifestyle parallels her father's, "who works for an airline company and currently resides in Burma." Her mother still lives in Taiwan and runs a business. She describes herself as someone interested in the "humanities" who ended up pursuing a PhD in political science more by accident than through planning. She says she was always more interested in doing women's studies, but Penn State did not have a standalone women's studies degree. At this point, however, Susan wants a tenure-track position in political science because it is easier to work in women's issues from a political science perspective than the other way around ("I want a position in political science because sometimes it's easier to explain poli-sci people about gender than it is to explain quantification to women's studies people" (Interview, January 12, 2015).

Susan is very interested in activism, something she struggles to fit into her academic work. An experience she regards as one of her most important was working for a reproductive rights organization, which investigated whether domestic crisis centers in New York City had provided misleading information about abortion. She also believes that political science, as a discipline, has an implicit US-centric bias and this has discouraged her from pursuing the type of comparative political research work she wants to (covered in 5.5). In the end, she has chosen to

focus more on her teaching activities and represents herself as a teaching candidate instead of as a political science researcher. In sum, Susan can be described as independent from her surroundings; from 14 onwards, she has lived away from her family, either in dorms or as an adult on her own. This does not mean that she felt unsupported by and disconnected from her family. She says her parents always supported her, but there were always certain tacit expectations that came from being Taiwanese ("My mom wanted me to major in business in college. When it comes down to getting a PhD, which is really hard, and a career in academia is really difficult. And I think it has a lot to do with me being a woman. If I wasn't a woman they would not be as concerned" (Interview, January 12, 2015).

This autonomous attitude was also apparent in Susan's pursuit of resources and activities outside of the work and network of political science. Most of the grants she wrote, for example, were for sources that she found herself rather than for sources within her department. She also worked with the graduate writing center on the majority of her texts, from research articles to teaching statements – learning to make use of both disciplinary and non-disciplinary sources as a part of her academic socialization, especially as it related to academic literacies. Sometimes this distributed approach to writing caused frustration; her advisor either provided her comments on her draft well after she needed them or asked her to undo all the work she had done on a genre before she received feedback ("I actually spent a lot of time with the GWC on them before I showed them to my advisor and that was a major mistake. I had to make major changes after talking to my advisor".)

3.4.2 Interviews

Beginning in early 2015, I conducted a series of structured and semi-structured interviews with my two participants. My first interview, which was meant to gather general

background information, was based on a structured interview protocol with specific questions (see appendix A for IRB approval). In keeping with my focus on gathering background information on Gunter and Susan's motives and literacy practices, the interview questions were organized into questions regarding general identity and education, peer groups and friends, and mentors and advisors. These questions focused on prompting responses that might provide information to better inform my analysis of their literacy practices artifacts and observations of literacy events.

Subsequent interviews were initially planned to be discourse-based and follow a "cyclical talk around texts" (Lillis 2008). Over the course of my research, as it became clear that developing an emic understanding of their literacy practices required information on aspects of their socialization and disciplinary activities far removed from writing, I adjusted my interviews with Susan and Gunter to regular open-ended discussions on topics related to writing, research activities, job applications, as well as everyday non-academic practices. I conducted these interviews in multiple locations, sometimes in their offices, sometimes in their cars, or sometimes over coffee or lunch. This practice provided rich interview data, and enabled me to compare my own "initial hunches" (Heath & Street 2008) regularly with their perspectives about their practices and socialization processes. It also helped me build rapport with my participants and establish trust so that they could open up about their concerns about aspects of their lives and academic socialization that they might not disclose in formal contexts. My status as a fellow graduate student and my social interactions with them in informal and non-research settings facilitated additional insights through "collaboration" on their academic socialization (Horner 2002). At the same time, these open interviews also "talk around texts" related to changes made

on the academic and extra-academic texts they developed during this socialization and which I collected during my study.

Gunter

Over the course of the study I interviewed Gunter 15 times. These interviews were initially structured around an interview protocol related to general background information. This was the case with the first interview where I provided Gunter the interview questions prior to the interview. Sometimes, I conducted impromptu interviews to remain updated on Gunter's recent activities and touch base about specific questions I had about aspects of the collected data. This was the case for the interview with Gunter on December 9, 2015. It lasted about 5 mins and it comprised of questions related aspects of a lab-presentation I had observed him for on December 7, 2015. On another occasion, Gunter and I conducted a ten-minute interview in his car about his experiences at a conference he had attended a week prior; he had another engagement at the time and so he agreed to answer my questions while he was driving.

On other occasions, the interviews were semi-structured and often based on open-ended questions. I derived the questions for these interviews from my reading of writing studies and academic socialization literature at the time, aiming to identify the literacy practices in the STEMs vis-à-vis the socialization of an apprentice-scholar (i.e. the norms of publication, conference presentations, communication in the sciences, and securing extramural funding). In these interviews, I often utilized discourse-based "talk around texts" (Lillis 2008) and "stimulated recall approaches" (Blakenslee & Fliescher 2007). These types of interviews comprised the majority of my 15 interviews with Gunter and took place in his office, cafes, or even his home. In these interviews, I frequently used stimulated recall approaches to discuss changes to literacy texts and how they were brought about, whether he made those changes

himself or in partnership with his collaborators. This was the case for an interview I held with

Gunter on March 22, 2016. During the interview, I provided him examples of a figure related to

a key idea in a review article as it developed through the various drafts of the text. I also utilized

"think-aloud protocols" (Smagorsky 1994) – for example, in the March 22 interview, I asked

Gunter to describe his thinking as he reviewed a presentation he had made for an extension

presentation called "Science 101 for Beekeepers."

List of interviews with Gunter:

Interview Title	General content (duration)
Interview, May 30, 2015	General background; education and personal values; disciplinary practices; goals (44 mins)
Interview, June 27, 2015	Discourse-based explanation of disciplinary practice (Nocema application); background about developing interest in entomology (10 mins)
Interview, September 30, 2015	Disciplinary literacy practices; grants; publication; research (34 mins)
Interview, October 12, 2015	Disciplinary literacy practices; article writing; selection of journals (4 mins)
Interview, November 10, 2015	Disciplinary literacy practices of conferences; distinctions between funding organizations (e.g. NSF vs. USDA); networking as a socialization practice; feedback (11 mins)

Interview, November 22, 2015	Disciplinary literacy practices; grants; conferences; networking at conferences; extra-academic literacies and entomology (20 mins)
Interview, December 12, 2015	Discourse-based discussion on feedback (5 mins)
Interview, January 14, 2016	Discourse-based discussion on dissertation research; journal; grants; post-PhD plans; feedback from lab-presentation; grants (to NSF and Costco) (15 mins)
Interview, January 25, 2016	Discourse-based explanation of disciplinary practice (Nocema infection measurement); academic socialization and PI's mentorship; differences between himself and his brother (dispositions) (55mins)
Interview, February 16, 2016	Disciplinary literacy practices; authors, collaborators; journals; research; mentorship (20 mins)
Interview, March 22, 2016	Disciplinary literacy practices; extra-academic literacy practices; figures, collaboration, and cognition (52 mins)

Interview, April 21, 2016	Networking; translation practices of book *Life-Rachett*; extra-academic literacies (37 mins)
Interview, September 09, 2016	Extension specialist positions in entomology; disciplinary literacy practices; writing process and learning from PI; mentors; pursuing entomology and post-PhD plans (37 mins)
Interview, October 07, 2016	Moving out of US academia after graduation; his frustration with working with his PI; professors too conservative to see new research avenues – the bee learning paper that got published and which he also had the idea for (39 mins)
Interview, November 11, 2016	Talked about his motives for participating in extension work "basically because taxpayers are paying for his degree"; disciplinary literacy practices; extension conferences versus scientific conference (36 mins)

Susan

I conducted 10 interviews with Susan during the course of my research. These interviews were initially structured around a formal interview protocol – this was the case for the first and second interviews (see Appendix A for IRB approval and interview protocol). In these interviews, I aimed to gather background information about Susan, her academic socialization as

a graduate student, and her motivations. I also focused on her use of institutional literacy resources at Penn State, such as the graduate writing center and research group meetings (RGM) (Swales 1990). My interviews with Susan were generally more focused and pre-planned than Gunter's interviews, and took place in Susan's office, the graduate writing center, or, on a few occasions, the ground floor of her apartment building complex.

As the study proceeded and I realized that I was more interested in understanding how literacy practices impact (i.e. afford or constrain) academic socialization, my interviews with Susan took on a more semi-structured format and I tended to utilize open-ended questions as opposed to discourse questions or talk around texts. These subsequent interviews first focused on issues she felt she faced as an international social scientist doing comparative work in a discipline that relied on empirical methods (Gunter did not really face this issue because he studied the evolutionary biology of bees). Given our open-ended format and participant-led questioning process, we also ended up focusing heavily on the general experiences she had had applying to jobs, which is what Susan was investing a great deal of time and energy at the time of my research. Finally, several of these interviews utilized stimulated recall approaches to "talk around texts" on the three articles she had been working on during the time of my research.

The list of interviews with Susan includes:

Interview Title	General content (duration)
Interview, January 12, 2015	General background; education and personal values; disciplinary practices; goals; GWC activities (54 mins)
Interview, April 25, 2018	Follow-up on reading group; disciplinary literacy practices; mentorship (15 mins)

Interview, May 02, 2015	Disciplinary literacy practices (reading groups and conference articles); GWC (30 mins)
Interview, September 2, 2015	Follow-up on reading group; disciplinary literacy practices; mentorship; GWC (50 mins)
Interview, Oct 8, 2015	Research articles; disciplinary research practices; job packets; reading group practices; GWC; mentorship (50 mins)
Interview, November 10, 2015	Disciplinary literacy practices; GWC (50 mins)
Interview, January 20, 2016	Disciplinary literacy practices; networking at conferences; (50 mins)
Interview, February 25, 2016	Disciplinary literacy practices; job search; (50 mins)
Interview, March 19, 2016	New job at Smith College; reviewers; disciplinary literacy practices (case-selection question); academic brokers; (30 mins)
Interview, August 28, 2016	New Job; Dissertation defense (case selection question); mentorship; disciplinary literacy practices (40 mins)

3.4.3 Literacy Artifacts

Gunter and Susan's academic and extra-academic literacy artifacts served as important data sources for this study. These artifacts included journal articles, conferences papers and

presentations, research and grant proposals, teaching philosophies, and lab reports, among others. In other words, I focused on literacy practices that were authentic genres of their disciplines. I collected all the available iterations of these texts, which usually included embedded comments from their advisors and other readers. I also collected supplementary memos, reviewer comments, and emails that were attached to the generation of these genres, collecting a body of data as a "genre-system" to be interpreted in terms of the textual and literacy practices making up "the total work accomplished by the system and how each piece of the writing contributes to the total work" (Bazerman & Prior 2004, p. 326).

I did not collect texts that Gunter and Susan produced for classes unless they directly connected to the authentic disciplinary literacy practices listed above. I aimed to focus on them as apprentice researchers writing texts for the purpose of socialization and disciplinary practice rather than as students being assessed. Pedagogical genres, while certainly important, have the disadvantage of being situated within the activity-system (or a "genre-system") of the classroom and are therefore never true pictures of the disciplines, try as they might to represent the academic profession. They are simply too well-structured problem spaces to be useful to disciplinary socialization. Additionally, the student-role, while certainly crucial in the socialization into their disciplines, is something apprentice researchers must actively work to minimize if they are to become legitimate members and experts in their field. This was certainly the case for both Gunter and Susan. Thus, the aspects of social mediation and disposition that my research questions consider would not figure significantly in pedagogical texts and I actively avoided collecting data on such practices.

At the same time, some of the texts I analyzed in this study originated as assignments for classes and were informed by pedagogical activities. This made the analysis of the texts as

discrete units difficult and, as some of my analysis in 4.2 shows, there was always significant

transfer between pedagogical activity systems and academic activity systems. However, for the

sake of analytical coherence, I viewed the information provided about previous activity systems

as part of the overall information of the given text. This provided "maximum text histories"

(Lillis & Curry 2006) for the respective documents.

Gunter

The academic and extra-academic literacies and genres produced by Gunter that I

collected as a part of this study ranged from a review article (initially started as a literature

review for his dissertation), a journal article, presentations for conferences and workshops, and

agricultural and academic research grant proposals. Because of time-constraints, I analyzed only

a selection of these texts; even though I collected "occluded genres" including cover letters or

reviewer's letters for journal submissions, I did not analyze these texts in detail. Gunter wrote his

genres in Microsoft word documents using embedded comments and track-changes: each reader

and writer would save a new draft as a newly dated file and include the name of the person who

had last made the changes to the text in the title. This meant I was able to acquire a complete list

of drafts of academic texts and detailed notes on all the comments each reviewer or co-writer had

made on those texts. This provided me an incredibly rich body of data that was particularly

useful in answering my research questions. The list of the selection of drafts used in this study is

as follows (I excluded other iterations of the texts listed below because I did not directly code

them as a part of my triangulation):

Original Text Name (type of text)	Text Name Used Here
OW Review lab meeting ETYA	Review Article 1 LM E 20141106
OW Review lab meeting CMG	Review Article 1 LM CG 20141106

OW Review lab meeting GV	Review Article 1 LM GV 20141106
OW Review lab meeting HH	Review Article 1 LM HH 20141106
OW Review lab meeting CCR	Review Article 1 LM CR 20141106
OW Review lab meeting MJP	Review Article 1 LM MP 20141106
OW Review – 121714	Review Article 2
OW Review – 122614	Review Article 3
OW Review – CMG 020215	Review Article 4
OW Review – CMG_MTF 060215	Review Article 5
OW Review – 02102015	Review Article 6
OW Review 021715 Lab Meeting Dave	Review Article 7 LM Dave
OW Review 021715 Lab Meeting GV	Review Article 7 LM GV
OW Review 021715 Lab Meeting MJP	Review Article 7 LM MP
OW Review 021715 Lab Meeting ADV	Review Article 7 LM AV
OW Review 021815_CMG After lab meeting	Review Article 8
OW Review 022415_CMG_MTF	Review Article 9
OW Review 022815	Review Article 10
Review Paper Published	Review Article 11
Cover Letter March 1, 2015	Review Article Cover Letter 1
Cover Letter May 28, 2015	Review Article Cover Letter 2
Response to reviewers –CMG	Review Article Reviewers' Comments
OW MS 062315_CMG	OW Draft 1
OW study manuscript - 092515_CMG_MO	OW Draft 2

OW study manuscript - 102715_CMG	OW Draft 3
OW study manuscript - 112415 - CMG.mtf	OW Draft 4
OW study manuscript - 120615	OW Draft 5
OW study manuscript - 120815_CMG.mtf	OW Draft 6
OW study manuscript - 122015 for JEB_CMG	OW Draft 7
OW study manuscript - 122115 for JEB	OW Draft 8
OW study manuscript - 122315 for JEB	OW Draft 9
OW model 022615 (illustration)	Figure 5
OW model 022615 (2) (illustration)	Figure 5a
OW model_CMG 022615 (illustration)	Figure 5b
OW model new 04162015(illustration)	Figure 5c
FigReg of winter bees2	Figure 6
PSBA 2016 Meeting Poster (Presentation)	Gunter Poster 2016
Lab Meeting 110716 (Presentation)	Lab Meeting 1
Landscapes surrounding Apiaries (Presentation)	Lab Meeting 2
Science 101 for Beekeepers (Presentation)	Science 101 for Beekeepers
SARE proposal 04142013	2014 SARE Proposal 1
SARE proposal 05172013	2014 SARE Proposal 2
SARE proposal 05202013	2014 SARE Proposal 3
SARE proposal CG 05022015	2015 SARE Proposal 1

SARE proposal 05112015	2015 SARE Proposal 2
NE SARE Full Proposal	2015 SARE Proposal 3
SARE annual report 2015	2015 SARE Report 1`

Susan

The academic texts produced by Susan that I collected as a part of this study ranged from two journal articles, a teaching philosophy, and an academic research grant proposal. Again, because of time-constraints, I analyzed only a selection of the texts in this study; even though I collected "occluded genres" including cover letters or reviewer's letters for journal submissions, I did not analyze these texts in detail. Susan usually addressed changes made through embedded comments and accepting or rejecting track changes on her documents using MS Word and would save her new text with a new date, replacing the draft sent to her from her reader. This meant that I could not easily read comments readers had made through embedded comments, but I was able to identify changes made by comparing different drafts of the texts, each saved with a different dated name. As a result, I had to explicitly utilize the "textual history heuristic" approach that focused on "additions, deletions, reformulations, positioning, publishing conventions" (Lillis & Curry 2006) as well as my own identification of "comparative" framings, or rhetorical moves that compared different sites or research object analyses. The list of the selection of drafts used in this study is as follows (I excluded other iterations of the texts listed below because I did not directly code them as a part of my triangulation):

Original Text Name (type of text)	Text Name Used Here
Gendering Immigration 20150319	Media and Gender 1
Gendering Immigration 20150326	Media and Gender 2

Gendering Immigration 20150326_labedits	Media and Gender 3
Gendering Immigration 20150819	Media and Gender 4
Gendering Immigration 20150902	Media and Gender 5
Gendering Immigration _ economic 20150912	Media and Gender 6
Gendering Immigration _ economic 20150913	Media and Gender 7
Gendering Immigration _ economic 20150922	Media and Gender 8
Gendering Immigration _ economic 20150922 _ssrnotes	Media and Gender 9
Gendering Immigration _ economic 20150927	Media and Gender 10
Media's Gendered Framings of Economic Consequences	Media and Gender Presentation
Asian MP Paper 20150312	Asian MP 1
Asian MP Paper 20150319	Asian MP 2
Asian MP Paper 20150330	Asian MP 3
Asian MP Paper 20150506	Asian MP 4
Asian MP Paper 20150508	Asian MP 5
Asian MP Paper 20151110	Asian MP 6
Asian MP Paper 20151125	Asian MP 7
Do East and Southeast Asian Female Politicians Serve as Role Models	Asian MP 8
Gender and Society Review Comments	Asian MP Reviewer Comments 1
Political Research Quarterly Reviewer Comments	Asian MP Reviewer Comments 2

NSF_20141030	NSF Grant Proposal 1
NSF_20141108	NSF Grant Proposal 2
NSF_20141108_labedits	NSF Grant Proposal 3
NSF_20141124	NSF Grant Proposal 4
NSF_20141201	NSF Grant Proposal 5
NSF_20141211	NSF Grant Proposal 6
NSF_20150203	NSF Grant Proposal 7
NSF_20150623	NSF Grant Proposal 8
WMST Teaching Philosophies 20150410	WS Teaching Philosophy 1
WMST Teaching Philosophies 20150921	WS Teaching Philosophy 2
PLSC Teaching Philosophies 20150811	PS Teaching Philosophy 1
PLSC Teaching Philosophies 20150901	PS Teaching Philosophy 2

3.4.4 Observations

To immerse myself in the literacy practices of my two participants, I conducted a series of field-observations of literacy events and disciplinary activities. In addition to conducting initial interviews and examining literacy artifacts, I requested that my two participants enable me to observe and participate in activities they believed would be salient to my research and understanding their socialization. This request aligned with the study's "intermittent time mode" and enabled me to hone-in on times of data collection that would be particularly salient to my ethnographic study. They agreed to selective observations and informed me of occasions when they would be participating in activities that they thought might be of interest.

For Gunter, this resulted in four visits to his lab and offices, one observation of a panel talk provided to graduate students at Penn State about academic publication, one visit to a

beekeepers' conference held at Penn State, and two visits to his bee-colonies. Three of my visits to his labs occurred as a part of interviews and enabled me to gather information on the feel of his department and its activities (Figure 1, panels 3,4, 5, and 6). On one of these occasions, Gunter and I discussed his general activities as a part of his graduate student socialization while he was simultaneously collecting data on an infected sample of bees. On another occasion, Gunter was working on a presentation for a conference and we were able to discuss the rationale for his presentation. Finally, I was also able to record a lab-meeting during one of these visits. At the meeting, Gunter presented his data and research to his lab, and received feedback. This literacy event lasted several hours and included another presentation by fellow graduate student in his lab. The observed and recorded interactions during this lab-meeting enabled me to identify the communicative and collaborative culture of the lab (aspects of practice that were also corroborated by the types of written comments provided on the drafts of the genres Gunter wrote).

My visits to Gunter's bee-colonies (Figure 1, panels 1 and 2) and his offices (Figure 1, panels 3, 4, 5, and 6) show that the space and disciplinary activities of entomology are not the neat and well-planned sites we think of when we imagine university labs. The building reeks of manure and bees (Figure 1, panel 2), and the workshop and shed attached to the colony (panel 6) is damp and filthy. One of the hives Gunter uses for his experiments (Figure 1, panel 1) is actually situated approximately ten miles outside of State College, inside acres of corn-fields owned and used by the university for agricultural and other experimental purposes. The area is inaccessible without specially provisioned trucks and the hive itself is fenced off with high-voltage electric fences to ward off bears. Learning to be a scientist in such a context means being hands-on and active, being able to work under whatever the conditions are in the field on a given

day. Gunter liked this aspect of the profession because he does not enjoy being at his workbench or desk all the time.

By comparison, the beekeeper conference was a more commercial affair. Held in a hotel in downtown State College, on this occasion, the two-day beekeepers' conference was facilitated and supported by the Center for Pollinator Research and the Department of Entomology, Penn State. I was able to attend daily talks – including one delivered by Gunter's adviser – and observe Gunter's poster session during my two-day observation of the conference. As panels 7 and 8 of Figure 1(below) show, the conference focused primarily on topics of interest to beekeepers and beekeeping as opposed to academics. Even Gunter's poster session communicating his research (panel 8) was framed in terms of what he learned from an experiment to reduce bee-losses during winter through pheromone treatments.

Figure 1 Gunter and his Activity Space (left to right): Gunter checking for the queen while cleaning a hive; a colony of bees kept as a part of the entomology lab; Gunter's workbench at his

lab; Gunter's desk; a nanodrop, a type of spectrometer, used to measure microvolumes of liquids; empty hive-boxes stored in a shed by the entomology lab; a retailer station at the beekeepers conference selling vaporizers and other beekeeping chemicals; Gunter presenting his study to a conference attendee.

In comparison, my study of Susan's literacy practices was initially based on interviews and observations at the graduate writing center, which she attended regularly (panel 1 in Figure 2). These observations sometimes took the form of participant research when I was consulting on Susan's texts; on other occasions, I would observe other consultants working with her. I also often conducted informal interviews about her disciplinary activities after the consultations. In addition, I was able to observe five meetings of the Politics and Gender research group (RGM), an interdisciplinary faculty and graduate student group that would meet to review texts by its members (panel 4 shows the bar where these meetings generally took place). The members of the group included Susan's advisor (a tenured professor in political science and women's studies), two tenure-track professors in political science, one tenure-track professor in geography, and four graduate students in political science (including Susan). I recorded the two meetings in which the group reviewed Susan's work – one in April and one in August.

I also to regularly visited Susan in her political science offices over the summer in 2015 when she was conducting Stata analysis on her office computers (panel 2 of figure 2). In addition, I observed her regular writing practices when she was working in her own offices during the Spring 2016. The writing space can be seen in panel 3 of figure 2. Usually she wrote on her laptop, but she typically conducted her statistical analysis on computers in the lab (panel 2 of figure 2). On a few occasions, she invited me to her apartment (which she shares with her partner, who is also a graduate student at Penn State) and showed me her private offices there. However, Susan informed me that she never worked at home and almost never used her desk to write.
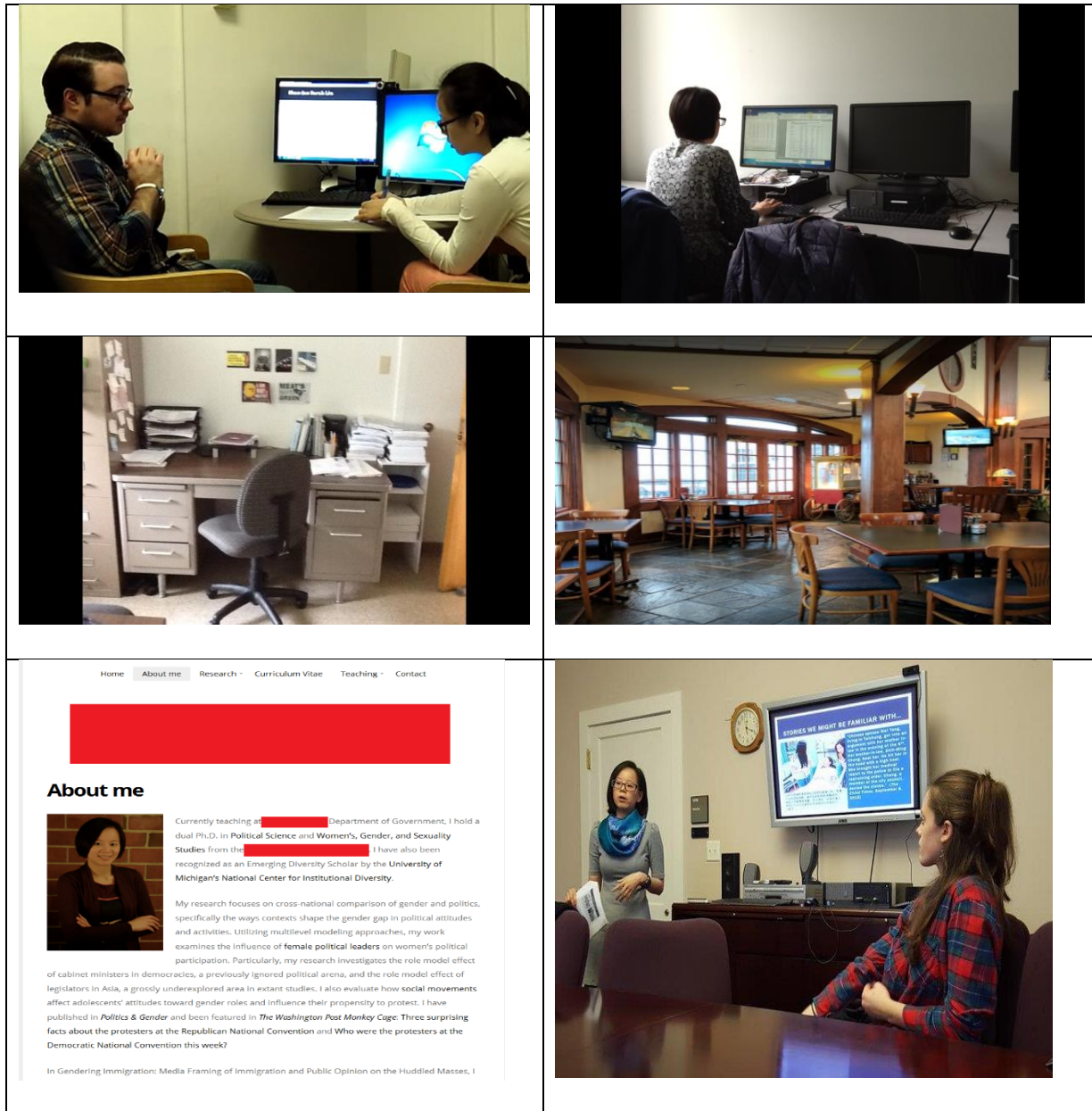
Figure 2 Susan and her Activity Spaces (left to right): Susan at a GWC consultation; Susan analyzing data; Susan's office desk in political science; bar where Susan's reading group meets; biography page from Susan's website; Susan presenting her research at a university symposium lecture.

3.4.5 Recordings of Literacy Events

My study also allowed me to collect recordings of Gunter and Susan in genre practices either directly related to the texts they were producing or in general discussions with other graduate students about academic publishing. I made these recordings in various contexts in the

university, from departmental activities to graduate writing center activities. The lab-meetings

and reading group meetings are as follows:

Description of literacy event	Name in Study
Political Science and Women's Studies Reading Group April 20, 2015 (57 mins)	Susan Group April 20, 2015
Political Science and Women's Studies Reading Group August 31, 2015 (57 mins)	Susan Group Aug 31, 2015
GWC Consultation August 28, 2015 (50 mins)	Susan GWC Aug 28, 2015
GWC Workshop on Publication March 15, 2016 (70 mins)	Susan and Gunter GWC March 15, 2016
Entomology Lab meeting December 7, 2015 (40 mins)	Gunter Group Dec 7, 2015
Entomology Beekeepers Conference November 11, 2016 (50 mins)	Gunter Con Nov 11, 2016

3.4.6 Conceptual Memos

My observational field notes included audio recordings of the sessions and conceptual

memos. To compliment my recordings of the discussions I had with my two participants or the

interactions that made up their disciplinary activities, I typed my field notes into 1-page

"conceptual memos" in which I listed my observations and briefly discussed "generic ideas that

come from particular events, along with queries raised" (Heath & Street 2008). These conceptual

memos supplemented my recordings of disciplinary activities in the development of a "breadth

of concerns" rather than "focus and detail" (Hammersly & Atkinson, 2007: 142).

I divided my memos into two functional sections (see Appendix B for a sample conceptual memo). In the first section, I narrated my experience of the observation without focusing on any specific area of the observation. Through the process of narrating my experience, I also noted aspects of the experience that were not captured in audio recordings, such as my participants' mood. In this section, I also tried to explicitly articulate my own subjective experiences, taking a "constant comparative perspective" (Heath & Street 2008) to engage with both the aspects of their disciplinary knowledge I did not understand as an outsider (i.e. as empirical researchers, they often understood knowledge in terms of statistical significance and I completely lacked practical competence in statistical analysis) and activities that we shared as fellow graduate students (i.e. both my participants and I were post-ABD graduate students working on developing research for our respective dissertations, applying and presenting to conferences, and drafting articles for publication.)

In the second functional section, I laid out my reflections in terms of topics of concern to literacy and the writing process. This practice enabled me to put my observations directly in conversation with writing studies literature, subsequently providing a space for me to think through my own ideas and identify areas of analytical and data collection focus as I proceeded. For example, I ended a memo written on the same day as a discourse-based interview with Gunter about how he came to develop a review article for publication, with this set of questions and notes: "Look at the rewriting process in terms of the effect of classes and how changes from the class domain to the journal domain affect the writing process. Is it also about socialization? What about the affordances of the figure in communicative or cognitive terms? What about the notion of authorship given that the review article is written by several people?" (Memo

20160402). Such statements, in retrospect, represent the seeds of the type of analysis and conclusions I discuss in chapters 4 and 5 of this dissertation.

Over the course of my study, I wrote a total of 33 conceptual memos. Three of these memos referred to both Gunter and Susan, 15 related to Gunter, and 15 related to Susan. While initial memos lack my functional divisions, all memos written after August 2015 followed my new organizational schema.

Memo Title	Content
Memo on Susan 20150331	Meeting at the GWC, conference presentations, and grant-proposals.
Memo on Susan 20150420	Relates to the reading group observation; a lot of the feedback she received in the meeting related to how to frame the research; there is an implicit hierarchy in the group; Lucy, Susan's advisor generally runs the discussions and provides takeaways from the meeting; the type of feedback she receives from more experienced members also relates to very general comments on how there are too many threads in the research and it needs to be broken up.
Memo on Gunter 20150608	Met him at a birthday dinner; dresses in checkered shirts all the time; talked about how people's casual use of scientific terms irritates him because it's not specific.
Memo on Susan 20150611	Qualitative research methods and finding informants through snow-ball sampling; interviews with informants went against her research assumptions.

Memo on Susan 20150612	Social meeting; her stated atheism and the tensions she felt in her undergraduate at Notre Dame therein; hiding a tattoo from her father; about how she was often seen as a local translator for her work colleagues when she was working in China.
Memo on Susan 20150618	Observation of office work; she worked on her research paper she had gotten "a revise and resubmit on;" she was also reading cover letter samples for positions in women's studies.
Memo on Susan and Gunter 20150618	Met both at dinner; Gunter made comments about me being a stalker; Susan is definitely less facetious of the two about my research.
Memo on Gunter 20150626	Accompanied Gunter to check on his Nocema hive, which was a twenty minute drive; he talked about how he got into entomology, how he initially wanted to work in medicine but then worked with a TA in college and got interested in bees while he was helping her; through her, he met with Turuk, who became a mentor.
Memo on Gunter 20150822	Went to Gunter's comprehensive party at a park; it was a picnic; Gunter asked people to make kites, showing how he is someone who enjoys these types of craft activities.

Memo on Susan 20150824	Went to movie with Susan and her colleagues in political science; a lot of the discussions were about office gossip and passive aggressive quips.
Memo on Susan and Gunter 20150826	Met with both at the union meeting; Susan said she was busy writing job documents and was using her women's studies/poli sci reading group to workshop a sample paper (the media paper); Gunter took me home and talked about how grants and articles were always to different audiences.
Memo on Susan 20150831	This memo relates to my observation of the poli-sci/women's studies reading group; it was held at Whiskers and Susan presented a potential job paper; the feedback she was provided was opposite-speak (i.e. they did not talk specifically about the paper, but provided a lot of things they would like to hear about on this topic); she spent the end of the meeting talking with her advisor about it; the feedback she gets from more experienced members tends to also work in highlighting the argument in a way that a US disciplinary audience would understand.
Memo on Susan 20150929	Talked with her about the new version of the media representation paper, which has changed from a cross-cultural or comparative political paper to a much more US-centric paper; it has also shifted into discussing the issue of economic framing. Both things coming from her advisor.

Memo on Susan 20151009	Met at the women's studies office, which is where she likes working because its quieter than the poli-sci office; office is very stark and completely empty; she expresses frustration with the job search and says that a lot of the things she did to prepare for it were wasted.
Memo on Gunter 20151013	Met at the lab while he was finishing up some of his work; he talked about reading for a few journals and often how papers from outside the US had problems with research methods.
Memo on Gunter 20151207	This was about the lab-meeting where Gunter presented his research; discussions ranged from research points to presentation points (Gunter is going to present part of his research at a major conference a few days after the meeting); other members of the lab take on a reviewer persona- starting off comments with "as a reader…"; PI tends to end each round of questions by sort of summarizing and putting people on the same page (Lee Ann does the same thing); talk of patents keeps coming up in the other presenters talks ("money is money").
Memo on Susan 20151212	Met in the women's studies office; it might be a way to stay away from other poli sci students and faculty;
Memo on Gunter 20160116	Met at the Hub; he says he enjoys working with extension people but they are difficult to work with because they are

	farmers and old and set in their ways; so he has to explain things to them in a way they would understand; he uses his foreignness as a tactic to communicate with them, often asking for help with language from them as he is schooling them on the scientific methods of bee-management.
Memo on Susan 20160120	Talked about her frustration with the job market and publication; she says she still does not understand how publication works – sometimes she gets detailed feedback and then another time a straight rejection; at the same time the one paper she did publish was accepted without any real revisions, and it was one that her advisor put her own name on – the section that Lucy added was taken out.
Memo on Gunter 20160125	We talked while he was preparing his Nocema samples; he talked about the difference between himself and his brother; he also said that he was thinking of how he might turn the Nocema into a part of his dissertation so as not to waste his time; his competence with the microscope shows that these embodied ways of using instruments have to be learned through practice.
Memo on Gunter 20160316	Met him in the new offices; he was working on his citizen science presentation, which he demoed for me and explained why he chose to present the data as he did; we also talked about the development of the figures in the review article

	and what that did for him for the grant and understanding the idea.
Memo on Gunter 20160402	Talked to Gunter about the figure; he explains that it is not just the figure that makes him think about the model, but the figure and the rewriting process; his PI also is able to understand the situation of the article better than Gunter and this can be seen in the ways she rewrites the rhetorical sections of the text.
Memo on Sarah 20160419	Talked about the Smith job; her two papers: one is the Asian MP paper, which has taken four years to write, which the reviewers in Gender and Society said should be sent to PRQ, which provided detailed comments and asked for a revise and resubmit; the second, the media paper, is still very incomplete, mostly because she does not have an answer to the Why Asia question. She chose the sites because of her language competence and her access to information, but that does not count in case-selection.
Memo on Gunter 20160424	Lunched at Fuji Gardens; talked about using some funding from extension to do some genetic analysis; he talked about sending emails to people to find out methods talked about in papers; he talked about his experience translating a book into Turkish and how it provided him experience thinking about language; his dissertation is "Phenomenon, mechanism, and

	then molecular-mechanism" in terms of the chapters; no longer thinks the Nocema project is doable as a part of the dissertation.
Memo on Susan 20160825	Met at Allenway; she said that the media paper was not working because the data wasn't there; she talked about how case-selection and definition of terms were the main issues in her defense; she also said that she was offended when her advisor suggested she get a proofer for her work, something she doubts would have been suggested to an L1 writer.
Memo on Gunter 20161007	Met for lunch; he talked about how he wants to leave academia because professors don't do research, but create the environment so that others can do the research – they are managers; he also complained about the short-sightedness of professors when it comes to research, about how his PI stopped him from doing research on bees learning, which came out in *Science* and it's what everyone is talking about.
Memo on Gunter 20161025	Met for lunch; he is adamant about leaving US academia now; things with his advisor have become tense and he does not think academic research is doing the type of research it needs to be doing; initially he thought he would work for the USDA, but now believes they are even worse; he wants to, in the long-term, get a job in a university in Europe and get his own colonies on which to do research.

Memo on Gunter 20161112	Observation of the beekeepers conference, which was a two day affair; Gunter's station had a lot of people come and talk; he tried to recruit several farmers to carry out his treatments in their hives; his PI's talk emphasized a lot of the work from her lab, showing that she is more a manager providing the outcomes of her teams work.

3.5 Reflexive Ethnographic Approaches

After the "postmodern assault" questioning the imperialist and positivist foundations of traditional ethnography, critical ethnographies have emerged in the field of education and other social sciences to replace more traditional ethnographic models. Such studies "problematize what goes on in schools in terms of the reproduction of social inequality and the potential for social transformation" (Lather 1986, p. 64). In writing studies – especially composition studies – critical ethnography has been integrated into the general mix of such theoretical traditions as postcolonialism, feminist inquiry, and Freireian critical pedagogy; this has shifted our understanding of academic writing to foreground the personal, social, and political aspects of learning to write in universities (see Sietz 2002 for more). This work has generally emphasized participants' potential for change and "the ethics and politics of representation" (Brooke & Hogg 2004, p. 117). It has called for self-reflexivity on the part of researchers, collaboration with the participants during the research and writing process, and multivocality in the research text – aspects that have all also been critiqued for placing too much weight on the written product and the writers' own experience (Horner 2002).

My study, put plainly, looks at people situated in a similar manner as myself. Gunter and Susan are both international graduate students pursuing academic research careers in the US who

do not come from Anglophonic western societies. Susan completed her undergraduate education in the US, like me. Even though Gunter did not come to the US until beginning his PhD, he did complete all his postsecondary socialization in an English medium university in Turkey. Therefore we are similarly identified as L2 English writers and international graduate students at Penn State. Additionally, I recognize that my research focused on their post-ABD socialization processes while I was in the same position. We were all aspiring "proficient contributory experts" (Collins & Evans 2007) or apprentice researchers in our respective fields at the time of data collection. Despite differences of gender, country of origin, or discipline, this meant that I possessed an institutional identity similar to those of my participants and this made the ethics of representation both more exigent and ideologically fraught. My analysis of their literacy practices and academic socialization always had to recognize the risk of being overdetermined by my own concerns.

In some sense, my participants were my friends and so it was difficult to maintain critical distance during both my analysis and data collection. During the interviews, for example, I adhered to Talmy's (2010) approach of interviewing as social practice that recognized that "data are collaboratively produced… [and therefore] data cannot be contaminated" (p.132). Gutner and Susan were no longer passive vessels providing answers, but agentive interactants who not only "held facts and details of experience, but, in the very process of offering them up for response, constructively adds to, takes away from, and transforms the facts and details" (Talmy 2010). As a consultant for the graduate writing center, I also actively worked with Susan on some of her texts (i.e., I was an active part of her literacy network) I analyzed, thereby engaging in activities akin to participant research (Sheridan 2012).

This meant that I had to use my conceptual memos to continuously reflect on my own positioning and interpretation during the data-gathering phase. This practice of self-reflexivity both enabled my analysis – I triangulated and compared the different data points – and enabled a postmodern foregrounding of subjectivity that emphasized an incredulity towards positivist knowledge. Finally, I have also regularly conducted member-checking activities with my two participants. I regularly provided Susan my interpretations of her activities and kept he updated about how my analysis was developing during our interviews. I did not provide her drafts of my dissertation chapters or the conference articles I had written on my study of her to avoid taking up her time. However, I was able to provide Gunter the texts of the articles I have written based on my study and we have had formal conversations explicitly addressing my text during which he corrected aspects of my analysis that he said were "flat out wrong" (Interview, November 11, 2016) or confirmed his agreement with my interpretations.

Chapter 4: Literacy Mediations and Graduate Student's Academic Socialization

> The university as a whole – my advisor – is awesome and she writes well. She spends enough time to give proper feedback. My lab gives good feedback. Everyone has their own perspective and once you get combined feedback from all these people, it helps. I'm definitely better than before I came to the university.
>
> (Gunter, Interview, May 30, 2015)
>
> I would say whenever my advisor okays it. [That's how I understand writing.] It's just that. There are times when I feel that my draft is ready to be sent out, but it's not. It's pretty much my advisor's approval.
>
> (Susan, Interview, January 12, 2015)

4.1 Introduction

This chapter is concerned with literacy mediations and their role in graduate student's academic socialization. I focus on understanding how experiences with the program, mentors, and peers shape Gunter's texts and then provide a snapshot from Susan's socialization process for comparison. How exactly does the "university as a whole" make Gunter a better writer? Is learning to write primarily about combining feedback and perspectives from others on texts or do less explicit elements of such involvement (such as the level of collegiality in the department) also shape the texts and his socialization? How does the situated practice of co-writing mediate Gunter's disciplinary writings and how does it contribute to his academic socialization? How can we understand other forms of meditation when we compare Gunter's interactions vis-à-vis literacy practices with Susan's interactions?

Writing studies research on textual production by graduate students has approached writing as a fundamental part of academic socialization (discussed in 2.3). Graduate students

acquire competency in academic genres and disciplinary practices through supervised practice in the activities of the graduate education. Under this model, graduate students learn the features of genres initially through classroom or laboratory activities – e.g., in the life sciences - and subsequently apply what they learn to produce new knowledge. Put simply, as apprentice-researchers, they are expected to publish by drawing from the knowledge they pick up in classrooms and combining it with research activities *in situ*. How texts mediate knowledge from classrooms, on the one hand, and from advisors, peers, and other "old timers," on the other, is fundamental to this practice of "cognitive apprenticeship," wherein the graduate student learn "through guided experience on cognitive and metacognitive, rather than physical, skills and processes" (Collins et al. 1989, p. 456).

At the same time that academic literacy practices mediate socialization, members of the groups who participate in that work also mediate literacy practices; they influence how genres are put together (i.e. the form) and into what work they are applied in in practice (i.e. the function.) Prior (1998) and Brodkey (1987) have pointed out that, as culturally organized activities and the mediums through which disciplinary work is coordinated and accomplished, academic texts are never the product of a single author writing in isolation. Academic writing is crucial to academic socialization precisely because it is the discipline; it is a social practice situated in the academy, mediated by multiple people (at the very least), either in the sense that the practice represents an activity in which multiple actions write the text together or in that the texts incorporate feedback from others. Writing is about people and academic literacy practices are no different. At the same time, intertextuality is also inherent to literacy practices; all academic writing is about participating in disciplinary conversations made up of other disciplinary texts (Bazerman 1988; Swales 1990).

This chapter's analysis of literacy mediations in Gunter's academic socialization aims to understand the role of mediations in academic socialization in a way that specifically responds to calls by scholars to empirically study the literacy practices of academic research in the contemporary context (Lillis & Curry 2010). Its focus on the literacy mediations shaping the textual production of international graduate students utilizes the concepts of literacy sponsors (Brandt 2001) and literacy brokers (Lillis & Curry 2010), building on previous research regarding mentors (Belcher 1994), cowriters (Blakeslee 2001), or peer reviewer suggestions (Paltridge 2015).

While much has been said about literacy mediation in new literacy studies research (see Barton & Prinsloo 2009), we still lack situated perspectives on the ways literacy mediations facilitate learning during the socialization process of international graduate students. A literacy mediator is "a person who makes his or her literacy skills available to others, on a formal or informal basis, for them to accomplish specific literacy purposes" (Baynham 1995: 39). Such an actor's impact on graduate student socialization research is important to understand given that mentorship is crucial to acculturating internationals in US universities, who come from both diverse backgrounds and plan to undertake diverse transnational career trajectories (i.e. not aiming to work as an academic in US institutions). Drawing from Vygotsky and *Engeström,* Prior (1998) articulates the role of mediation by describing language as a tool *through which graduate students socialize themselves into their disciplines*. In his studies, the discourses graduate students use to talk to their mentors and fellow graduate students about their texts often both mediate interactions with others and their understandings of tasks. In other words, language shapes their socialization and the purpose or goal of writing a text directly animates this process.

In her study of the development of mass literacy in US society, Brandt (1998) coins the term "literacy sponsor" to refer to people (as well as institutions) who act as literacy mediators. Framing literacy mediation broadly, she suggests that in order to understand how people learn literacy, it is important 'to think about who or what underwrites occasions of literacy learning' (Brandt 1998: 166). Sponsorship, as has been understood in literacy scholarship, is a holistic way of viewing literacy networks that underscores how people are fundamental to the development of literacy competence. Drawing on Brandt's work, Lillis and Curry (2010) deploy the concept of literacy brokers – academic and language – to hone in on interventions similar to sponsorship, but specifically interventions to the text. That is, they relate to secondary readers who focus on the text rather than the writers of a text. Their development of the literacy brokers concept also draws on Bourdieu's notion of cultural capital to describe "'literacy brokers' and access to them as representative of a powerful position straddling the 'boundaries and peripheries' between communities and groupings …[and foreground] the economic and power dimensions to text interventions and their consequences in the academic market place" (Lillis & Curry 2010, p. 88). Outside of studies of writing in academic contexts, literacy mediations have usually been used to understand the mobility of people and their work through interventions on and through literacy practices, such as studies of migrant's socialization (Mihut 2016; Baynham 1993) or international communication (Perry 2009).

As yet, most studies of literacy mediation in the context of academic knowledge production have focused on scholars in the peripheries writing for publication in center-contexts (Lillis & Curry 2006; Burrough-Boenisch 2003) and the dynamics of feedback in the publication process, especially when the writers are multilinguals (Curry & Lillis 2016; Paltridge 2015). Although Myers' (1990) study of L1 English researchers in biology initiated this discussion,

subsequent discussions of feedback on academic writing that do not focus on ESL or EAP continue to be rare. Given WIDs general handing over of EAP writing at the graduate level to L2 writing studies researchers and applied linguistics, this is not surprising.

This chapter aims to contribute to the scholarly conversation about literacy mediation by presenting a picture of the ways academic literacy practices enable the learning and socialization of international graduate students. Unlike other research on this topic, my analysis highlights how literacy mediations socialize graduate students and seeks to understand how literacy competence can be a function of literacy networks. My aim is not to explore the socialization of students learning the discourses and practices of their disciplines, as Prior (1998) does; nor do I intend to describe them as full members or researchers contributing or practicing knowledge through writing (Lillis & Curry 2006; Paltridge 2015). Instead, like Berkenkotter, Huckin, and Ackerman's (1991) study of graduate student learning the norms of research writing in the humanities, I examine the types of disciplinary socialization they undergo writing as researchers. My analysis shows that literacy mediations shape Gunter's textual productions in multiple ways, contributing to both academic literacy practices and academic socialization. In the first section, I elaborate on the forms of mediation that can best be understood as sponsoring and how Gunter's program affords, or "underwrites," his disciplinary writing in ways that go beyond the immediate genre. These sponsors, I find, mediate his knowledge of academic genres by determining how he understands them as situated literacy practices through classroom and lab-activities, and by providing an opportunity to write an invited article for a special edition.

In the second section, I look at the written feedback Gunter receives on two texts from members of his lab. This feedback, I argue, represents language-work as a collaborative effort of academic genre practices situated in Gunter's socialization process, whether in the domain of the

form (i.e. text), the domain of the content (information in the text), or the domain of the function

(i.e. what work it does). His peers mediate his texts' language and provide suggestions using

multiple strategies, maintaining and reinforcing the collaborative norms of the discipline even in

these non-formal feedback activities. Mediation by experts, in contrast, shapes the text by

drawing on the technical knowledge (content and function) that Gunter does not yet possess,

subtly nuancing their collaborative feedback stances into positions of authority.

The final section looks at the ways co-writers mediate the texts penned by Gunter in ways

that draw from their respective expertise. These literacy practices strategically recontextualize

the texts into new genre practices by providing information and value that Gunter would not

have been able to provide by himself. Juliana, Gunter's PI, contributes significantly to the

rhetorical aspects of the texts to broker their recontextualization into the publication genre and

other experts contribute more technical facets to the texts. In other words, these mediations help

the text to move and socialize Gunter into the discipline by illustrating the function of an

academic genre through these practices of strategic repositioning (I discuss this further in 5.4)

I end this chapter with an illustration of the literacy mediations in political science, for

comparison, showing practices that are more traditionally used in the writing classroom. The

way Susan develops one research paper based on the feedback from her advisor and another

mentor during a RGM show rhetorical components shaping the academic text differently than in

Gunter's socialization process. In Susan's case, the text also represents a site of socialization

where the mentors and the advisor provide advice based on their better knowledge of the field.

However, these types of feedback do not appear strategically designed to be collaborative and

facilitate Susan's socialization process. I argue that this traditional form of feedback exemplifies

the type of interactions that occur during the traditional writing process: interactions that

socialize students into the norms of the discipline rather than into its practices, which can lead to disidentification or "disinvesment" (Wiedman et. al. 2001).

4.2 The Literacy Mediations of Sponsoring

The first form of literacy mediations I identify in Gunter's academic socialization is the less direct influences of previous activities. These include lessons learned in classes he took as a part of the program (these come up in discourse based interviews and I incorporate this information as part of the text history of the academic texts I analyze), the oral feedback from advisors and lab-mates during regular lab-activities and presentations, and the invitation to publish an article for publication. These literacy mediations represent forms of support that Brandt (1998) calls "literacy sponsors" (defined in 4.1.) and Canagarajah (2002) identifies as "nondiscursive requirements of academic publication" in the socialization process. Such resources underscore the "occasions of literacy learning" (Brandt 1998, p. 166). If Gunter were not institutionally-affiliated with Juliana's lab and not a graduate student at the university he would not have had access to these resources, and developing competence in academic literacy practices would have certainly been more difficult. As much as he might be capable of learning disciplinary knowledge independently, Gunter simply would not succeed in acquiring the writing competence to be a member without such resources and support.

Socialization research (covered in 2.3) has extensively examined the activities I address in this section. Scholars argue that graduate students and apprentice researchers learn through cognitive apprenticeship practices, processes organized to move the apprentice along a continuum of scaffolded activities in well-defined problem spaces to less-scaffolded activities in ill-defined problem spaces through a "bi-or multidirectional contingent process" (Duff 2010, p. 171). Gunter's socialization trajectory follows this trajectory: he goes from writing lab reports

and in-class assignments to writing (as lead author) research papers or presenting at professional conferences as he advances through the program.

Writing instruction in this school of thought aims to highlight the situated and functional role of genres in academic socialization (Beer 2000). Belcher (1994) contends that both L1 and L2 students need classroom based instruction and mentorship to develop the disciplinarian and cultural competencies needed for academic writing, especially at the initial stages of graduate socialization. Morita (2009) points out that ESL writers often struggle to develop because they are unsure of how to interact with their professors inside and outside the classrooms. Rather than engage with them directly – as a student socialized into US education institutions might do – to improve their writing, ESL graduate students acquiesce to the feedback as a judgment on their shortcomings. This practice of maintaining distance from experts can rob graduate students of potential opportunities for "cognitive apprenticeship" during the foundational stages of academic socialization. Knowledge of the discipline beyond the requirements of the classroom is crucial and mentors are usually the best way to help new members through such academic enculturation activities.

Gunter's experience evidences explicit classroom instruction supplemented by the RGMs of lab activities and is a reminder that STEM socialization is mostly about legitimate peripheral participation in disciplinary activities rather than classroom work. Nonetheless, he did develop a large part of his sense of academic writing in his classes. This resulted from the fact that the classroom instruction he received did not focus on school genre practices (i.e., writing as assessment) as such; instead, it aimed to simulate the authentic genre practices of the discipline He credits a class called "Critical Thinking and Professional Development" for teaching him to see academic writing as contextually contingent. A part of the core-course list in Entomology,

the class foregrounds the writing requirements or academic literacies of a professional academic in the field; the course description states:

> This required course for Entomology graduate students focuses on developing the professional skills needed for a successful career in basic or applied research. Major topics addressed include *(i) effective scientific communication, (ii) the mechanisms of research funding and peer review,* (iii) critical evaluation of scientific evidence and arguments, (iv) basic principles of study design, and (v) research ethics and effective collaboration. Students engage in a variety of classroom activities, including lectures, discussions, and peer review of written assignments; and interact with instructors possessing expertise in each of the particular subject areas addressed, as well as with guest instructors working on cutting-edge topics in insect science and related fields. The course emphasizes practical application of the material presented to students' own research. Over the course of the semester, each student reviews relevant literature and develops and refines a research proposal based on their own scientific interests. (ENT 522: Critical Thinking and Professional Development Syllabus, emphasis mine)

Combining in-class lectures and mock disciplinarian activities, the class aims to introduce Entomology as a research and professional field to students (approximately 20).

Similar to the modules at MIT highlighted by Poe, Lerner, and Craig (2010), this class simulated a review process for a set of real grants as a part of "scientific communication" and "mechanisms of research funding and peer review." During the activity, course instructors organize students into review panels and provide them sample proposals that had been submitted to the NSF and USDA. Providing additional explanations as needed, the instructors ask the

students to score the grants based on the criteria laid out by the grant organizations. After the

class scored the grants, the instructors reveal the actual scores the proposals received and

everyone deliberates about how grants functioned in the context of the review situation, what

rhetorical moves worked better in relation to what criteria, and how each student might "pitch"

(Gunter, Interview, May 30, 2015) their research to those bodies in the future. Gunter explains

the assignment and what he took away from it:

> So we became the review panel. They gave us real proposals that have been
>
> granted or not. They know it, but they don't tell us. So we could do an unbiased
>
> recreation of the panel. It was really fun. There you see how it goes. So those
>
> people are reading 30-50 grant proposals, but they don't want to. They don't get
>
> paid for it. These are people who have other stuff to do. So let's say the panel is
>
> tomorrow, the majority of the scientists start reading their share that night. So
>
> they spend the entire night reading proposals, each 20 pages. So they read the
>
> titles, throw it out if they think about anything. Then they read the abstract. They
>
> don't have time for monkey business… [I learned in the class that, as they put it]
>
> a sleep deprived six-year old on five cups of coffee is reading [the grants I write.]
>
> That's what your brain is reduced to at that stage. That's my audience.
>
> (Gunter, Interview, March 22, 2016)

By contrast, the undergraduate education at Gunter's university in Turkey relied mostly on

reproducing lab reports based on a set of templates listed in books imported from Western

Europe or the US. He says:

> The textbooks were from the government. But we would get the English-English
>
> books from Longman and Oxford. I did a lot of lab-reports in my BA. I would

write ten lab reports. They would also ask us to summarize a subject (10 pages). I

didn't publish in my undergraduate. It was mostly homework and lab-reports. It

was the same for my MA. I wrote a 100-page thesis in English.

(Interview, May 30, 2015)

The focus on set-format genre practices without contextual information that Gunter talks about

points to a view of disciplinarian literacies as autonomous, a view that hides or occludes the

contingent nature of disciplinarian knowledge (Giesler, 1994); or, as Canagarajah (2002) puts it,

"[lacking] the opportunity to interact intimately with center-based disciplinary communities,

local scholars are left with stereotypes of what their discourse sounds like" (p.145). Gunter's

university in Turkey presents disciplinary genre practices as objects with a set of features, to be

developed in terms defined by the textbooks. Even though EAP and ESP research likely informs

such approaches, Gunter was hard pressed to regard them as memorable because they were never

represented as situated in specific contexts and with specific purposes. The idea that proposals

have readers – people who read them as a part of their academic service – probably would not

have occurred to the students in the university at all.

The education he receives in his PhD class, in contrast, reveals to Gunter the situated

nature of disciplinarian genre practices such as grants through "cognitive apprenticeship" and

scaffolding methods. It illustrates the work of the text as it functions, something the educational

methods followed in his Turkish university simply would not have been able to do. Breaking the

class into groups and asking students to adopt the roles of reviewers provides them a mock-

experience of reviewing proposals and the opportunity to understand how readers read proposal,

and thereby what to focus on in the writing process ("So they read the titles, throw it out if they

think about anything. Then they read the abstract. They don't have time for monkey business").

This class appears effective, fostering both learning of genre practice and the socialization process as such by involving them in the activities of entomology as a field (Carter et al. 2004).

It shows that like all literacy practices the grant proposal is *a priori* contingent on factors, one being the diminished attention span of a reader possibly "evaluating 30-50 grant proposals." The set-forms in such cases do not constrain the writing process; they make it easier for the readers to read quickly and efficiently ("people are reading 30-50 grant proposals, but they don't want to. They don't get paid for it. These are people who have other stuff to do"). The set-forms enable the reader – worst case "a sleep deprived six-year old on five cups of coffee" – to glean the major point or hypothesis, which usually means reading the title first, then the abstract, then the methods, looking out for ways to cull – or gatekeep - at each stage. Texts requiring more close reading become more expensive for such a reader and so genre forms that veer away from standardized norms are riskier.

Such experiences shape Gunter's understanding of academic literacies and expand his "good network" of writing and research support. As he moves into the last two-years of his program, he says of academic writing: "I am more comfortable with writing now and [I] am enjoying it… [I] translated a scientific article in Turkish into English" (Gunter, Interview, May 30, 2015). Gunter's experience learning academic genre practices raises the question of whether he would have so easily expressed this sentiment without having such "fun" and informative experiences with writing. It raises considerations about how literacy sponsor mediations during the academic socialization processes contributed to the views of the ESL writers Flowerdew (1999) surveyed. In other words, Gunter does not reiterate the view ESL writers articulated in Flowerdew (1999) that they chose to pursue quantitative work out of an ambivalence or disinclination toward the extended language or writing-work needed for qualitative explications.

How did Flowerdew's (1999) subjects' literacy sponsors represent and teach academic literacies during their socialization? Were the researchers taught a formal and feature-based approach to academic writing – akin to what Gunter received previously in Turkey – or did they also receive writing education through the type of scaffolded activities incorporated into "Critical Thinking and Professional Development" to learn about academic genres?

Similar to the lab-based research group meetings described by Blakeslee (2001) and Li and Flowerdew (2000) (presented in 2.4), Gunter's academic literacy practices (those presented here, at any rate) have been about socialization through mediations in a "collaborative and peer" network (Gunter, Interview, February 16, 2016), and texts are therefore more properly understood as extextualizations of multiple research activities. His research develops through a writing process wherein he writes up findings and discusses ways the research could be developed through one-on-one meetings with Juliana. He acts as the expert in these discussions and informs her understanding of the topic (this is what Duff (2010) means by the bi-directional process); Juliana oversees the projects of 10 people in the laboratory and so it is impossible for her to know details about each of her researcher's projects (see Collins & Evans (2007) for an elaborate discussion on distinguishing between "contributory" and "interactional" expertise, where the latter is the competency particular to advisors or primary investigators of scientific work). In these discussions, Juliana asks Gunter about methods – fulfilling her managerial role – or provides Gunter information about research in the field of relevance to him – acting as an academic broker. These research group meetings are a literacy practice of cognitive apprenticeship wherein Juliana oversees Gunter's socialization through the lab activities. Incrementally, Gunter builds up his findings through repeated data collection, analysis, and the incorporation of Juliana's advice for a presentation of findings for a RGM – either in written

form or a PowerPoint – where the other members provide comprehensive feedback. Gunter says about these meetings that they become dry runs for conference presentations and ensure an active research portfolio. "[We] have to present once a semester [at these laboratory groups]. The good thing about this is that it is long and so it is about 2 to 3 hours of roasting. I've seen people almost cry, so it's good" (Interview, May 30, 2015).

The research group meetings provide Gunter a space to access both academic and language brokering during the socialization process. They are a big part of why he says he has not used literacy resources such as the graduate writing center and that he has "a good network" (Interview, May 30, 2016); the type of feedback he receives is situated – and thereby specific – to fit both his research and language needs, as well as "the holistic" needs of what he believes he needs to be socialized academically. Peer responses in these meetings are based on research (or technical) expertise and might, for example, relate to recommendations of data-collection methods ("How we did it in the other lab is we have them in different apiaries in case something would happen, like a pesticide poisoning or something" said a lab-mate about a method of splitting up experimental colonies at laboratory meeting on December 7, 2015). Gunter says that responses based on language teach him the normative discursive style of entomology : "[at these meetings]I learned to tone the language down, less colorful… I've learned about being more factual and less speculative. Whenever I have my own lab, I'll try to write in that form again" (Gunter, Interview, May 30, 2015). This literacy practice has been so valuable to Gunter that he says he will implement it himself if he becomes a principle investigator for his own lab.

The types of sponsorship these practices identify show that the literacy mediations during graduate student socialization have long-term impacts. They represent to apprentice researchers a normative way of seeing the literacy practices and the academic voices of their disciplines. The

question students like Gunter have to deal with when writing within the "ill-defined" problem-spaces of academic genre practices is how these activities transfer the knowledge or writing competence they already possess. We can provide them genre practice information and work with them to transfer knowledge of situations into understanding these new genre practices in ways that inform their academic literacy practices. In their labs, they have to produce texts for presentations, memos outlining the state of their research and research findings, and other academic genres (Blakeslee, 2001). Approaching academic writing as a situated practice that builds up texts incrementally through the socialization process has been helpful for Gunter (in section 4.3, I examine feedback from others more closely). Understanding proposals as texts read by individuals reading as a professional service and research as something built up incrementally through continuous disciplinary activities pushes Gunter's texts to better meet disciplinary expectations.

In addition to the general and immanent ways literacy sponsors shape the way Gunter develops writing knowledge through the practices presented above, they can also very specifically bolster learning by providing opportunities to participate in specific academic practices. Juliana providing Gunter an opportunity to publish in a peer reviewed journal exemplifies this feature of the socialization process. Lillis and Curry (2006, 2010) have identified the substantial impact mediators – the literacy brokers – have on the academic texts of off-networked scholars or scholars working in Europe by shaping they way the texts travel and fulfill the expectations of Anglophone centers. In a similar vein, Belcher (1997) argues that researchers in well-resourced institutions – i.e. closer to power – have comparative advantages over those in off-networked institutions regardless of whether they are L1 or ESL writers; such researchers, she contends, must facilitate the publication opportunities of others.

Juliana provides Gunter an opportunity to connect his academic socialization with publication literacy practices. Specifically, Juliana uses her guest-editorship of a journal to broker an opportunity for Gunter to develop a review article for publication and practice how the pedagogical genre practice of the dissertation literature review is different than a publication genre practice (in 4.5, I address how the strategy of contextualization fleshes out these differences and how co-writing enables this strategy). The latter is especially significant to our understanding of graduate student socialization as it enables Gunter to learn a professional genre of "practical importance for the scientific community" (Myers, 1991: 45). As he explains:

> Julianna herself was part of the journal, it was a special edition on Honeybee
> health and our stuff fit into it. We have also been working on a review for our
> overwintering project basically, but I was lingering and I was slow and she said
> that there is this special issue and it will fit there perfectly, so let's get it done and
> get it in there. So I then sped up the process, I work[ed] more on it, I tried to get it
> ready for that. (Interview, February 16, 2016)

The opportunity forces Gunter to speed up his writing. Before, as he admits, he was "lingering and […] slow." The potential for a publication, highly desired symbolic capital for an apprentice-researcher, pushes Gunter to invest more into reading and developing an argument that will inform his dissertation research. Furthermore, it compels him to work faster since he suddenly faces a strict deadline for submission. He initially writes 12 distinct drafts of a review of literature on overwintering in bees from February, 2014 to September, 2014. Juliana reviews each of these drafts and a native-speaker friend reviews one for language feedback. The draft grows from about 2200 words to over 3400 words, with six sections listed as needing continued work. The text also articulates a recapitulation of the existing literature rather than presenting

anything new. In other words, it functions to communicate what Gunter knows about the topic and remains very much a "work in progress" five months in.

During the writing process for the review article, in comparison, Gunter starts with a text approximately 2400 words in December 2014, and subsequently expands it to approximately 4500 words – with 79 articles cited – in the final published text in May 2015. It goes through 15 distinct iterations, each building on the previous draft, over three months and is co-written with Juliana and Macy. More significantly, the published text is "[a] good review, [which] in my opinion… offer[ed] something new, it can't just be a literature review. We did offer a couple of different things. One of them was a theoretical-funcational [sic] model about how overwintering may be working... we also did talk about the colonial life cycle in a more graphic way. We provided some stuff" (Interview, February 16, 2016).

The academic literacy practices of this publication include navigating feedback from the doctoral and postdoctoral members of his lab, collaborating with his advisor and mentors, and negotiating blind peer-reviews for the journal (though I do not cover post-submission feedback and its role in shaping the texts in this chapter because such work has been done comprehensively by Lillis & Curry (2006), Paltridge (2015) and Hyland (2015)). Through this process, Gunter practices strategies of negotiating feedback situated in the rhetorical situation that a journal publication as a genre practice represents, such as confirming changes with Juliana and Macy, or citing evidence for his own responses rejecting others' recommendations. Gunter also writes a cover letter and letter in response to reviewers – texts that Swales (1990) calls occluded genres – where he spells out the article's key contribution; these experiences are invaluable socialization practices because they directly relate to academic knowledge and provide spaces to develop invaluable communication skills. Gunter's experience writing the

review article exactly fits the apprenticeship model advocated by WID scholars. It follows the type of practices identified by Blakeslee (2001) for physics, where advanced graduate students learn "first-hand, the conventions of the genre" in professional writing situations scaffolded by their advisors in "performing these tasks" (p.84). Writing for publication enables him to acquire knowledge of genre practice as a rhetorical situation where "the reader [has to be persuaded to] be interested in the logic of the thesis" (Tardy, 2005: 332), something he has to present both in the text proper and the cover letter.

At the same time, while Gunter learns something about the genre, such learning is not what motivates him in this literacy practice. We must recognize that graduate students invest more in the process through tangible outcomes in the socialization process. What motivates him and mediates his socialization through textual production is the "cultural capital" represented by the publication. Nonetheless, this sort of sponsorship provides an invaluable opportunity in graduate student socialization. By inserting Gunter into the literacy practices of publication, Juliana situates him as a writer contributing to disciplinary knowledge rather than exhibiting disciplinarian competence. Purportedly, the literature review as a genre mostly does the latter (Canagarajah 2002), but Gunter knows that apprentice-researchers must contribute new knowledge if they are to become legitimate members and experts in the scientific community.

4.3 The Literacy Mediations of Written Feedback

The second form of mediation I identify in Gunter's literacies is the written feedback he receives during pre-submission activities related to the review article and the research article. As part of the regular socialization process, other members review these texts either in-person during lab-meetings or through MS Word comments on written drafts. The feedback often relates to either the communicative ("[They say things such as] this would look better if you had that

color, so if you have a graph and stuff, visualization of data. And then there were spelling errors

or wording errors" (Gunter, Interview, November 11, 2015) or research aspects of the text, and is

thorough ("The good thing about [our lab meetings] is that it is long and so it is about 2-3 hours

of roasting. I've seen people almost cry, so it's good" (Gunter, Interview, September 30, 2015).

Gunter reports that the process is invaluable (as I discuss in 4.2) and helps him make his

writing "less speculative and more factual" (Interview, September 30, 2015). He also thinks of it

as a negotiation: "There are cases that I disagree, and if I disagree, I just say it. There are cases

that my PI was not able to convince me to change certain parts in certain ways because I made

my case and she was like: 'Yeah, you're right.' It is very democratic in that manner" (Interview,

February, 16, 2016). Such mediation practices inculcate a sense of academic writing and

scientific knowledge as a deliberative process during the socialization process (Blakeslee 2001;

Bazerman 1988). Something done incrementally and through negotiations with other members,

he sees academic genres as entextualizations of non-linguistic disciplinary research activities.

Unlike the feedback he receives on academic literacy practices such as PowerPoints,

however, the comments Gunter receives on the review article and research article are also made

through embedded comments. These digital resources enable more collaboration in literacy

practices and the RGMs meet regularly to subsequently involve each other both as colleagues

and friends. This means that they probably perform more than cursory readings and do all they

can to make the research and/or text stronger (("My research team is very fact based people.

They want every sentence to be backed up. If I do research sloppy, they find loopholes instantly"

(Interview, May 30, 2015)). This simply would not be possible in classrooms and this is probably

why graduate student socialization programs in the STEMs usually socialize graduate students

into small cohorts.

Collaboration in research and writing is the norm in the STEM disciplines because it is unavoidable and entomology is no different. Bazerman (1998) has pointed out that scientific fields are so specialized that no one person could become competent in the multiple methods of analysis required to answer a research question or hypothesis. Regarding the division of labor and multiple-author-norm in entomology, Gunter says: "No one expects single-author research in our field." He echoes Bazerman's point about collective oversight and the technical division of labor, remarking: "they would think there was something wrong in the research if it were written by one person. People would ask questions about the person. We sort of police ourselves that way" (Interview, October, 10, 2015). Collaboration, he learns, is as much about legitimacy of research as it is a division of research labor. The gatekeepers of academic knowledge in entomology include not only peer reviewers and referees but also collaborators in labs and coauthors of articles.

The written feedback Gunter receives on the OW and review article texts discussed in this section therefore represents only one type of collaboration. Both texts are actually co-written – I discuss the significance of that in terms of literacy mediation in 4.4 – with Juliana, Macy, and, for the OW text, two others researchers. Members of the lab mostly provide feedback on Gunter's texts as secondary readers and fellow members of the discipline.

In addition to co-writing the texts, Juliana and Macy also provide feedback during RGMs, asking or suggesting that Gunter make certain changes to the text. This on its own is interesting to consider as a literacy practice: why do Macy and Juliana not make changes to the text themselves? As co-writers to both the review article and the OW paper, they could rightfully make those changes themselves rather than ask Gunter to make them. The fact that they do not suggests that they see the texts as primarily Gunter's work and themselves as collaborators on his

work. In other words, they see themselves simultaneously as secondary readers, mentors, and co-writers. This is something Gunter also concludes since the two texts are part of his dissertation, and the others are helping or adding value to them according to their previous expertise. As he puts it: "I wrote the literature review. I read hundreds of articles, and I summarized them. And I wrote that up and sent it to other people, and [Juliana and others in the lab] gave feedback." (Interview, September 30, 2015). For the research paper, he does "the big chuncks of the manuscript preparation and mak[es] it visually pleasing. [He also does] most of the analysis [though his] multi-year project, a couple of winters back to back…[and] writing short reports to [Juliana]. [The final drafting process is about] taking that information and making it more professional, explain it in more detail" (Interview, February 16, 2016).

Research into feedback on the literacy practices of academic publication has examined how readers mediate texts at pre-submission and post-submission stages. Post-submission studies indicate that reviewers can substantially shape the content and form of texts. Studying referee and editor feedback on submitted articles, Curry and Lillis (2016) identify a strategy they call "concerned-interventionist" (p.140), according to which language-work is a practice of shared responsibility rather than the onus of the writer and which holds that issues related to language should not automatically disqualify an article from publication consideration. Lillis and Curry (2006, 2010) and Myers (1990) point out that feedback confirms the status-quo of knowledge and writing practices, centrifugally pushing texts into center-institutional publication and research norms. Paltridge (2015) finds novice scholars and those in "off-network" institutions often cannot decode the indirect suggestions categorized as "requests for changes" as directives rather than suggestions. Subsequently, he argues, referees need to provide direct feedback and avoid critical comments that do not also help the authors during the rewriting process.

Studies on pre-submission literacy practices have identified the pivotal role of feedback by experts in enabling graduate students' academic socialization. Prior (1998) illustrates that graduate writers incrementally write the voices of the experts into their texts as they respond to their written responses. This dialogic literacy practices enables the graduate student writers to accrues expertise and the text takes on an authoritative stance. These forms of feedback mediate not only the text, Prior points out, but also represent "deep participation" by the writer, wherein "relative newcomers to disciplines change as they appropriate discourses and practices" (Prior, 1998: 243). Blakeslee (2001) and Li and Flowerdew (2007) also stress that mentor and advisor feedback on graduate student writing provides a foundation for graduate students and young scholars to acquire disciplinary literacies. New members need explicit and detached commentary during these moments because they lack sufficient experience to understand how publication genre practices differ from texts written in labs to communicate results.

I also find that the practice of written feedback from peers in Gunter's lab and from his co-writers (Juliana and Macy) mediates Gunter's texts considerably and represents a key site of academic socialization. Such feedback reinforces knowledge learned during previous activities and involves Gunter in the discipline as such. Gunter certainly recognizes the substantial help he receives from the readers in his lab as he explicitly acknowledges them in all the texts he writes for publication (i.e., the review article and the OW paper.)

Much of the feedback on the review article from other members of the lab predictably focuses on textual issues. Possibly the context of RGMs (the setting where Gunter communicates his work to them), and the fact that most of them are fellow graduate students and apprentice researchers means that they feel more comfortable providing feedback on textual as opposed to more abstract issues. Like the non-academic language brokers in Lillis and Curry (2006, 2010),

they contribute to and mediate the text through language-work. They are there to help Gunter rather than act solely as gatekeepers.

Furthermore, possibly based on their own experiences with academic socialization (Paltridge, 2015; Tardy, 2005), members of Gunter's lab mostly provide suggestive feedback strategically framed to facilitate uptake. This seems to be the key feature of their "concerned interventionist" feedback. First, their feedback is often hedged with modals ("I *would* merge these sentences to create a strong introductory topic sentence") or subjunctives ("I *think* this should be moved up before the initial mention of winter and summer bees. It just helps clarify.") Tardy (2005) shows that advanced graduate students learn and reproduce the norms of academic discourse through their interactions with other members of their disciplinary communities and Gunter's peers evidence this practice in their interactions. Their uses of hedges are both strategies of collaboration and the norm of academic and scientific discourse, which diametrically oppose discourses of certainty (see Myers (1989) for a discourse analysis of hedging in scientific literacy practices and how they fit within a structure of refutations built to fit into the scientific method). Second, Gunter's peers often use questions to turn directives and suggestions into dialogues. The 124 comments seven readers make on drafts of the review article include 60 questions. 27 of these questions are queries related to clarification ("So you mean some existing workers will transition into a winter state?"); 29 are actually suggestions reframed as questions – the same face-saving strategies pointed out by Paltridge (2015): ("Or, could this result be aligned with swarming behavior, where brood production also decreases (?) temporarily (if that's true, which I'm not sure)").

Finally, some members of his lab provide examples of the type of rewrites they sugges. One peer writes in a comment: "If you are limited on space, this is an example of something that

can be made significantly more concise: "Pollen and nectar are collected and stored to provision the colony throughout the year" (this is not something that is "especially [done] during winter months," it is a basic behavior)" (Review Article Draft, November 6, 2014). Another moves text from one section into another, explaining the reason in a comment:

Text	Embedded Comment
Review Article 7 The youngest bees, generally < 10 day old, perform nursing tasks, middle age bees between 10-20 days old engage in tasks such as comb building, food storage, guarding and undertaking, while the oldest bees in the colony serve as foragers (Robinson, 1992). In the fall, as brood rearing declines, bees that will survive the winter are produced (hereafter referred to as "winter bees") (Fluri et al., 1982). **Once brood rearing re-initiates in late winter/early spring, the division of labor resumes (Seeley and Visscher, 1985).** ~~When the temperature drops below 10°C, the winter bees form a thermoregulatory cluster (Phillips & Demuth, 1914). The bees in the cluster vibrate their flight muscles to generate heat that maintains an outer edge temperature higher than 6°C, usually ~12°C. This ensures that the bees on the outermost edges of the cluster do not cool below their viable temperate. When brood rearing is initiated in the late winter/early spring, the cluster surrounds the brood area and maintains the core temperature at ~33°C (Moeller, 1977). This thermoregulation is achieved only~~	1.Arnold: Unnecessary, maybe something leading to next section 2 Arnold: You have a lot of this in the previous paragraph and should probably be moved down into this section, while the non winter bee stuff can be moved up. You can lead to this section by saying at the end of the previous "but overwintering bees show very different

~~when the cluster is in a confined space, as in the case of natural or manmade hives~~ **[1]** **Overwintering behavior and physiology [2] of worker honey bees.** **Unlike The specialized winter bees emerge in late fall and can survive up to eight months.** *When the temperature drops below 10°C, the winter bees form a thermoregulatory cluster (Phillips & Demuth, 1914). The bees in the cluster vibrate their flight muscles to generate heat that maintains an outer edge temperature higher than 6°C, usually ~12°C. This ensures that the bees on the outermost edges of the cluster do not cool below their viable temperate. When brood rearing is initiated in the late winter/early spring, the cluster surrounds the brood area and maintains the core temperature at ~33°C (Moeller, 1977). This thermoregulation is achieved only when the cluster is in a confined space, as in the case of natural or manmade hives.*	behavior . . . " or something like that
Addition: bold (Arnold), reformulation: bold and italicized (Arnold), comments: numbered	

This last type of feedback represents exactly the engaged or collaborative form of mediation that I argue makes it academic socialization rather than gatekeeping. Even though the peer would not be listed as a co-author in the project, he sees his role in Gunter's work as more than providing a "to-do" list for the text. Rather, like the "concerned-interventionists" practices identified by Curry and Lillis (2015), Arnold illustrates ways sentences and sections can be changed or made more effective. He moves parts of the paragraph into a new section and

suggests transitions for leading into the introduction he provides. In addition to stating his opinion on where it might best fit, the peer actually moves the section and adds a transition sentence ("Unlike specialized [bees], winter bees emerge in late fall and can last up to eight months").

The picture of the lab that emerges is one of socialization through literacy practices of feedback as collaboration rather than error-correction. The culture of the lab prioritizes a collaborative ethic, showing at the peer level what Belcher (1994) calls for when she stresses that advisors need to mediate especially hospitably for international graduate students and their texts. Though nothing in particular marks Gunter as an international or multilingual in the text, his lab mates are still cognizant of that identity. The lab and the college have a lot of experience working with international students and researchers. This stance made cheerfully clear by one note by one member of the lab: "Confusing sentence. I tried to fix it, but I failed" (Clarissa, Embedded Comment, Review Article 3). Written by a L1 peer, it is important to see that the note communicates how Clarissa takes the additional step of trying to edit the sentence to clarify rather than simply critique the text. She goes on to admit that her attempt at the edit had failed too, signaling that problem was more than about language competence. Niceness matters and such interactions make Gunter believe that he wants to be a part of the discipline he is being socialized into as a graduate student.

The co-writers (Julian and Macy) demonstrate similar tendencies in the detailed comments and feedback they provide on multiple drafts of the review article as Gunter develops it. One way they mediate the texts is by suggesting references: "I *feel like there should* be more ref here? Like the Genersch Dainat, and others from the stress section? (Juliana, Comments,

Review Article Draft, February 11, 2015, emphasis mine); they point to places Gunter might find references:

Text	Embedded comment
Review Article 6 Yet the production of brood pheromone by developing larvae may play a key role in regulating overwintering physiology. Brood pheromone triggers pollen foraging by forager bees, which, as noted above, will in turn stimulate brood rearing and the production of brood pheromone (Dreller et al. 1999; Free, 1967)[1]	1. Juliana: Look at Hive and Honey Bee resources for this.

Or they provide them directly:

Text	Embedded comment
Review Article 5 However, in surveys since 2006,**[1]** US beekeepers have reported unsustainably high losses (an average of 28%) of their colonies during the winter months losses (VanEngelsdorp, et al. 2012). The overwintering state of a honey bee colony is characterized by changes in the behavior and physiology of individual bees, such as reduced individual activity, changes in endocrine profiles, increased nutrient stores and increased longevity, as well as changes at the colony level, such as cessation of brood rearing and most remarkably, formation of a thermoregulating cluster.	**1. Macy:** Vanengelsdorp, D., D. Caron, J. Hayes, R. Underwood, M. Henson, K. Rennich, A. Spleen, M. Andree, R. Snyder, K. Lee, K. Roccasecca, M. Wilson, J. Wilkes, E. Lengerich, J. Pettis and B. I. Partnership (2012). "A national

	survey of managed honey bee 2010-11 winter colony losses in the USA: results from the Bee Informed Partnership." <u>Journal of Apicultural Research</u> 51(1): 115-124. There are updates on the USDA and Bee Informed Partnership websites.

The co-writers' comments on Gunter's arguments, relating to both form and content, also mediate the texts. Juliana comments at the beginning of the concluding section: "These last two paragraphs are still problematic… I would just say that brood can change behavior at the individual level or colony level in a variety of ways, (1) changes in local env conditions. Then give the evidence (2) changes in circadian rhythm (then give the evidence) (3) changes in brood pheromone. Then give the evidence. Combine into one…." (Juliana, Comments, Review Article 2, December 17, 2014, sic).

It is a literacy practice that writes in her role as a secondary reader and advisor. As his advisor, Juliana's comments or feedback have more power. She evaluates concomitantly – saying Gunter's statements are "problematic" – and directs him to change the text by reordering the rationale. Because the text is part of the article's conclusion, she advises starting with a topic

sentence about how brood presence changes "behavior at the individual or colony level in a variety of ways." Then, she suggests explaining the ways they do so – changing the local conditions, changing the circadian rhythms, and changing the brood pheromones – and providing corresponding evidence for each point. Finally, she advises ending by combining all the points into a single summation. Her points are qualitatively different from feedback on language issues or other aspects of the texts peer members provide.

She provides similarly genre-oriented feedback on the introduction and abstract of the research paper she, Gunter, Macy, and Dmitri (two other researchers) are writing together. She notes in the body of the text:

Text
OW Draft 4 **Please also write an abstract! If you pitch this as an "Allee" effect of colony size on overwintering success, we can target a broader journal, like J of Experimental Biology.** Introduction ** **Maybe a big picture sentence here, about how winter conditions in temperate climates present a large environmental stressor for animals and plants, and they have evolved strategies to survive the winter, etc, etc, (and big ref). As a social insect, honey bees have evolved a variety of mechanisms to survive the winter, including** ~~Overwintering in honey bees in honey bees represents a unique state during the annual honey bee life cycle, with~~ distinct behavioral (i.e. decreased individual activity, cessation of brood rearing and formation of a thermoregulating cluster) and physiological (i.e. altered endocrine profiles, increased nutrient stores and longevity) features (Doke, Frazier, & Grozinger, 2015). Overwintering is also a very stressful period for honey bee colonies in temperate regions, with ~30 % average

winter losses reported by beekeepers **in the United States** in the last decade (Lee et al., 2015)

Several factors, including **pathogens and parasites, have been consistently** ~~Varroa mites,~~

~~viruses, geographical location, and genotype are~~ correlated with winter colony losses (as

reviewed in Doke et al., 2015)

Addition: **bold** (Juliana); deletion: ***struck through texts and bolded*** *(Juliana)*

In her comments on the abstract and the first sentence of the introduction, Juliana directs

Gunter to represent the work and the topic in ways that will accrue larger interest in the field.

She says that if Gunter can "pitch" the paper as an "Allee" effect on colony size or add a broader

sense of the big picture and a big reference, the paper would attract a broader journal ("like J of

Experimental Biology"). Introductions are rhetorical, she signals; they are about pitching to the

situation represented by the journal or connecting the research to prominent work. Gunter's

rewrites of the text show uptake, highlighting feedback as a definitive place for academic

socialization (something I address in Chapter 5.3).

Juliana's emphasis on pitching – representative of how she explains a lot of research

practices – also seems to color Gunter's understanding of literacies in Entomology as a field as

such, which supports Prior's (1998) description of literacy mediation as a dialogic practice

through which the positions of the discipline become "internally persuasive discourse." Juliana's

rhetorical advice shapes Gunter's orientation in terms of framing the article ("how we decide to

sell this review" … "kind of how we sold the USDA grant") and choosing the platform ("we

decide to send this to some place like Apidologie, J of Apicultural Research"). Such advice has

implications for the dispositions students develop and how thinking tools (such as metaphors)

can align with and draw from discourses related to the broader culture of academic work (in 5.4,

I consider how collaboration causes changes in dispositions related to communication). Gunter

says on several occasions that grants and journal publications are all about how the work is pitched. The discourse of marketization of research and competition mediates both how Gunter approaches publication as an academic practice and how he thinks about work in the entomology profession. In other words, it orients his activity and literacy practices onto a specific form of institutional culture that structures rhetoric in terms of economic exchange and transactions.

The feedback from other experts is comparatively less directive; they are not Gunter's dissertation advisor, after all. Macy, a non-tenure track extension faculty member, also provides feedback related to language or communicative aspects, as can be seen here:

Text	Embedded Comments
Review Article 5 … and winter bees, and higher in foragers. In contrast, levels of VG, **levels of** hemolymph proteins, and HPG size [1] are all significantly higher in nurses than in foragers. …	1. Macy: A bit unclear. HPG are larger correct? Perhaps should read "levels of VG and hemolymph proteins are significantly higher and HPG significantly larger in nurses than foragers."
OW Draft 4 As can be seen in Figure 3, Apiary A is surrounded by forests (~81%) **[2]** and developed/ open spaces (~9%). ~~Figure (3A). The~~	2. Macy: Not sure I would call this similar: 81% vs. 41%

~~landscape surrounding~~ Apiary B is ~~somewhat similar to Apiary A since nearly half of the area is~~ surrounded by ~~occupied by~~ forests (~41%), **grassland (?),** developed/ open space (~8%), and developed/ low intensity areas (~3%). ~~However, the rest of the area surrounding Apiary B is occupied by grasslands and pastures (Figure 3B).~~	Gunter: With the following sentence I wanted to say "A and B share more than C or B. However, A and B are still very different as B has a lot of grassland and pastures." I need to word that better obviously but I'm not sure how.
Addition: bold (Macy), deletion: struck through text (Macy), comments: numbered	

In Review Article 5, Macy says the point stated in the sentence is unclear and provides a clearer sentence that spells out what Gunter intends to say. In OW 4, she says that the sentence ("The landscape surrounding Apiary B is somewhat similar to Apiary A since nearly half of the area is occupied by forests") needs to be rewritten to denote the lack of similarity between the two landscapes (A has 81% forests and B has 41% forests). This feedback calls Gunter to spell out exactly what he means ("A and B share more than A and C or B and C, as B has a lot more grassland and pasture"). Juliana subsequently breaks Gunter's sentence and removes the comparative. Her specific knowledge about landscape make-up and its effects on bees enables her to immediately identify the importance of clarity in such a statement. A general reader would have glossed over this point. She still comments on the communication aspects of the texts even though she could add value in other ways. In other words, she would still be doing her job as a reader even if she never commented on the language.

Text	Embedded Comments
Review Article 5 ~~this evidences e~~ **E**fforts to reduce overwintering losses should ~~likely~~ focus on enhancing colony strength and food stores in fall, improving queen quality and protecting bees from varroa mites, pathogens and pesticides [1]	1. Macy: It would be good to add something above about pesticides, we know they are present in the nest and food, they have a variety of sublethal impacts that likely compromise the ability of bees to overwinter, etc. but am guessing we do not have room.
Addition: bold (Macy), deletion: struck through text (Macy), comments: numbered	

In the above example, Macy's comment about how pesticides affect overwintering draws on her expertise as extension-researcher and impacts the text by highlighting a new set of writing contributions. This is the type of value that experts add even as general readers to texts, illustrating the rationale behind the L2 apprentice scholars' practices identified by Li and Flowerdew (2007), where L2 writers report preferring to work with disciplinary experts who are L2 over non-disciplinary L1 writers even on the form. Such readers prioritize technical knowledge over language. Macy's comments generate new texts as Juliana and Gunter agree with her points. The new texts include the list of recommendations addressing the effects of pesticides on overwintering for the review article and a descriptive treatment of the distinctions between the various sites rather than explicit comparison in the research article.

4.4 The Literacy Mediations of Co-writing

The third form of literacy mediation I find in Gunter's literacy practices is co-writing, wherein experts draw on their knowledge to write sections of specific genres. These co-writing practices often represent the mediations Lillis and Curry (2006, 2010) call academic and language brokering (defined 4.1.) This academic literacy practice also represents an example of a research "division of labor." In this case, Gunter acts as the primary investigator, and Juliana, the principal investigator, acts as his manager or "interactional expert" (Collins & Evans, 2007), and others contribute in areas of specialized research competencies. In the review article, for instance, Macy takes the lead in writing the list of recommendations based on the group's review of literature ("[W]e … added a section that would be recommendations to beekeepers and [Macy] is the queen of that. She wrote that part, she's really good") and Juliana writes large parts of the abstract, introduction, and conclusion. In the OW drafts, Dmitri, an expert on Geographical Information Science (GIS) analysis, writes a section titled "GIS Analysis," and Macy provides both academic and language brokering through feedback (an activity presented in section 4.3). As in the review article, Juliana oversees the overall research and contributes explicitly to the language work of by penning significant parts of the discussion section – drawing on her disciplinary expertise to lay out the salient contributions of the research (Blakeslee 2001; Li & Flowerdew 2007).

Even though the two texts examined are of most interest to Gunter's (the two texts examined in this chapter are parts of his dissertation), his cowriters' mediations play a crucial role in his socialization and, as I will show below, often change the entire rhetorical situation or genre practice of the texts. In his analysis of two review articles in biology, Myers (1991) argues that review articles have different functions than the reviews of literature that introduce research

articles. Unlike a review in a research article, which focuses on articulating a research gap, the review article "shapes the literature of the field into a story in order to enlist the support of readers to continue the story" [of filling in the gap] (Myers, 1991: 45). In other words, it persuades the readership to fill-in the new information in connection to the literature review that the RA would have itself provided. It follows that the review article's most important function is not its articulation of what has not been done but its argument for the significance of what has been done and the importance of continuing the work. In this vein, Juliana's rewrites foreground the salience of recent research and add the academic literacy practice of articulating disciplinary contributions, neither of which Gunter's original text highlight.

Research on collaboration between advisors and advisees in writing research for publication has pointed out that apprentice-researchers learn by working with experts as a part of their academic socialization. Some studies (Li & Flowerdew, 2007; Blakeslee, 1997) find that advisors write the rhetorically operational sections; consistent with such findings, Juliana's most substantial co-writes take place in the abstract, introduction, and conclusion sections. As Gunter explains in an interview, Juliana usually takes the lead in writing the introductions and conclusions of the texts based on research her lab does because she can "pitch it" or frame the topic in ways that would provoke the interest of hundreds, rather than dozens (Interview, April 21, 2016). In other words, her literacy mediations function primarily to articulate the salience of the articles themselves and co-writing with her in this manner socializes Gunter into identifying ways to frame research. This represents cognitive apprenticeship in aspects of academic literacy practices including framing or summarizing to articulate disciplinary and situational appropriateness. Such writing competence is best understood as the "procedural knowledge" Berkenkotter, Huckin and Ackerman (1991) identify as the most difficult for graduate students to

accrue and which they often only develop tacitly through extended participation and socialization into the discipline.

One way to understand this procedural knowledge is to see how Juliana's rewrites recontextualize the text into a publication genre practice. The first example of Juliana's rewrites are as follows:

Text
Review Article 4

In temperate climates, h~~H~~oney bees (*Apis mellifera*) survive ~~temperate~~ **the** winter **by entering a distinct physiological and behavioral state**~~via altering their physiology and forming a termoregulating cluster in the hive.~~ **However, in recent years, beekeepers are reporting unsustainably high colony losses during the winter months, which have been linked to parasitization with** ~~Levels of~~ Varroa mites, **infections with** viruses, geographical location, and **variation across honey bee genotype**~~s are factors determining colony losses.~~ **Here, we review existing knowledge of the** ~~However, there is a lack of understanding on molecular, physiological and behavioral mechanisms related to these factors. Moreover, environmental and physiological factors such as photoperiod, temperature, availability of food and other resources, and reproductive state of the colony have not been fully examined to produce satisfactory answers to the question of which of these factors regular entrance, maintenance, and exit from the overwintering state in honey bees. Here we review available literature to describe the~~ environmental and physiological factors regulating entrance, maintenance, and exit from the overwintering state in honey bees in temperate regions. We then discuss factors associated with overwintering losses, **and consider how these factors may impact the overwintering biology of honey bees.** Finally, we synthesize this

> information to provide recommendations for beekeepers to maximize overwintering survival and highlight areas of future investigation.
>
> Addition: **bold** (Juliana), deletion ~~struck through text~~ (Juliana)

As she alters the language and trims the text, Juliana's changes act, self-evidently, as co-writing through language brokering. The new abstract is about 120 words, while Gunter's original was 155 words. She deletes two sentences that list the "lack of understandings" or what "has not been fully examined to produce satisfactory answers." That is, she removes Gunter's statement relating to the research gap. She adds a sentence stating the fact of beekeepers reporting "unsustainably high colony losses during the winter months, which have been linked to parasitization…" and phrases that modify existing sentences. These changes alter the voice of the text, making it more direct and authoritative.

They also represent academic brokering as they recontextualize Gunter's text into the genre practice of publication. Not exactly sure of the distinction between the two genre practices, Gunter initially writes the abstract with the view that the review article has a similar function to the literature review for a broader research project. As Swales (1990) and other EAP genre theorists have pointed out, the primary purpose of a literature review is to identify extant research gaps, and Gunter probably believed this was important in the review article. Correspondingly, his abstract foregrounds the research gap with the two sentences pointing out that "physiological and behavioral" mechanisms factoring into colony losses are not well understood or that factors leading colonies to "enter, maintain, or exit" the overwintering state have not been properly examined. Juliana removes these statements completely from the abstract. She knows the context of the journal and the genre practice of the review article means

identification of gaps is not important and that an abstract does not need to foreground such findings.

This rationale extends to Julianna's additions as well. One addition highlights the reportedly "unsustainably high colony losses" beekeepers are suffering and another modifies a sentence to state that the review article considers "how the factors [discussed] may impact the overwintering biology of honey bees." These additions stress how the article contributes to understanding the biology of overwintering in honey bees, suggesting that the it supplies knowledge can help stakeholders address the unsustainably high colony losses. Such a framing fits-in smoothly with the general aim of the journal issue, which the editorial spells out: "In this special issue of Current Opinion in Insect Science, we have integrated the most recent scientific studies examining the state of global pollinator populations with the key factors impacting pollinator health" (Grozinger & Evans, 2015, p.1). Gunter's abstract lacks direct connection to the editorial aims of integrating scientific studies to inform the reader about factors impacting pollinator health. The abstract needs textual intervention by a broker to fit into the context of the special issue; rather than foregrounding the research gap, the situation requires that Gunter foreground the article's contribution. Gunter does pick up the distinctions between the literature review and a review article after seeing the changes his PI had made. His subsequent revisions of the abstract and the body show understanding of framing practices – i.e. foregrounding the research contribution (discussed in 5.4). These revisions evidence his academic socialization.

Julianna co-writes the introduction in a similar fashion: rewriting the prose, recommending that Gunter expand on the first sentence, and moving a paragraph from another part of the paper into the introduction (see table below). The first two practices are instances of language and academic brokering. The third practice also illustrates an entexualized view of

writing, showing how her academic literacy expertise means she sees the text as a set of

interchangeable parts (Canagarajah 2013b; Giesler, 1994). Through this reordering of the text,

Juliana suggests that framing or summary sentences belong in the introduction. Specifically, in

relation to a paragraph laying out the value of the honey bee to agriculture and how reducing

overwintering losses can significantly benefit spring blooming crops, she says, "I really like this

paragraph, so I hope we can keep it in the box or move it elsewhere – perhaps the intro [sic]"

(Review Article Draft, February 8, 2016). She moves those sentences into the introduction on the

February 19, 2016 draft, breaking the initial opening paragraph into two and asking for

confirmation from the other writers about her changes: "Is this a good place for this?" The

resulting paragraph is presented below:

Text
Review Article 9
~~The h~~Honey bees (Apis mellfera) **live in a wide geographic range occupying various climatic regions and facing different challenges in different parts of the world and times of the year. (Ruttner 1998). Winter is the greater challenge to the honey bee colonies in temperate regions.** ~~The h~~Honey bees is one of the few insect species that is ~~active throughout the year even in~~ **adapted to survive** ~~temperate~~ **winter conditions without becoming completely dormant,** ~~climates,~~entering a distinct physiological and behavioral state ~~that is different from a complete diapause~~ (Winston 1991) ~~to survive the harsh winter months.~~ However, in surveys since 2006, US beekeepers have reported unsustainably high losses (an average of 28%) of their colonies during the winter months (Lee et al. 2015). **Successful overwintering of honey bee colonies is critical to meet the pollination needs of early spring-blooming crops such as almonds, applies and cherries. Indeed, the February/**

March California bloom requires 1.7 of the 2.5 million US honey bee colonies to pollinate 860 thousand acres of almonds, and this demand is projected to continue to rise. This demand could be met, at least in part, by improved overwintering: a 10% reduction in overwintering loss could provide an additional 250, 000 colonies for early spring pollination.

Addition: **bold** (Juliana), deletion ~~struck through text~~ (Juliana)

The new paragraph presents the article's topic – bees and their process of surviving winter – in a more general fashion. Juliana removes technical words, such as diapause, explicitly states the range of habitats bees live in, and foregrounds the comparative uniqueness of bees in surviving winter conditions. These changes highlight the human stakes of honey bee overwintering success. They connect the findings of the survey about high winter losses to the claim that "a 10% reduction in overwintering loss could provide an additional 250,000 colonies for early spring pollination." Once added, these genre features – contribution and generality – do not substantially change through the rest of the writing process, as the text of the published introduction shows:

Text
Review Article 11
Honey bees (Apis mellifera) live in a wide geographic range occupying various climatic regions and facing different challenges in different parts of the world and times of the year [1]. Winter is the greatest challenge to the honey bee coloniesin temperate regions. The honey bee is one of the few insect species that is adapted to survive winter conditions without becoming completely dormant, entering a distinct physiological and behavioral state [2]. Before Varroa and tracheal mites were introduced, overwintering colony losses were 10% [77]. However, an

average loss of ~30% winter loss was reported by the US beekeepers in surveys since 2006, compromising sustainability of commercial beekeeping operations [3* 49]. Honey bees provide critical pollination services for natural and ago-ecosystems world-wide. Successful overwintering of honey bee colonies is critical to meet the pollination needs of early spring-blooming crops such as almonds, apples and cherries. Indeed, the February/March California bloom requires 1.7 I 2.5 million US honey bee colonies to pollinate 860 thousand acres of almonds, and this demand is projected to continue to rise. This demand could be met, at least in part, by improved overwintering: a 10% reduction in overwintering loss could provide an additional 250 000 colonies for early spring pollination.

One final example of Juliana's brokering can be seen in the writing of the review article's conclusion. Gunter's initial text reads more like a list of what had and had not been done in literature – the genre practice of laying out the research gap. Gunter, to his credit, understands that the conclusion he writes does not necessarily work for the review article. He notes, using a metaphor to communicate his confusion (a practice I talk about as a product of his translingual disposition in Chapter 5): "Ok… this was the most difficult part to write. It's like trying to land a plane without guide lights on the ground. So, I feel like I might have messed up. Just saying…" (Review Article Draft 6). He senses the function of the conclusion in a journal article is not supposed to be about recapitulating what the overall piece had argued; that would have been the feature of a conclusion in a standard pedagogical genre. He therefore asks the other writers – i.e. Juliana – to intervene and guide him into a landing appropriate to the publication context. The table below shows Juliana's rewrite followed by Gunter's original text:

Text	Embedded Comment

Review Article 6	1. Gunter: Ok… this
Overwintering in honey bees is a complex process, which integrates multiple environmental cues, social cues and interactions within the colony, and physiological and molecular changes in individual bees. Using the available information, we have developed a model which explains how the entry, maintenance and exit from overwintering may be regulated by these factors (see above), but further studies are necessary to comprehensively test this model by uncoupling and individually testing these factors, many of which are closely correlated. Furthermore, it remains to be determined whether "winter" bee" development is triggered during larval stages or adult stages, or both. We have also developed recommendations that should improve overwintering survival, some of which are well tested (integrated pest management approaches to Varroa control), while others remain to be fully explored (effects of short-term brood pheromone exposure and pesticides). With the development of genomic tools and approaches that will allow us to understand how and when the genome of individual bees responds to seasonal cues and conditions, our understanding of this complex process can be vastly improved, and with it our ability to better manage honey bee colonies.	was the most difficult part to write. It's like trying to land a plane without guide lights on the ground. So, I feel like I might have messed up. Just saying…
	Juliana: It was good! But I shortened it, hopefully while still keeping many of your points!

[1] *Available information in scientific literature suggests that overwintering behavior of honey bees is rather complex in comparison to a classic case of insect diapause as the former includes social interactions as well as abiotic environmental factors directly affecting on physiology of individuals. Fortunately, earlier research in this era has already introduced the infrastructure via demonstrating the physiological differences between the worker bees from different seasons. In addition to this, some effort has been put into understanding the mechanisms, cues, and signals that are responsible from the occurrence of seasonal differences in physiology and behavior of honey bees. However, the current picture of honey bee overwintering remains incomplete. Characterization of signal(s)/cue(s) for honey bee colonies to enter, maintain, and exit overwintering and molecular pathways underlying the observed seasonal changes through the annual cycle of honey bee colonies are challenges waiting to be taken by the contemporary researchers. As the questions at hand are composed of multiple layers (i.e. molecular, cellular, organismal, and colony level) the answers will likely be obtained through carefully designed experiments which avoid the pitfalls of confounding factors. One advantage we now have over the pioneers of the field is the availability of molecular tools and information. We have access to the full sequence of honey bee genome. High throughput RNA sequencing combined with*

increasingly detailed computational analyses has provided us with an unprecedented opportunity for understanding mechanism of change in biological systems. Application of these new techniques and methods to the long lasting questions has great potential to vastly improve our understanding of honey bee overwintering.	
Addition: **bold and italicized** (Juliana); original text: italicized (deleted by Juliana)	

The comparison between the two texts illustrates how mediations by others can end up recontextualizing the text by changing its functionality and discourse to suit the context of publication. It helps literacies move from a pedagogical and socialization situation to one of publication. Juliana's text focuses on the major contributions made by the article: the development of the model and the recommendations. It does this because ending with a takeaway is critical for the genre practice of a published article (Myers, 1991). Her paragraph also enacts the other function of the conclusion – the so what or future work – by stating what additional work needs to be done in connection to the model they have developed. She says that "further studies are necessary to comprehensively test [the] model" they develop through individual tests of "closely related factors" and by determining at what stage – larval, adult, or both – overwintering is triggered in bees. She also suggests that some of the recommendations they list require further exploration. Myers (1991), who contends that the function of the review article is "to enlist the support of readers to continue that story" (p. 45), would certainly support these changes, which align the reader with such a stance.

In comparison, Gunter's text almost completely focuses on what has been done in the field rather than what the article provides its readers. His text does not, therefore, fit into the context of the publication genre practice. Gunter's text also completely removes signs that the

authors selectively ordered the literature on the topic to tell a story and that the review is a representation of the literature. It seems to say that certain things have been done, but the "current picture of overwintering is incomplete." It makes no attempt to signal to the reader that that the recapitulation presented is a representation of the authors: that their picture of the field is a rhetorical construct. It does not make a point of admitting that the review "selects from […] papers, juxtaposes them, and puts them in a narrative that holds them together" (Myers, 1991, p. 46). By contrast, in her rewrite, Juliana alludes to precisely this rhetorical function when she writes, "Based on the available information, we developed a model…[and] also developed recommendations." Juliana transforms both aspects of the text and Gunter's socialization progresses in the process as he learns the importance of stressing the work's contribution.

The discourse-level differences between the two texts also speak to the way Gunter learns to see the contours of the discipline and situation, or the "landing strip." First, Juliana's paragraph has fewer hedges or qualifying statements than Gunter's. The only hedging statement in Juliana's paragraph is that their model is about the complex set of factors that "may be" regulating overwintering in honeybees. Gunter's paragraph, however, includes four explicit instances of hedging: "Available information in scientific literature suggests," "is rather complex in comparison to the classic case of insect diapause," "the answers will likely be obtained through carefully designed experiments," and "Application of these techniques… has great potential to vastly improve our understanding…" These instances of an expert's intervention to actually reduce hedging and subsequently boost the article's contribution add nuance to views of such strategies as part of the professional persona (Hyland, 1996) and ways to redress threats to research claims (Myers, 1989). Specifically, the way Juliana reduces hedging in the conclusion raises questions about the ties between hedging and genre practices, and suggests that certain

sections of certain genres require less hedging than others. The concluding sections of review articles may require the use of boosters to enlist readers in a collective project of moving the story forward (Myers, 1991). This makes the text part of a larger story, a continuation of scientific activity on the topic. While hedging might be appropriate in certain sections of articles, in other words, conclusions arguably need claim boosters to persuade readers of the need for additional research.

Second, Juliana's paragraph uses a different verb structure than Gunter's text. Specifically, it uses a structure that directs the reader's attention to initially fall on the work of the writers in the article and then shift to the field as such. It uses the present perfect only to refer to the writers and to their work ("we have developed a model," "we have also developed recommendations") and the future perfect ("can be vastly improved") or the present ("are necessary, "remains to be determined") to refer to the field and work in the field. Gunter's text, lacking an articulation of the authors' agency in producing the work, does not present such a distinction. Juliana's use of verb tenses enables the work by the authors to sequence into "a narrative of human events, contingent on techniques, genius, or institutional organization" (Myers, 1991, p. 55). It presents science as a human enterprise, signaling to the scientific reader that the writers are very much aware of the discourse conventions of academic scientific writing.

While the other co-writers and disciplinary experts, including Macy and Dmitri, also significantly mediate the OW paper and review article, their contributions do not recontextualize the texts, meaning their roles in Gunter's socialization vis-à-vis literacy practices are more indirect. Macy lays out a set of five recommendations. These recommendations aim to operationalize the insights from the research for other extension-specialists. They focus on hive-location, collation of hives, mite-monitoring and advocating for minimizing pesticide use. By

listing such recommendations, Macy provides opportunities for others to discuss the points and develop the discussion further, as the example below shows:

Text	Embedded Comments
Review Article 8 1. To build strong colonies that are both productive and well-positioned to survive winter, select apiary locations with abundant and diverse sources of pollen and nectar throughout the season. Sufficient stores of honey and pollen are vital and quantitites needed for overwintering vary depending on geographic location. If honey stores are inadequate, colonies can be fed a 2:1 (sugar: water) syrup in early fall to bring them up to a desired weight. High quality pollen substitutes are also available if pollen is in short supply however diverse, pesticide-free natural pollen is considered optimum [1, 2].	1. Gunter: We can cite "Brouwers EVM: Activation of the Hypopharyngeal Glands of Honeybees in Winter. Journal of Apicultural Research 1983, 22(3): 137-141." And say "in the lack of adequate protein supply, worker bees' hypopharyngeal glands atrophy" I think we can make distinction between colonies that are still rearing brood (which may get better by feeding) vs colonies that stopped brood rearing (combining is the way to go).

	2. Macy: I included the pollen statement above because there is so much variability throughout the year and across the country. This is not specific to fall. Incorporated combining in the last recommendation.

Another broker, Dmitri, adds to Gunter's research paper:

Text
OW Draft 5
The landscape surrounding apiaries was assessed using the National Agricultural Statistical Service (NASS) map layer 2012 and groundtruthed in October 2014. The maps were uploaded in ArcGIS 10.1 and buffer layers created at increasing radii. These buffer layers started from the center of the apiary and extended outwards to 250 m, 500 m, 1000 m and 1500 m spatial scales to reflect the flight ranges of bees (Greenleaf, Williams, Winfree, & Kremen, 2007)(Zurbuchen et al 2010; Neelendra & Otieno (unpublished data)). The buffers were then uploaded to Fragstats version 4.0 and proportions of each land cover/land use type around the apiary calculated for each spatial scale. **In order to simplify our results and reflect most relevant spatial scale to honey bee foraging, only 1500 m data is reported in the results (Couvillon et al., 2015).**
Addition: **bold** (Gunter); **bold and italicized** (Dmitri)

Both these texts add information Gunter could not. As an expert in beekeeping rather than the microbiology of bees, Macy adds a series of recommendations to improve beekeeping practices. Her statement about pollen ("High-quality pollen substitutes are also available if pollen is in short supply, however diverse, pesticide-free, natural pollen is considered optimum") adds her knowledge about the lack of a uniform supply of pollen across the country. It is unlikely that Gunter – or a genetics researcher like Juliana – would have considered the variability of commercial pollen-supplies when listing the need to set-up apiaries in areas of diverse areas. Such nuanced differences in on-the-ground knowledge and divisions of labor comprise the everyday mediations of technical specialists in contemporary science that Bazerman (1988) points out in his studies of the disciplines. Recognizing the role of specialized knowledge in writing through literacy networks, Gunter remarks: "While we were [writing the review article], we also added a section that would be recommendations to beekeepers and [Macy] is the queen of that. She wrote that part, she's really good" (Interview, September 30, 2015).

Dmitri's textual addition demonstrates a comparable competence in GIS analysis. Though only a few sentences long, to develop the maps on ArcGIS (a powerful mapping software) Dmitri draws on knowledge of both where such maps are available and how to competently use the specialist software. He then further modifies the resulting maps using Fragstat, another software specifically designed to "compute landscape metrics for categorical map patters." The method thus represents an analytical competence that the other co-writers do not have and, consistent with the "division of labor" in the sciences, Dmitri shapes the text by providing the raw results, which Gunter "[makes] into more bite size information and with better graphics and all" (Interview, February 16, 2016).

4.5 Mediation in Susan's Academic Socialization

In contrast to Gunter's, Susan's publication-related literacy practices include activities that writing studies traditionally represent as individual writing processes. Rather than rely on multiple authors and writing texts through the incremental development of analyses, Susan writes her academic texts primarily herself and then gets feedback from various secondary readers. This is part and parcel of the differences between a life science such as entomology and a social science such as political science; multi-authored articles are not the norm in the latter. She typically completes her analyses by the time she sits down to write, meaning they are not built up through incremental analysis of data and discussions during meetings and presentations with her advisor and other cohorts. Concomitantly, her literacy network, unlike Gunter's, extends beyond her department and cohorts to include her advisor, an interdisciplinary reading group, and the graduate writing center at the university (an institutional resource Susan draws on regularly that I discuss as an example of potentially key sites of literacy brokering in 6.)

She cultivates this broader network, it seems, because she believes she cannot get the type of feedback she needs from her cohorts or other graduate students in her department. She says about the matter that: "Since [the comparative politics project] I'm writing is so different than other people in my department do, I don't really ask them for anything… I try to not talk to my peers about my research. It stresses me out!" (Susan, Interview, January 12, 2015, emphasis added). Similar to Virginia's story (Casanave 2002), regarding her experiences with academic socialization in political science, Susan communicates a sense of not fitting in or "disidentifitication" with the discipline as a community (in 5.5, I discuss how the conflict between the practices that emerge from her comparative disposition and the expectations of case-selection in political science illustrate this).

In terms of academic writings, Susan is still provided what we might call adequate support on paper to understand discursive norms. Lucy, her advisor (not a PI as Entomology graduate students have), and in an informal interdisciplinary RGM made up of faculty from women's studies and political science (including Susan's advisor) and one regular graduate student also pursuing interdisciplinary work provide feedback on her articles; she also regularly consults with writing tutors in the graduate writing center (discussed in 6). Compared to the strong network in Gunter's lab, her literacy network is weak and informal. Only her advisor regular sees the texts as she develops them. She says this arrangement works well enough but she cannot rely on it to "get feedback when [she] might need them" on a text:

> So my advisor helps me a lot and she takes time to read the drafts by the students. So she looks at everything I send her and gives me feedback. Advisors are **tricky.** They are busy and so you won't get feedback when you might need them. I might send her something and by the time she looks at something I would be on the fifth version. (Interview, January 12, 2015, emphasis added)

Susan's ambivalence toward her advisor in this regard is clear enough. She says that working with Lucy has helped and she does read drafts of Susan's work. At the same time, Susan also states that working with Lucy is "tricky" and lays out her point of view that she might not get feedback when she thinks she needs it to develop the text subsequently. As one can imagine, this can be especially frustrating for Susan as an apprentice-researcher when the graduate student in her feels that she has to toss out a lot of changes she makes in her drafts after receiving feedback from Lucy. Since Lucy holds a power position, Susan reads her suggestions as requirements and therefore has to rethink the changes she makes with Lucy's suggestions in mind, even if they no

longer apply to a new text. Sometimes this dynamic has real consequences in terms of her

trajectory as a researcher and professional in the field.

This occurs, for example, when Susan works on a research statement and teaching

philosophy with the graduate writing center before taking them to her advisor. Susan explains:

> My assumption was that my advisor was not going to put a lot of time and effort
>
> into it. So I brought it to the GWC and so it could be as good as it could be. Then
>
> I brought it to her and I thought she would say this is good and you can send it
>
> out. But it turned out that wasn't the case and I had to make a lot of changes. I lost
>
> a lot of time and missed a few deadlines because I wasn't able to produce a good
>
> enough job packet. (Susan, Interview, October 8, 2015)

Assuming that Lucy will be unable to provide extensive feedback, Susan uses the GWC

as the primary literacy mediator for these professional documents. When she feels that a text is

as "good as it [can] be," she will be able to send it out as part of a "job packets." After reviewing

the texts, however, Lucy disagrees and tells her she needs "to make a lot of changes." Doing so

means losing time and missing a few job application deadlines. This process reduces Susan's

application submissions when she is nearing the end of her funding and urgently needs to secure

either a post-doc or a faculty position if she wants to continue her socialization into the

discipline. This serves as a snapshot of an academic socialization process wherein the support

and mentorship a graduate student receives frustrates her and risks alienating her from the

socialization process (something fairly common and documented by researchers such as

Blakeslee (2001) and Casanave (2002)).

Despite such tensions, Susan says she learns a lot from Lucy, both about the discipline

and literacy norms in the discipline. In terms of the latter, Susan reports picking up several

identifiable rhetorical and writing skills, mostly related to cohesion in writing. About the genre

features of summary and transitional paragraphs – texts recapping the information of a section

and stating what "she will talk about in the next section" – that she learned from Lucy, she says:

> I like doing it like a map… In my introduction, be like, ok this is what the paper is
>
> gonna look like. I like doing that. But [my advisor] wants me to have like, at the
>
> end of every section, talk about what I'm gonna talk about in the next section.
>
> (Susan, Interview, 30/11/15)

Examples of these paragraphs of cohesion from a research paper she writes include:

> **In the subsequent section,** I **discuss in detail** my conceptualization of the print
>
> media as "authority" (White 1969, p. 327) and my theories on the ways media are
>
> gendered. I explain how constructions of gender differ depending on the media's
>
> framings of immigration, particularly pertaining to its economic aspects.
>
> Or
>
> While my findings demonstrate that the media vary in their gendering of
>
> immigration in multiple countries, the media can also be gendered in their
>
> assumptions of the sex of immigrants by their selective prioritization of the
>
> occupation of immigrants. As my gender assumption hypotheses state, the news
>
> articles that discuss immigrants' negative impact on the economy are likely to
>
> mention blue-collar jobs and the news articles that discuss immigrants' positive
>
> impact are likely to include pink-collar jobs. **[Here]** I test my gender assumption
>
> hypotheses by examining the occupation of immigrants reported by the media
>
> when their gender identities are not revealed. (Media and Gender 8, emphasis
>
> added)

The prepositional phrases and transitional sections in these passages are common in Susan's articles – present in a majority of the sections of Media and Gender and Asian MP drafts.

Given the importance Susan places on her advisor's feedback – enough to overturn the text of her "job packets" written with the GWC and "miss a few deadlines" – it is unsurprising that Lucy plays a decisive role in shaping Susan's article genre practices. The cognitive apprenticeship practices in Susan's socialization seem to stem primarily from these types of literacy mediations and from focusing on norms. Their articulations in the texts manifest in how Susan understands and represents what counts as "interesting research." Susan explains, for example, how Lucy's feedback led her to frame a research paper on media representation in terms of an economic focus:

> The overall consensus was it was too broad, and so I had to do that. I came back and talked to my advisor and she suggested that "class, socioecomic class, seems interesting" and women's studies folks will want to see that. So I developed this paper around that… She didn't think my cultural argument was good enough and that I did not have enough time. So she said that one thing I could do is that I take it out and focus on the economic more completely because it was more developed. So I did that. (Interview, October 8, 2015)

My observations of the gender and politics group reveal that Lucy encourages Susan to adopt this approach on multiple occasions. Toward the end of the group discussion of Susan's paper, the group discussed how it worked as a sample paper in a job document:

> **Lucy:** So the one thing that concerns me is the focus side of things. I am worried that you have a lot in there and you need more detail to make the argument stronger. So at some point you need to think about the major focus. It could be

something general like the political and social integration and economic

integration. That would be one level. Identities would be another…

Susan: I think I want to use this as my third chapter and my writing sample for

my women's studies positions.

Lucy: I would think about this more. Part of it has to do with signaling. There are

other pieces you've written that are more quantitative [and therefore fit better as a

part of a political science dissertation]. If you broke this up into two for the sake

of focus and included both, you would have two media chapters in there and that

is too much. When you provide samples for jobs too, you need to think about

whether there are papers that make a strong argument. When I read this abstract, I

was struck by how many things that were there in the abstract. So it may be worth

thinking about being more focused. (Lucy, Susan Group April 20, 2015)

Here Lucy's feedback relates to both the text itself and her academic socialization as such. These

literacy mediations encourage both text and the apprentice scholar to adhere to disciplinary

norms. This corroborates Prior's (1998) point that students use texts to interact with experts and

these interactions bolster the authority of both the writers and the texts. At the same time, such

discourses become internally persuasive, and by fulfilling the function of a genre (i.e. symbolic

interaction or activity), the apprentice scholar signals her disciplinary and professional

competence, and is also further socialized into those disciplinary (i.e. academic) norms.

When Lucy encourages Susan to focus a paper about the media's representation of

migrants around a discourse of economics, she tacitly communicates a great deal more. Lucy is

saying that such a focus would signal an interest in quantitative work, which is what political

science prioritizes and is its norm. She also slips in a warning that Susan's wish to incorporate

the paper into her dissertation would muddle the dissertation's function as a political science dissertation. Media studies, she suggests, is not an accepted object of analysis in political science and talking too much about it in a dissertation would situate Susan too far from the norms of the discipline – something apprentice-researchers would not want to indicate about themselves as new members of the discipline (Brodkey 1987; Blakeslee 2001). Furthermore, these messages come in the form of "suggestions about what she should consider," serving as examples of mentorship operating in the same way that Paltridge (2015) identifies in his studies of peer reviewer's suggestions that aim to steer the text and the research of the writer into more normative forms. She will, after all, chair her dissertation defense, and this power dynamic is fundamental. Her suggestions about aspects of the dissertation are not suggestions at all (Paltridge 2015).

These mediations of Susan's career trajectory simply are not visible, of course, if one views the development of the paper's economic focus in terms of textual changes. However, many of these aspects of socialization come to the forefront if one regards the textual changes as academic writing as networked activities used to cognitively apprentice the graduate student. A comparison (below) of the organization paragraphs from two versions of text reveals the impact of Lucy's comment on the research paper:

Text from Media and Gender 4 (emphasis added)	Text from Media and Gender 8 (emphasis added)

The paper examines a representative sample of news articles published in the major newspapers during 2014 in the four cases mentioned above… [sic] is organized in four parts. First, I lay out the theoretical frameworks, explaining the media are gendered **in their utilizations of the economic and cultural frames to discuss immigration**. Second, I discuss my data and methodology, which I use to analyze the media's framings of immigration. Third, I present and interpret my findings. Last, I discuss the implications of the results and examine areas for future research.	To carry out this examination, this paper analyzes a representative sample of news articles published in the major newspapers during 2014 in four cases mentioned above. It is organized in four parts. First, I lay out the theoretical frameworks, explaining how the media may **be gendered in their utilization of economic frames to discuss immigration.** Second, I discuss my data and methodology, which I use to analyze the media's framings of immigration. Third, I present and interpret my findings. Last, I conclude by discussing the implications of the results and examining areas for future research.

Reframing the paper in economic terms fundamentally changes the article. It not only alters the language, but also acts as a kind of academic brokering that changes the argument, discourse, and content (Lillis & Curry 2010). Although not textually identifiable in the minor change seen in the organizational paragraph, the altered frame leads directly to eleven deletions in the Media and Gender 8 draft of the article. Four of these deletions relate to complete sections, four relate to paragraphs within sections, one relates to a sentence, and one to a table. In other words, it cuts the paper in half and Susan subsequently drops the "cultural frame" completely from her research agenda.

This focus on economics also transforms the paper's basic analytical method. The Media and Gender 6 and 7 drafts – both written after the turn to an economic focus – list 3 hypotheses for analysis, a literacy practice (i.e. a research discourse or mode of argument) absent from previous drafts. The use of hypothesis is a basic transformation of the text's discourse and mode of analysis. Unlike the deductive logical form of previous drafts, forms of analysis predicated on hypotheses are inductive logical forms. The latter are the norm in scientific discourse (Myers 1990; Bazerman 1988). In addition, hypothesis testing is the modus operandi in empirical social sciences like political science. Susan must transform the text from an analysis to a list of findings either supporting or not supporting her hypothesis: finding that hypothesis 1 is not supported, hypothesis 2 is supported in one of the three cases, and hypothesis 3 is supported. Put simply, the change in focus leads Susan to write a much more conventional political science paper.

Aside from Lucy, Susan's other disciplinary literacy network is the reading group mentioned above. Unlike Lucy's feedback, comments from the research group meetings are less strategic and long term since these readers are not her advisor and therefore not in charge of her socialization. Regarding the group, Susan says:

> We meet once a month and how it works is that someone will have a paper to present and we'll gather to provide feedback. It could be a journal article or paper. I recently sent out a paper. We just get together for an hour and people give you verbal feedback. So a lot of it has to do with data collection and methods. A lot of them do social sciences and so do methods. They will give you ideas about that. There is nothing really about how you might frame your story. There is nothing directly related to writing. (Interview, January 12, 2015).

My observations of reading group meetings corroborate this view of the group's function. Group members provide less strategic types of feedback and mediate Susan's socialization process in a less strategic manner than Lucy. In providing feedback on the Media and Gender paper, for example, they play the role of an Americanist political science scholar reading the text. In other words, they read the draft to provide feedback as the intended audience and scholarly interlocutors. This is certainly useful for Susan's comparative political work as it enables her to identify and respond to situated aspects of the argument she might have become blind to. Blakeslee (2001) indicates that Swenden teaches a similar type of disciplinary focus to Bouzida. The Physics graduate student goes to the Chemistry Department to discuss the new methods being used in a publication. Confronted with skepticism, he struggles to answer the Chemists' questions, suggesting "that Bouzida had not yet anticipated many of his audience members' concerns" (Blakeslee 2001, p.38).

The feedback Susan receives from the mediators in this group usefully highlights how her comparative study needs to "cite more from American politics" (Interview, October 8, 2015). During the review group, Laura, a tenure-track assistant professor says: "you have to engage with the work of U.S. scholars on immigration [for this paper]… I don't think any of the people who have written on this [US political science]. Some of them may like in passing mention the media, but that's sort of your intervention. I think you have to put yourself in that content and speak to [US political science] at some point, not because any immigration work has to do with the US, but you're using the US as a case and I think you have to engage with them" (Susan Group April 20, 2015). Mitch, a tenure-track assistant professor in political science and a member of the reader group provides suggestions about form and ways the content might be better presented to an American scholarly community. For example, he suggests using footnotes

to provide information about the non-western context, a point that comes up repeatedly during the group's discussion.

> I would say… I have a number of small points.... You know so for instance I have one here listing off your cases of newspapers. I wrote to the side, an interesting diversity of newspapers… I would have probably footnoted that, and said it's worth noting within this subsection of cases, the New York Times is widely seen as the most serious newspaper while the USA Today and the Sun and the Telegraph would be commonly referred to as tabloids, right?" (Mitch, Susan Group April 20, 2015)

Mitch articulates his verbal feedback as "suggestions" (Paltride 2015) based on his position as the intended audience and supports them with anecdotal evidence. Suggestions include adding references, incorporating textual content into footnotes, and developing a more coherent connection to Asia for a US-centric disciplinarian readership. Susan follows these recommendations because she recognizes that he is the intended audience; she has been adequately socialized, in other words.

Susan's rewrite shows that she does acquire the academic literacy practices of audience awareness. She changes extant footnotes or adds new ones to more effectively address the US audience. The number of footnotes rises from 2 in a 19/08/15 draft to 7 in the 02/09/15 draft (developed following the group meeting) to 11 in the 22/09/15 draft (the final one.) She uses most of the footnotes to provide contextual information about data. The type of contextual information includes both legislative facts about the different countries and ideologies elements in specific societies.

Text from the Footnotes in Media and Gender 8	Text from footnotes for Media and Gender 4

5. Thirty-six articles are generated from Hong Kong's *Headline* Daily, 43 from Hong Kong's Oriental *Daily News*, 12 from Hong Kong's *Apple Daily*,; 98 from Taiwan's *Apple Daily*, 202 from Taiwan's *The Liberty Times*, 275 from Taiwan's *United Daily News*, 151 from the U.K.'s *The Sun*, 122 from the U.K.'s *Daily Telegraph*, 108 from the UK's *The Times*, 129 from the U.S.'s *The Wall Street Journal*, 304 from the U.S.'s *The New York Times*, and 40 from the U.S.'s *USA Today*. I recognize that differences exist in newspaper types (some are considered tabloids while others are generally accepted as high quality news outlets). However, by selecting on their popularity I am assured that they are widely read, which is crucial to my focus on examining the messages regarding immigration that readers receive.	5. Forty-three articles are generated from Hong Kong's *Oriental Daily News*, 12 from Hong Kong's *Apple Daily*, 54 from Hong Kong's *Sun Daily*; 98 from Taiwan's *Apple Daily*, 202 from Taiwan's *The Liberty Times*, 275 from Taiwan's *United Daily News*, 151 from the U.K.'s *The Sun*, 122 from the U.K.'s *Daily Telegraph*, 108 from the UK's *The Times*, 129 from the U.S.'s *The Wall Street Journal*, 304 from the U.S.'s *The New York Times*, and 40 from the U.S.'s *USA Today*.
7. China has suffered from an outbreak of tainted baby formula since 2008, causing a high demand for baby formula and other related food	7. Reference context in footnote

products from international brands. This shortage of legitimate food supplies in China are also perceived as a cause for the shortage in Hong Kong as the Chinese are known to cross the border and enter Hong Kong to purchase food products, leaving the residents of Hong Kong with decreased supplies (Buckley and Wong 2015).	

The addition to the footnote above about newspapers is almost a direct response to Mitch's comments: "I recognize that differences exist in newspaper types (some are considered tabloids while others are generally accepted as high quality news outlets)." This illustrates how entextualization takes place in practice – that texts are often dialogues and interlocutions between specific people in a situation or literacy networks rather than autonomous utterances (Canagarajah 2013b).

Comparing these meditations to Gunter's work reveals that political science writing is similar to writing in entomology in that both graduate students develop texts through network activities, and the differences between them are differences of degree, not kind. At the same time the comparison also highlights how socialization occurs through writing as situated practice. Involvement in such genre practices and having her texts mediated socializes Susan. Lucy's mediation as an advisor is instructive (but in a different way than Juliana's, the PI, who writes and develops research with Gunter). Lucy intervenes in the text at the level of language and discipline just like Juliana, but does so through feedback rather than collaboration and co-writing. Susan's research paper is always treated as Susan's paper and writing competence

remains an individual trait. Lucy's interventions are also directives. Susan does not see them as

negotiable. The other feedback she receives is more about meditating the text through

suggestions. It usually comes in the form of suggestions – footnotes – to provide information not

immediately dictated by the scope of the argument. Such suggestions focus on the need to

provide US disciplinary audiences the information needed to adequately understand Susan's

arguments and analyses regarding her Southeast and East Asian context.

4.6 Discussion and Conclusion

This chapter examined how the literacy mediations and literacy networks involved in

writing in academic genres impact the academic socialization of graduate students. My findings

confirm, add nuance to, and even confound what scholars of writing studies have argued about

how new members acquire and perform disciplinary literacy practices. Scholars have generally

agreed that working with more experienced members and experts is crucial for new members.

CoP researchers argue that this model of mentorship is fundamental in the socialization of

graduate students. While my analysis indicates that mentorship is indeed fundamental to

Gunter's success with writing, it also shows that such experiences build off knowledge he

acquired in the classroom and in his lab. Institutional literacy sponsorship has to be in-place for

individual literacy sponsorship to work. Individual mentors need other sponsors in the discipline

to do their parts to involve students in disciplinary practices through the socialization process.

The type of feedback Susan receives from her mentors is less strategic. While they may appear

similar, the sponsorship in Gunter's academic socialization implies a more holistic sense of

support than mentorship. A mentor would have advised Gunter to pursue avenues of

socialization, a sponsor has the material and social capital to afford him that opportunity. A

mentor is a person and a sponsor is a network that involves both the mentor and other material

forms of support. When it comes to socialization, graduate students needs a real and tangible sense of sponsorship, and a strong literacy network.

On the topic of writing, the study shows that Gunter learns a lot about the situated nature of academic writing in the classes he takes early in his PhD program. Situated writing instruction is a crucial aspect of his socialization and it marks a key distinction between his education in a US university and his education in a Turkish university. His takeaway from the course "Critical Thinking and Professional Development" supports Poe, Lerner, and Craig's (2010) contention that writing pedagogy in the STEM classroom works best when it approximates the "authentic genres" of the disciplines and professions (certainly at the graduate level). Participating in the grant review activity, guided by "old-timers" experienced with grant applications, enables Gunter to acquire a deep sense of the situated nature of writing grant proposals and how it shapes the genre's literacy norms. He learns writing through what CoP scholars call "legitimate peripheral participation." His multiple framings of such literacy activities in terms of "pitching" or "contributions" indicates that such an understanding of the genre practice has taken root and become internalized.

His lab activities are especially fundamental to understanding Gunter's socializtion into an apprentice researcher in entomology. Through the literacy mediations of this strong literacy network, Gunter practices writing as a process and his text entextualizes disciplinary activities. Gunter's discussions with Juliana are fundamental to the development of the OW research article, and the review article and research as such. Blakeslee (2001) and Flowerdew (2000) both show that disciplinary activities and involvement in practices enable apprentice researchers to develop legitimate contributions, and Gunter's lab meetings perform this function well. These activities also enable him to develop and participate in discussions and experiences that develop

normative competencies vis-à-vis the discourse. Through their feedback on his work, they demonstrate that collaboration and negotiation are the norm of the discipline. His fellow graduate students (and post-docs) in the lab expose Gunter to experiences with both US culture and disciplinary culture – needs identified by Belcher (1994) in her call for mentoring support for L2 graduate student writers.

The type of feedback he receives shows a practice that views language-work as something done by a reader and reviewer helping a researcher. Writing competence is a function of the literacy network. This "concerned interventionist" (Curry & Lillis 2015) approach seems to emerge from the general practice of collaborative writing that is the norm in the sciences and the lab. However, Gunter's experience also shows that, rather than reproducing the culture of individual competitiveness and competence often associated with STEM disciplines, the lab views writing as a networked or collective activity. All members of the lab work together to support members and peers produce research and get the work of the lab out there, acting as brokers for one another's works (Lillis & Curry 2010). This practice raises questions about how academic authorship should be redefined in the context of divergent academic literacy practices and indicates that the classical notion of the individualized "author function" (Foucault 1980) is problematic academic STEM writing.

The literacy mediators in Gunter's literacy networks provide social capital that simply would not be available if he were not pursuing a PhD in an R-1 institution. Canagarajah (2002) calls for such a use of resources when he argues that structural inequality between scholars working in center academic institutions and their colleagues in peripheral institutions results from a lack of capacity in the "non-discursive requirements of publication in the latter institutions." The opportunity Juliana makes available to Gunter when she suggests that they

develop the literature review into a review article for publication exemplifies the deployment of such resources. Her intervention in this aspect of the text brokers it into a publication practice, providing him firsthand experience with such a literacy activity. It also provides him a scaffolded space to practice how feedback can be negotiated and engage in cognitive apprenticeship practices in an authentic literacy network of publication (Paltridge 2015; Curry & Lillis 2015).

Without such an opportunity, Gunter would have "lingered" with the text without developing a deeper understanding of the text's contribution or how to "land" the conclusion of a published text. Writing the review provided him invaluable experience with publication practices: its interminable nature of continuous writing, negotiating feedback, balancing responses and needs, writing "occluded genres" such as the letter to the editors for submission and resubmission, as well as framing a salient contribution to the discipline. The literacy mediations in the rewriting of the abstract, introduction, and conclusion illustrate exactly the ways an experienced writer in the STEM disciplines can identify and articulate "the literature of the field into a story in order to enlist the support of readers to continue the story" (Myers, 1991: 45); they also show that discursive features such as boosters and hedges are contingent on genre.

Juliana's edits recontextualize the literature review into a review article and socialize Gunter into the discipline by enabling him to learn how publication genre practices must prioritize contribution. The removal of statements about the research gap and the foregrounding of the article's contributions highlight the distinction between the two genre practices. These changes exemplify rhetorical practices that will engage the interest of "hundreds – rather than dozens" (Gunter, Interview, April 21, 2016). They demonstrate why mentors of graduate students often write the introductions of publications; they know what counts as salient

knowledge in the field (Li & Flowerdew 2007) and their writing expertise in the discipline means they possess the rhetorical and academic writing skills to frame the texts appropriately to the genre.

In comparison, the feedback Susan receives is often too indirect to facilitate socialization and does not really network her into disciplinary practices. It seems to focus on socialization into norms. The culture of political science vis-à-vis writing is more individualistic and looks at writing and language-work as an individual competence. In practice, this means that Susan receives individual feedback from her advisor through embedded comments that suggest areas of change, rather than showing how to articulate those moves in the text. Susan's advisor also requests these changes while Susan is writing an article rather than as a part of a larger specific research activity. Blakeslee (2001) says that the advisor' uses "suggestive and unelaborated feedback" that is rarely "fully explicit" in written texts to guide graduate students to make their work appeal to broader audiences (1997: 134). Though advisors often provide opaque feedback in an attempt to push graduate students to practice writing as a problem-solving activity, Blakeslee (1997) says this pedagogical practice is suspect because Bouzida fails to pick up on the expectations behind the feedback. The ineffectiveness of opaque feedback is significant, Blakeslee (2001) says, because audience-awareness radically differentiates graduate students from the disciplinary experts who are their PIs.

Writing studies operates under the assumption that disciplinarian literacies – at whatever level – are situated and rhetorical, and writers must therefore remain attentive to the concept of audience whenever they write and for whatever purpose they write (Myers 1990). The way Lucy advises Susan about her paper and dissertation signals exactly this type of tacit knowledge about disciplinary membership. However, we can also see that her messaging is opaque like that

identified by Blakeslee (2001). Susan does manage pick up some of the message though. Meeting with Lucy and being active in the reading group helps her to decode this aspect of Lucy's feedback. In other words, the literacy network – though comparatively weaker – enables socialization. She changes the focus in the paper and her dissertation does not end up including a section about cultural framing. She takes it out. Her rewrites of the article at that time also evidence a shift to a deductive hypothesis-led reasoning and form. Both are norms of writing in political science as a social science and put her in a better position to defend her dissertation.

Tardy (2005) shows that discussions with mentors enable graduate students to see the genre practice of publication as a rhetorical situation. The interaction between Susan and Mitch during the reading group shows how the socialization into recognizing genres as rhetorical situations occurs through feedback. Mitch's comments repeatedly highlight the fact that the readership for Susan's paper is a US-American audience and so additional information about the context of her research and her texts is needed to flesh out the points. He does not focus so much on the actual aspects of the argument or how the research methods can me developed further. His comments lead Susan to elaborate about the newspapers she draws from and rationalize their use ("I recognize that differences exist in newspaper types - some are considered tabloids while others are generally accepted as high quality news outlets. However, by selecting on their popularity I am assured that they are widely read, which is crucial to my focus on examining the messages regarding immigration that readers receive").

The need for elaboration and qualification regarding texts from Asia indicates that audience is an important factor in the structural inequality being reproduced in global research networks. Lillis and Curry (2006) report that scholars in non-Anglophone Europe also believe they can only confirm knowledge that comes out of the Anglophonic center because of audience

expectations regarding research from the periphery (p. 31). Mitch's feedback shows how such a readership stance perpetuates this inequality. Indexing the notion of audience, Mitch asks Susan to provide the additional details about Asian newspapers that normative readers would expect. In other words, he asks Susan to further contextualize the Asian texts, which when seen as emblematic of the type of mediation comparative texts undergo at the hands of reviewers providing general comments about audience awareness, shows us how "difference becomes inequality" (Canagarajah 2002).

My case studies of Gunter and Susan indicate that apprentice researcher socialization takes place significantly through literacy mediation and literacy networks. It shows that involvement in the literacy practices of publication is key to their socialization. This involvement is a networked activity that elicits investment from graduate students and literacy mediations thereby socialize students more authoritatively. To put it plainly, people learn more during those moments when they listen. This chapter has shown how literacy mediations socialize Gunter in the discipline by enabling his activities through authentic practices of the discipline. In the learning process, recontextualization of text across genres is especially key and represents exactly what differentiates brokering from other forms of sponsorship. Susan's socialization through academic literacy practices is comparatively more in line with what writing studies defines as writing as an individual cognitive process: it is about feedback based on insider knowledge and audiences, and incorporating that feedback into the process.

Chapter 5: Translingual Dispositions and Graduate Student's Academic Socialization

> Unfortunately, if you let me go, I like to write a little more colorfully. Most of the time the feedback I get is about toning it down. I learned to deal with it. Since that is what is expected. I find it tasteless and dry. I get bored when I read my own things. And I'm sure everyone gets bored, but they like being bored. So we go with it. (Gunter, Interview, May 30, 2015)

> I can never say that I'm picking Taiwan because I have personal connections [and speak the language]. That would be condemned. Political science people really care about case selection. (Susan, Interview, February 25, 2016)

5.1 Introduction

This chapter discusses how graduate students' dispositions afford or constrain their academic socialization through literacy practices and participation in literacy networks. As Gunter says above, he likes to "write a little more colorfully" but has been advised against such a style by others who prefer "toned down" prose. Although he views such a style of writing as "tasteless and dry," Gunter acquiesces to the feedback he gets from others, signaling his socialization into the discursive norms of his discipline. He "goes with it," as he says. This process, however, does not occur uniformly for all graduate students, and one distinct variation confounding potential uniformity is the attitude graduate students bring to literacy practices – whether they see academic texts as autonomous and formal or situated and functional. In this chapter, I analyze socialization by focusing on Gunter's disposition toward language and communication, finding that his academic literacy practices tend to align with audience and situation. Academic writing is a second language for all graduate students and the attitudes people bring to their literacy practices enable or constrain the process of language acquisition. I

argue that developing a disposition as a progressive person and a multilingual writer enables

Gunter to build his English competence – learned as a register in school ("I had my science

education in 6-8 grades in English, and that was difficult. It was the first time I met with English,

it was in 6th grade. They just started doing English science education" (Interview, May 30,

2015)) – to the point where he can use the language to communicate in the multiple situations he

faces as an entomologist.

I subsequently present a story about the constraints to academic socialization that Susan

faces as a result of the literacy practices that emerge from her disposition. The point she makes in

the quote opening this chapter relates to the notion that a researcher can pick a topic of research

based on her language capacities and social values, but such a practice can create friction with

disciplinary norms. In other words, her translingual disposition conflicts with non-negotiable

disciplinary practices, producing the disinvestment socialization scholars' identity in her

academic socialization.

What are we to make of the dispositions of multilingual graduate students toward

academic literacy practices and academic socialization as such? How might Gunter's

situatedness in different disciplinary networks shape his attitude to academic literacies? How

might Gunter's views of himself as someone who does not like "toning it down," "a progressive"

or "someone who wants to do research in any capacity" impact his socialization into academia?

While chapter 4 considers mediations that bolster academic socialization, this one examines how

Gunter's disposition to language and communication boost and facilitate his academic

socialization. Drawing on recent theoretical work on translingualism as a social practice

(Canagarajah 2013b), I provide an emic account of Gunter's literacy practices in terms of a his

social, collaborative, and functional disposition toward language and literacy in academic

socialization. At the same time, I am aware that claims regarding dispositions are not generalizable, and I therefore conclude by discussing one of Susan's academic socialization experiences, as a counterpoint to Gunter's. In particular, I show that Susan's social values and functional dispositions -- which lead her to view language as a resource – also lead her into a situation wherein she must negotiate – unsuccessfully – disciplinary norms.

Before proceeding further, however, I should clarify that I use translingual disposition here to denote a "set of tastes, values, and skills" relating to literacy practices (Canagarajah 2013b, p. 181); it acts as a social practice approach to communication that assumes multilingualism as the general context within which literacy practices are learned and practiced. Thus, in this chapter, I present a picture of graduate students' academic socialization as shaped by such dispositions. Conceptually, my approach is modeled on the concept of habitus developed by Bourdieu (1990) that underlies the social practice model of literacy: "system of dispositions that potentially generate a wide repertoire of possible actions, simultaneously enabling the individual to draw on transformative and constraining courses of action" (p. 87). In this case, the actions are language acts, i.e. literacy practices. Thus, I apply the concept of translingual disposition as a "nexus concept… [wherein a] determinate class of [social] conditions [i.e. a multilingual context for literacy practices and communication] produce the structures of the habitus [or translingual dispositions], which in turn are the basis of the perception and appreciation of all subsequent experiences" of academic and disciplinary literacy practices (Bourdieu 1990, p.54). Put simply, translingual dispositions in my study relate to the attitudes and agency my two participants exhibit as they acquire academic literacy competencies, which must be understood as a combination of linguistic, communicative, and social practices.

In recent years, multiple literacy and writing researchers have focused on theorizing and defining the affordances of the translingual disposition. Canagarajah (2013b) outlines the disposition in terms of language awareness, social values, and learning strategies, and shows how translingual dispositions shape the negotiation practices of a multilingual undergraduate student in a classroom. Leonard (2013) talks about the translingual disposition as a rhetorical attunement, a sense for communication that emerges from a lifetime of negotiating meaning across differences – specifically "an ear or a tuning toward difference of multiplicity… a literate understanding that assumes multiplicity" (p. 228). Rhetorical attunement, in other words, is a way to understand a disposition that approaches communication interactionally, beyond language, and is based on "materiality, contingency, emergence, alignment," and literacy practices understood in terms of the user's larger life and working context (Leonard 2013, p. 230).

Feminist rhetorical scholar Ratcliffe (2005) describes a similar communicative capacity as "rhetorical listening … a trope for interpretive invention, that is, as a stance of openness that a person may choose to assume in relation to any person, text, or culture; its purpose is to cultivate conscious identification in ways that promote productive communication, especially but not solely cross-culturally" (p. 25). And finally, You (2016) posits the notion of cosmopolitan English as a descriptive and heuristic stance communicators situated in a globalized world must take. This stance assumes multiplicity in the use of English and other communicative mediums across all contexts; it is a language repertoire that makes use of all the resources at hand and resists any particular view or norm of English as a single cultural and linguistic category.

In literature related to academic socialization, discussions of dispositions have treated the topic as less explicitly related to language. Berkenkotter, Huchin, and Ackerman (1988, 1991)

and Prior (1998) both point out that prior education significantly shapes how graduate students engage in the disciplinary literacy practices that comprise socialization. Nate, a graduate student in composition with an undergraduate degree in English who Berkenkotter, Huchin and Ackerman (1988) study, exhibits difficulties with "procedural knowledge" even after he learns the content of the field. His training in English literature inculcated in him a "sense of the game" of humanities research that initially interferes with social science academic literacy practices. In a study of an international PhD student, Prior (1998) argues that socialization into academic discourse community approaches can be out-of-sync with the learning dispositions of the graduate students who expect disciplinary training and apprenticeship. The graduate student submits a "work in progress" research proposal – written as a dissertation research proposal rather than a response to the class assignment. Being an international and with a "functional view of [academic] communication" (Canagarajah 2013, p. 181) vis-à-vis her PhD socialization, this student exhibits the pragmatic view that all in-class activities should be directly related to her PhD training and disciplinary apprenticeship.

Other research (see Tardy 2005 for more) indicates that an "ethic of collaboration" among graduate students in the disciplines greatly enhances the acquisition of academic literacies and languages. Tardy (2005) and Flowerdew (2000) find that multilingual graduate students and researchers benefit from working with mentors on models to learn genre conventions and understand feedback. Tardy (2005), for example, points towards the case of a graduate student who gains competence in the academic literacy practice of using hedges and boosters by reading articles with a post-doc mentor. Flowerdew (2000) also shows that multilingual researchers in the disciplines often prefer writing with other multilingual writers in their literacy networks and rely on their feedback – even regarding English language issues – to draft their research. They

also prioritize disciplinary competence in their collaboration; language competence is either already assumed or assumed as negligent in terms of their disciplinary literacy practices.

Finally, research has pointed towards instances where graduate students' social values and attitudes put them at odds with some of the formal goals of academic socialization. Casanave (2002) presents the case of Virginia, a working-class student, struggling to feel comfortable with graduate-studies in sociology. Her working-class disposition bristles against the formal and technical discourses and goals of the discipline, which she sees as distancing her from the communities she wants to be a part of and serve in the future. She resists the field of sociology and subsequently discontinues her PhD to regain "a sense of coherence and purpose in her life, enabling her to begin constructing a new biographical narrative" (Casanave 2002: 174). Her disposition, in other words, produces practices that lead her to disinvest and eventually drop out of the process. Poe, Lerner and Craig (2010) illustrate another aspect of this socialization process when they show that multilingual international graduate students in the STEMs often practice English as a professional register and not a communicative language. These writers, they find, mostly interact with L1 English speakers in professional contexts and approach the language not as a cultural or social medium but as a technical one. Predicated on language preferences and social dispositions, this lack of involvement potentially limits their academic and non-academic socialization into US institutions beyond their immediate disciplines.

The studies above highlight the point that literacy is a social practice (see 1.2 and 2.4 for more) and we must therefore continue to examine writing empirically and naturalistically in different emergent or under-examined contexts (Canagarajah 2013b; Lilis & Curry 2010). In line with this agenda, this chapter presents the disciplinary activities of my two international and multilingual graduate students to both corroborate and complicate scholarly understanding of the

dispositions that shape literacy practices and the socialization process. In the first part of the story, I focus on Gunter's progressive social values and how he engages in civic oriented and non-academic literacy practices during his graduate socialization. I show that this disposition fosters shuttling practices that enable him to avoid becoming completely enculturated into academic norms and styles, which he does not want (as the quotation above suggests). The literacy practices he uses in his presentations to beekeepers and his use of conversational language to communicate with other members of the field while writing research articles also exhibit this disposition. Such practices enable him to push against the perceived dryness and elitism of disciplinary practices and to continue "writing a little more colorfully." In other words, they show his agency in maintaining discursive practices during his socialization even as he acquiesces to academic language norms.

In the second part, I discuss how the literacy practices in Gunter's academic genres draw on a collaborative disposition. Working with others in literacy networks facilitates his participation in the socialization process and in the identification and creation of new knowledge. His use of communicative strategies, such as confirmation checks to maintain a negotiational norms between himself and his collaborators, evince the collaborative disposition that produces such practices. The third part of the chapter examines how Gunter takes a functional – rather than formal – approach to communication. His repurposing of texts and figures across multiple disciplinary genres epitomizes this attitude. This functional view of communication also manifests in Gunter's openness to using multimodal literacy practices, which aligns with the norms of scientific communication as such.

The final part provides an example of the constraints that translingual dispositions must work within in disciplinary literacies if academic socialization is not frustrated. I suggest that

Susan's difficulties articulating an effective rationale for her case selection in her dissertation and research genre practices stem from the normative context of the disciplinary field. She is unable to state the fact that she wants to analyze East Asia because of her personal affiliation with that part of the world and its people (i.e., a social value), and her competence with its language (i.e., a functional disposition). The norms of political science, as a purportedly objective social science, dictate that such a rationale would be inappropriate. Consequently, Susan struggles – frustrating the socialization process – with the academic genre.

5.2 Gunter's Social Disposition and Literacy Practices

The first aspect of Gunter's translingual disposition that I identify in my study is his progressive social values. As Berkenkotter, Huchin and Ackerman (1988, 1991) and Prior (1998) show, prior learning contexts foster habits of mind and values through which graduate students invest in the disciplines and produce new knowledge and literacies. Since graduate student socialization in the life sciences mostly occurs through lab activities and since graduate students must write as researchers and technicians, these students must adjust to habits of mind and values in line with such roles. These roles become ever more impactful in students' learning during this all but dissertations time since they are no longer going to classes.

In his characterization of translingualism as a social practice, Canagarajah (2013) argues that translingual dispositions are marked by certain egalitarian social values and democratic principles regarding language practices (Canagarajah 2013b). Pointing to the literacy practices of a scholar called A.J., Canagarajah (2002) articulates a similar argument when he points out that many off-networked scholars practice a "civic consciousness" because they are socialized into higher education institutions that view working with non-academic communities as fundamental to academic work. Regarding why such a social value might be prominent among peripheral

scholars (in contrast to academics socialized into the neoliberal universities of the Anglo-phonic center), he explains: "Since higher education is free (which means that it is funded by the state), those [few who can access it generally because of social status – attendance in certain types of schools and being able to afford the opportunity cost of pursuing higher education – and through extremely competitive national placement tests] who benefit from it are expected to contribute in turn to the community's good" (p. 189).

In relation to academic literacy practices and membership in the intellectual class, Canagarajah (2002) contends that this social value is important to consider in literacy practices because it engenders a practice of shuttling between and across languages and communities; certain scholars and researchers approach the creation of knowledge in ways that draw from their situatedness in multiple languages and discourse communities, either other disciplines or the general community, and often communicate in more general and less esoteric terms (i.e. more democratically). Graduate socialization that facilitates shuttling is exactly what does not happen – but arguably could have helped – for Virginia (Casanave 2002). Unable to align the norms of her discipline with the communities she wishes to serve (e.g. discourses and academic values), Virginia ends up leaving the program without completing a PhD. She believes if she had been able to write in ways her mother could understand or participate in activities that communicated her work to the communities she wished to work with in the future, she would not have disinvested during her academic socialization. Had she been provided opportunities to "shuttle across communities" and participate in non-traditional Hispanic community practices, she would not have grown alienated from her PhD. She wanted to practice shuttling during the research process so that she could speak to and be of relevance to the non-traditional Hispanic community she came from (i.e. off-networked like A.J., in a sense).

Gunter's work in his program's extension activities illustrates how shuttling can align academic socialization with individual social values. He negotiates his disposition for colorful literacy practices with the academic expectations of "dry and factual writing" by participating in non-academic literacy networks that align with his social values and he thereby avoids divestment in the socialization process. In an early interview, Gunter explains that his parents taught him the importance of honesty and doing things right, which he subsequently defines as being progressive and decent; he also explains that his experiences in school showed him that schooling, science-education, and English-education were a way to maintain a form of social differentiation (something he is against):

> I would call myself progressive, which is decent… We grew up with honesty and my mother always said, "I'd love you even if you're a garbage man. Just do it right… [In terms of schooling] It was a very white-Turk school. There is this privileged part of society, who were Europeanized and they really did not have to deal with a lot of social issues. I was definitely seen as being from the lower classes in that school…It was the first time I met with English was in sixth grade. They just started doing English science education. [They did not teach science in Turkish] in my school, but this is trying to move you up. (Interview, May 30, 2015)

In addition to characterizing himself as a progressive and decent, Gunter has also identified himself as a Marxist on several occasions. Given this self-definition, his critical attitude toward his school is not particularly surprising; he sees it as a "white-Turk" institution that caters to the "privileged part of society, who were Europeanized and [who do] not have to deal with a lot of social issues." He describes himself as being from the lower classes in that school, signaling a

potential contrarian mentality that leads to a marked ambivalence toward "elitist" academic activities and an affinity for working with "non-elitist" citizen scientists and beekeepers. Interestingly, he also points out that science and English education are key to social differentiation in the Turkish context; he says that science (the content),provides students a pathway and/or a career "to move [them] up" into the professional globalized classes and English (the form) indexes the cultural and communicative medium of these classes. Blommaert (2008) and Canagarajah (2013b) have both pointed towards a similar trend in their work on English education in the global south, which they see as functioning to create a class of skilled migrant workers for the West. Gunter's cognizance of this "social stuff" (Gunter, Interview, May 30, 2015) testifies to the type of person he is, especially since his science-focused classes in school would not really have exposed him to social theories related to education and social mobility.

Given his awareness of the role of knowledge and language in the maintenance of social differentiation and his personal opposition to such differentiation, Gunter is happy that he can inform and work with beekeepers during his PhD program. He enjoys working outside the lab and academic disciplinary boundaries. About participating in beekeeping conferences and working with citizen-scientists as a part of his extension activities, he says:

> It's the right thing to do because I get money from the taxpayer in our program and so we need to give back. I also like it. It's a human audience and not robots like we face in academia. They are genuinely invested... if I present to beekeepers, I get emotional feedback. I like that. It turns into more of a two-way communication. People sometimes get pissed at you, sometimes they say great. It's normal human interaction" (Interview, November 11, 2016).

Framing his responses in affective terms shows the emotive way Gunter reacts academic discourse norms. This also explains his ambivalence toward academic writing: "I find it tasteless and dry. I get bored when I read my own things. And I'm sure everyone gets bored, but they like being bored." He says interacting with beekeepers makes him happy because they are "a human audience and not robots like… in academia" – strongly echoing the anti-elitist sentiment communicated in his criticism of his "white-Turk" school. Participating in the network of beekeeper activities enables him to interact with people who are neither highly educated technocrats ("not robots") nor solely concerned with academic problems. Those involved in the beekeeper activities "are genuinely invested" individuals for whom bee-related issues have to do with questions of livelihood and sustainability.

Inculcated with a social disposition that favors participation in "normal… human interaction" and a dictum of "doing it right," Gunter develops this interest in working with citizen scientists (who in his knowledge domain are also often bee farmers) because he believes that they provide effective ways of conducting research. He is no snob and sees that non-academics should be encouraged to participate in the research process. This view is further informed by the belief he has acquired that academics in US universities rarely do applied research in practice, and therefore there is a paucity of large-scale data on bees. As someone who plans a long-term career doing "research in any capacity," being a professor, therefore, does not seem to him about doing it right but about being an academic. Research labs only study small population samples, which to be generalizable must be tested through large datasets that the current model of discrete research labs operating independently and competitively does not really afford. This view seems to be about distancing himself from research and functioning as an academic in the pejorative sense of the word: "[As a professor] you read, you write, for grants

and paper, you teach. You go to meetings. You don't do research. You create the environment for others to do the research, but you never do them" (Interview, Oct 17, 2016). In other words, academic work often includes much more than doing research and so he is prepared to go outside the academic network to foster the work of research in his PhD.

In Gunter's view, working with citizen scientists enables researchers to expand the knowledge-base for data collection by using "an army of people who would like to do research on their own hives" (Interview, April 22, 2016). For him, such work is also about resisting the process of social differentiation and exclusivity on which the academic model of expertise, which would not count the beekeepers without advanced degrees in science as legitimate researchers, is predicated. "[These] people are well intended… and would like to do research on their own hives. I mean it's great," Gunter says, "I would love to have that information rather than just tell them 'You suck, you shouldn't do science.' I just want to give them the tools to do science" (Interview, April 22, 2016). His social values product such literacy practices and networks and generally mean that he must shuttle between academic and non-academic communities, avoiding the disinvestment that leads to Virginia's "socialization gone awry" (Casanave 2002). He combines his motivation to do research with a non-elitist social motivation to maintain his interest in the socialization process. Despite his reservations about academic work, Gunter continues in his program and generally fits in well, presenting in multiple conferences a year and doing research related to multiple publication projects – the legitimate activities of disciplinary socialization, institutionally speaking.

The extension program at Gunter's college runs presentations to educate non-research communities on appropriate ways to gather data and conduct experiments. Drawing on his social disposition, Gunter regularly participates in such non-academic genre practices and this enables

him to get to know non-academic audiences in his field and thereby develop shuttling competence. His understanding of what these communities need comes from seeing them as "non-formally trained" scientists: "They weren't trained as researchers or scientists, some of them aren't even formally educated even. So they fall into the pitfalls of experimental design that everyone would fall into if you aren't trained in it. They don't standardize their treatment, they don't have controls, they have small sample sizes. All of those things, if it was a paper, it would get rejected" (Gunter, Interview, April 22, 2016). In the texts he subsequently puts together to communicate to such audiences, he adopts literacy practices that foreground humor and popular culture visuals, which contrast with standard academic literacy practices where "every sentence is [fact-based] and backed up" (Gunter, Interview, May 30, 2015). In the presentation he calls "Science 101 for Beekeepers," he aims to explain basic experimental design to citizen-scientists:

> So what does a scientist have to have? You have to keep it simple, have a control, got to have a large dataset. Large enough. You need good data so that data quality should be okay. You should focus on repetition so that it won't be useless. I then open up on those points. (Gunter, Interview, April 22, 2016)

Presentation slides (samples provided below) avoid jargon and translate technical concepts into clear directions.
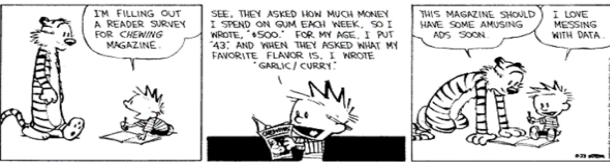
Figure 3: *A selection of slides listing the experimental method in Science 101 for Beekeepers.* (Each box is a separate slide.)

Gunter's explanations of "over-partitioning" and "keeping it simple" effectively convey his knowledge of academic research to his audience. He has learned during his academic socialization experiences (i.e. scientific education) that controls and standardized treatments are key to effective experiments. But syncing this knowledge with what he understands about the rhetorical situations and his practice of shuttling, he explains experimental methods to citizen scientists avoiding academic discourse and technical jargon. To this end, he prepares his slides to explain the experimental process and scaffold his audience's data collection activities using clear and simple language. The fourth box in figure 3 most clearly illustrates this literacy practice. The heading is a simple directive ("Let's simplify") that reframes the descriptions outlined under

"experiment" into two bullet points listing "to-do's" – first, "pick one treatment regime" and second "decide how many colonies [to] dedicate, and divide them between groups."

The images Gunter uses in the presentation (seen in Figure 4) also exhibit this communicative literacy practice; unlike the graphs and charts he would use in academic conference presentations, he uses pictures and cartoons (something fairly common in entomology presentations, as I've learned from attending multiple entomology symposiums held at the university). Its discourses, in other words, are not about the academics, but about indexing popular science. In the slide about "Repetition and Stats," for example, Gunter uses a cartoon in which a father reads a bedtime story to his daughter to explain that a single experiment might not provide results that can pass the validity test. The slide explains the necessity of repetition to ensure the validity of collected data.

Figure 4: Four cartoons used as presentation slides in Science 101 for Beekeepers. (Each box is a separate slide.)

Gunter's literacy practices in these extra-academic genre practices show that he maintains a communicative approach to language even as he learns the standard academic literacies of normal socialization. This work helps him by providing him an outlet for his civic-orientation. Like Virginia, he wants to use his knowledge to contribute to non-academic communities and people who are directly affected by the type of research he is doing. He knows it will take time out of his academic socialization in the lab and pure research, but does it anyway because he finds it enjoyable. Without such spaces, he may start to disinvest from his discipline as completely as Virginia did from sociology. If he does not spend his time to get affective feedback by participating in such non-academic genre practices, he runs the risk of losing his "sense of coherence" as a progressive person committed to doing science right. Gunter also comes to learn, in practice, how communicating across discourse communities is as much about the culture as it is about the language. He says that his academic socialization has taught him the fundamental rule of keeping it simple in presentations:

> And while doing those changes, I actually came up with more changes, because it sets you in a certain mindset; you start thinking like that. And before there was a lot of texts, a lot of hard-to figure out graphs, so I changed all that. I made it super easy, I can give that talk to a 6 years old and he will be like oh yeah I understand that, that is the idea. It is right to keep it as easy as possible, sometimes at the expense of losing some of the details that can be critical, but they ask you, that is the other idea. So you leave things out, and if people are too worried about it, they ask you again. (Interview, November 22, 2015)

Gunter's shuttling practices thereby occasion the realization that effective communication is always predicated on making the mode and style appropriate to the situation. In other words, they enable him to expand his communicative competence. He learns to 1) keep it simple and 2) communicate details in question-and-answer sessions rather during the presentations. This means that Gunter integrates humor and "common sense" into his representations of disciplinary activities; if he avoided these strategies, he would risk uptake and make the creation of situated meaning more difficult. This aspect of translingual practice, one that privileges communicative competence over norms, is a far cry from the technical register English Poe, Lerner, and Craig (2010) identify as commonly used by ESL graduate students in the STEMs they study. Gunter's social values afford these practices, which in turn supports his competence in English as a cultural (i.e. non-technical) medium of communication during the socialization process.

Gunter's social values and communicative competencies also manifest in both his frequent use of metaphors to communicate with other members and his use of another language for its semiotic function rather than content when interacting with others through academic genres. Below are two representative examples of Gunter's use of metaphor to communicate his knowledge:

Text	Embedded Comment
Review Article 5	1. Gunter: Ok… this was the
[1] Available information in scientific literature suggests that overwintering behavior of honey bees is rather complex in comparison to a classic case of insect diapause as the former includes social interactions as well as abiotic environmental	most difficult part to write. It's like trying to land a plane without guide lights on the ground. So, I feel like

factors directly affecting on physiology of individuals. Fortunately, earlier research in this era has already introduced the infrastructure via demonstrating the physiological differences between the worker bees from different seasons. In addition to this, some effort has been put into understanding the mechanisms, cues, and signals that are responsible from the occurrence of seasonal differences in physiology and behavior of honey bees. However, the current picture of honey bee overwintering remains incomplete. Characterization of signal(s)/cue(s) for honey bee colonies to enter, maintain, and exit overwintering and molecular pathways underlying the observed seasonal changes through the annual cycle of honey bee colonies are challenges waiting to be taken by the contemporary researchers. As the questions at hand are composed of multiple layers (i.e. molecular, cellular, organismal, and colony level) the answers will likely be obtained through carefully designed experiments which avoid the pitfalls of confounding factors. One advantage we now have over the pioneers of the field is the availability of molecular tools and information. We have access to the full sequence of honey bee genome. High throughput RNA sequencing combined with increasingly detailed computational analyses has provided us

I might have messed up. Just saying…

with an unprecedented opportunity for understanding

mechanism of change in biological systems. Application of these

new techniques and methods to the

long lasting questions has great potential to vastly improve our

understanding of honey bee overwintering.

…

Review Article 8

[2] Integrating the available information, ~~it appears~~ **it appears** we suggest that the entry and exit to the overwintering state is mediated by interactions between environmental nutritional resources, brood/brood pheromone levels, **forager pheromone,** and potentially **temperature** and photoperiod cues. During the fall, there is a decrease in available ~~pollen~~ **foraging resources which, in combination with days getting shorter and colder,** ~~which~~ results in a decrease **in foraging effort** in ~~the~~ colonies. *This should result in more foragers staying in the colony, and an increase in the exposure of young workers to ethyl oleate, which should slow their behavioral maturation. Additionally,*

2. Gunter: This is a tricky "soft belly" in the model. I don't have a good counter-argument to the "there's lots of stored pollen in fall"…

Gunter: Upon our short conversation with Christina today, I updated the model. It needs some "make up" to

the reduction in pollen foraging should decrease levels of brood production and brood pheromone, which also slows the behavioral maturation of workers.	make it "shinier" but I think our main idea is in there.

Addition: **bold and italicized** (Juliana); deletion: ~~struck through text~~ (Juliana)

In the first-case, he compares his attempt to write the conclusion to "trying to land a plane without guide lights on the ground"; in the second, he characterizes the potential weakness of their model as a "soft belly." These metaphors are striking in their originality and they speak to Gunter's remarkable genre awareness. Using the plane metaphor, Gunter is able to communicate a sophisticated understanding of an article's conclusion. By comparing the conclusion-writing to piloting a plane into its landing, Gunter succinctly conveys that he understands this genre practice is about bringing the ideas of an article to a close; however, he also shows that, since he does not know exactly how to do it ("without guide lights on the ground"), his efforts might not fulfill the expectations of the genre practice. In the second example, he refers to the model as if it were an animal when by describing its most vulnerable spot is its soft belly. He goes on to point out that they need to make the model more attractive through ("It needs some "make up" to make it "shinier" but I think our main idea is in there"), edits that would not change its content.

Gunter understands that the conclusion is about bringing the argument to an end. However, he is unsure about how exactly to approach this task and what "genre-moves" (Swales 1990) a review article's conclusion should make. In comparing the process to landing a plane without guide lights, he is asking for directions or instructions about genre moves and how to do them. In other words, he is asking his colleagues to share the information he needs to develop the "procedural knowledge" to write review article conclusions. In the second case, he articulates a

view of the model as a sort of vulnerable animal, a hunting metaphor that indexes his understanding of the entire publication process and what he has learned as a graduate student: a competitive struggle for survival, or publish or perish. The metaphor suggests that Gunter views reviewers or other people who might respond to such weaknesses as potential competitors who would attack the weakest part of the text, and asks the others about ways they can strategically protect and strengthen it.

This communicative effectiveness does not rely on both a metaphorical and translingual understanding of language. In another instance, Gunter writes a sentence in German to demonstrate his incompetence in the language. In a discussion about including a citation in the review article, he writes:

Text	Embedded comments
Review Article 5 **When broodless winter colonies were transferred into a flight room and fed pollen, the queens workers started laying eggs on the first day and** workers activated their HPGs in 3-4 days (Brouwers, 1983). Moreover, workers in free-flying colonies in the summer will physiologically resemble winter bees if the colonies are broodless (Brouwers, 1982; Huang & Otis, 1989; Fluri et al., 1982) [1]. Thus, lack of brood alone can induce colonies to transition to their wintering physiological state, regardless of photoperiod, temperature, or availability of floral resources.	1. Macy: There are others who have done this including Amdam. Also Maurizio, A. I think may have been the first to show this. Gunter: Maurizio seems to be the inventor of the method. However, his 1954 paper is only

	available in German. Aber
	mein deutsch ist nicht zehr
	gut. Should I still cite it?
	Fluri clearly
	states that what he did was
	an exact replication of
	Maurizio's
	original method.
	Juliana: I would cite it.
Addition: **bold** (Gunter); Comments: Numbers	

When Macy comments that Maurizio was the first to demonstrate the phenomenon they refer to

in the text, Gunter writes back that the original paper is in German. He then says that he found

the text but could not read it because "Aber mein duetsch ist nitcht zehr gut/But my German is

not very good." This playful use of the language is both clever and rhetorical

Gunter's translingual disposition facilitates these practices. From learning science in

English in Turkey and then participating in various projects to communicate scientific ideas to

non-scientists, Gunter understands that users can deploy linguistic forms that align with their

intentions and this can change the forms' significance. In other words, he understands that

linguistic meanings are not formally fixed but negotiated with interlocutors. What matters is

communicative competence. His progressive and egalitarian disposition also means he does not

stick to a formal register and lexis in his discussions with his PI and other members of his lab. He

approaches such exchanges more as peer interactions and communicates his concerns using conversational tones and humor – modes of speech with which he is most comfortable.

His use of the German to state that he does not speak German is also communicatively sophisticated. Buthaina uses Arabic in a similar manner – as a semiotic utterance intended as an act of "envoicing" where the words are used with the user's intentions rather than as a statement requiring interpretation (Canagarajah 2013b). From the context, he aims to convey that he does not understand German, even though he made that statement in German. The sentence is rhetorical, not literal: asking in an indirect way about whether he could cite an article he had not read. He even points out the potential need to cite the original article since the other study replicates those methods exactly, and they cite the second study (which he has read). Still an apprentice researcher, Gunter is not completely sure about the academic literacy practices of appropriate citations, so he solicits clarification about such practices from "old timers." In this negotiation process, his translingual disposition enables him to respond playfully, using German to say that he cannot to read the original paper in German.

In sum, Gunter's social values and his disposition for aligning literacy practices with these values enable him to shuttle between practices in a way that helps him avoid disinvestment in the socialization process. His translingual disposition also produces practices that facilitate envoicing strategies that improve communication. For a multilingual who has moved across languages and educational situations throughout his academic socialization (from schooling in a "white Turk" school that aims to make students part of the westernized elites to a graduate department that allows and encourages for interactions with beekeepers but does not reward such activities). the focus should be on communicating information rather than adhering to formal features. This facilitates academic socialization, enabling Gunter to make use of his own creative

and non-standardized language during interactions related to academic genres even when the published text might exhibit strictly standardized academic English.

Gunter uses humor and metaphors in his academic socialization to deftly communicate and ask for instructions on academic norms (i.e. genre forms and citation conventions). Using language conversationally in his academic literacy practices helps him both build and practice competence in English beyond its use for technical purposes. Put directly, the fact that he can communicate with beekeepers as effectively as he does makes him exactly the type of students and language users that ESL scholars want to produce when they talk about language socialization and proficiency (Duff 2010). Moreover, his capacity to envoice and negotiate with his fellow cowriters shows a communicatively effective and generative use of English.

5.3 Gunter's Collaborative Disposition and Literacy Practices

The second aspect of Gunter's translingual disposition – his disposition for networked practices – manifests during his academic socialization in his attitude toward collaboration with others on texts and ideas. As discussed in the previous chapter, collaboration is the norm in entomology (4.3-4.4). Li and Flowerdew (2007), Prior (1998) and Brodkey (1987) show that the process of collaboration with more experienced writers and members of graduate students' fields is crucial to their internalization of disciplinary norms (i.e. discourses, values, and assumptions); in other words, it is an important part of their socialization into the discipline. Researchers who examine graduate student socialization call such approaches cognitive apprenticeship (mentioned in 2.2.) and point out that, in most STEM fields, disciplinary work and the writing of research occurs through collaboration. Ede and Lunsford (1990) demonstrate in considerable detail that writing in the STEM disciplines is almost exclusively conducted through group-activities and a division of writing labor, with individual authors taking charge of specific aspects of research

and developing related sections. Lillis and Curry (2010) point out that academic publication is always a networked activity.

In the domain of general communication, Canagarajah (2013b) theorizes that experiences communicating across multiple languages and modes inculcate a cooperative disposition, wherein communication is approached as inherently symbolic action undertaken with others (p.179). This view of language-work and literacy does not assume that academic literacies should be understood and approached in terms of individual competence, but as collective negotiations. Alignment, as a rhetorical element of meaning making or "a fitting response," becomes a fundamental requirement and expectation from both writers and readers. Readers and writers come to literacy practices with an ethic of constantly monitoring and adjusting their practices to meet the literacy needs of their interlocutors. Canagarajah (2013b) presents Buthainah's work, in the way it both compels the reader to adopt new ways of understanding writing and makes concessions to their expectations, as an example of this collective meaning-making through alignment. Tardy (2005) points out how cooperative dispositions are strengthened in the academic socialization processes graduate students undergo. Her depiction of the ways Chatri, an ESL graduate student, learns to read disciplinary scholarship in English with the help of more experienced members shows that the practice of cognitive apprenticeship fulfills the expectations of both graduate students and graduate programs.

As discussed in 4.3, literacy networks are part of normative disciplinary literacy practice in entomology. Gunter explains that people in his discipline regard solo researchers suspiciously because working with multiple researchers acts as a check on technical competencies: "Our field is very collaborative. People rarely publish single paper. It sounds fishy. There is so many different types of expertise needed and no one [person] can know [all] that. There are fewer

check-points for data manipulation for a single paper author and it's also that people ask why

aren't you working with others. What is the matter with you?" (Interview, April 21, 2016).

Bazerman (1991) points out that the technical sophistication of scientific disciplines forces

researchers to collaborate with others to competently fulfill the complex activities of scientific

research, since no single person has the range of technical expertise needed to write a modern

scientific paper. Gunter corroborates this point, suggesting it works with other functions as a part

of an informal gatekeeping practice, one that prevents researchers from engaging in improper

research.

This norm of writing through networked activities resonates with Gunter, who describes

his interactions through feedback as inherently valuable literacy:

> I address it all, I don't let feedback fly by; I don't let it go. If there is feedback, I
>
> address it. There are cases that I disagree, and if I disagree, I just say it. There
>
> were cases that my PI was not able to convince me to change certain parts into
>
> certain ways because I made my case and she was like yeah you were right. It is
>
> very democratic in that manner. (Gunter, Interview, February 16, 2016)

Here, Gunter's commitment to collaboration is clearly apparent. He says he addresses all the

feedback he receives and, instead of ignoring things he does not agree with, he works with others

to negotiate a compromise position. Echoing aspects of his social disposition, Gunter also

explains his commitment to collaboration as aligned with the democratic norms of the academic

discipline. Gunter says that the way he negotiates feedback does not automatically prioritize the

authority of the PI and her feedback. On the contrary, he indicates that changes are made through

arguments and people have to persuade each other.

Blakeslee (2001) talks about how collaboration between Bouzida and Swenden, his PI, is fundamental to the development and communication of new knowledge. Extending the work on the social foundations of scientific writing in the field (Bazerman 1991; Myers 1990), she shows that interactions help Bouzida situationally transform his knowledge of the topic and understand what counts as salient knowledge in the discipline. To some extent, Bouzida's approach to academic literacies as "precise and predictable" hampers this process (Blakeslee 2001, p. 94). Swenden's approach of providing non-explicit feedback that he expects Bouzida to decode himself (which Bouzida is unable to do) also does not help the process. He communicates his frustration at Swenden's lack of input, not able to deeply understand Swenden's point that disciplinary literacy practices assume that knowledge is contingent, and ideas and writing have to be developed through a process.

Gunter's collaborative disposition is a major asset in his literacy practices and academic socialization. His capacity for engaging with literacy networks as a means of offering data and "good contributions" to others enables him to integrate topics salient for the field into his research. For instance, discussions about the general state of research for the review article enable Gunter to identify a potential way to understand the overwintering process, which subsequently forms the basis for a successful research grant. Through collaboration, the team develops the idea that "brood pheromone exposure prior to the production of overwintering bees or after brood reading is initiated in the spring would be beneficial… while brood pheromone exposure during the middle of winter may trigger early maturation of winter bees" (Review Article Published). Consequentially, they propose testing the efficacy of chemical treatments "of brood pheromones" prior to the period when bees become dormant (i.e. winter months) as a way

of reducing bee population losses by stimulating brood production and colony mass (among other things, needed to maintain thermoregulation within the colony) during those months.

This knowledge emerges through the literacy network made up of Juliana, Macy, and others who work on the text, and a graphic of a model Gunter develops for the review article. The drafts and comments on various iterations of the review article (below) illustrate how their collaboration generates this idea:

Review Article 4	**1. Juliana:** Does this work?
It is unclear **[1]** which aspect of brood presence or absence triggers the winter-like physiological changes in worker bees. Bühler et al. (1983) demonstrated that when a micro-climate resembling the brood nest (35°C, 1.5% CO_2) is artificially created in broodless colonies, the JH titers of workers rapidly rise. Additionally, the presence of the brood can change the circadian rhythm of worker bees; workers caring for brood show a strong circadian rhythm in their activity, while broodless workers are arrhythmic (Southwick, 1982; Bloch and Robinson, 2001) **[2]**. _Finally, brood pheromone alone can… add stuff here! and **[3]** changes in brood pheromones (Smedal et al., 2009, Amdam et al., 2009) [2]._ **PLEASE DON"T FORGET TO ADD INFO FROM THE BP SUPPLEMENTATION OF COLONIES HERE! LET ME KNOW IF YOU CANNOT FIND IT. REMEMBER,**	**2. Macy:** This does not seem to relate or needs to be incorporated somewhere else **3. Gunter:** I just don't know what to do with this part. I think it is important, but I can't quite figure out where to place it. How about a box? Perhaps with a title "Effect of Brood: Direct or Indirect?"

WE DISCUSSED THIS A WHILE AGO, WHEN WE THOUGHT ABOUT ADDING BP TO COLONIES TO SEE IF IT IMPROVED THEIR OVERWINTERING SUCCESS! **See: https://www.contech-inc.com/products/industrial-products/apiculture/item/superboost** **https://www.contech-inc.com/images/product-support/SuperBoost/Sagili%20Fall%20Feeding%20MS.pdf** **Maybe adding BP and pollen can get bees to produce more winter bees, leading to bigger colonies, leading to better survival?**	
Review Article 6 The production of brood pheromone by developing larvae may play a key role in regulating overwintering physiology. Brood pheromone triggers pollen foraging by forager bees, which, as noted above, will in turn stimulate brood rearing and the production of brood pheromone (ref)[1]. If colonies are treated with synthetic brood pheromone in fall, they consumed more protein supplement, increase brood production, and increase colony growth (Sagili and Breece 2012). Moreover, year-long	**1. Juliana:** Look at the Hive and Honey Bee references for this **2. Juliana:** NOTE - it SLOWS maturation in young bees. So 3-day old BP treated bees will look more nurse like than control

brood pheromone treatment of colonies resulted in increased honey production, colony size and overwintering success (Lait et al. 2012.). However, brood pheromone accelerates maturation and the transition to foraging in **middle age bees (ref) [2]**. If bees are reared in the absence of brood or brood pheromone, they have higher levels of vitellogenin when they are middle-aged (7-20 days old), initiate foraging later, and live longer, even under winter-like conditions (Smedal et al., 2009, **Amdam et al., 2009) [3]**. _Thus, it seems likely that brood pheromone exposure prior_ **[4]**_to_ the production of overwintering bees or _after_ brood rearing is initiated in the spring would be beneficial (because it stimulates brood production and colony growth), while brood pheromone exposure during the middle of the winter may trigger early maturation of the winter bees and be detrimental

bees. BUT, once they are middle-age, BP has the opposite effect. You can also looked at the Cedric Alaux paper on BP and gene expression - might be good to cite

Juliana: Look at my Hive and Honey Bee review for ref. See also if there are others published.

3. Gunter: I didn't get relevance of this reference. The paper I found (The nurse's load: Early-life exposure to brood-rearing affects behavior and lifespan in honey bees (Apis mellifera)) doesn't isolate the effect of brood pheromone. The only 2009

	paper I found that has to do directly with BP and has Amdam as an author was Smedal et al, 2009
	4. Juliana: Could be a good recommendation/ management strategy! And a SARE grant!
Review Article 8 …Brood pheromone triggers pollen foraging by forager bees, which, as noted above, will in turn stimulate brood rearing and the production of brood pheromone (Dreller et al. 1999; Free, 1967). ~~If colonies are treated with synthetic brood pheromone in fall, they consumed more protein supplement, increase brood production, and increase colony growth (Sagili and Breece 2012). Moreover, year-long brood pheromone treatment of colonies resulted in increased honey production, colony size and overwintering success (Lait et al. 2012.).~~**[1]**	**1. Juliana:** Move to factors affecting winter survival **2. Juliana:** I feel like there are better papers here - maybe a Pankiw paper? **3. Juliana:** Could be a good recommendation/ management strategy! And a SARE grant!
However, brood pheromone and its components accelerate maturation and the transition to foraging in middle age bees (Alaux et al. 2009; Maisonnasse et al. 2010) **[2]**. If bees are	**Gunter:** Isn't that what the other group did already with

reared in the absence of brood or brood pheromone, they have higher levels of Vg when they are middle-aged (7-20 days old), initiate foraging later, and live longer, even under winter-like conditions (Smedal et al., 2009). *Thus, it seems likely that brood pheromone exposure prior* **[3]** *to* the production of overwintering bees or *after* brood rearing is initiated in the spring would be beneficial (because it stimulates brood production and colony growth), while brood pheromone exposure during the middle of the winter may trigger early maturation of the winter bees and be detrimental. **Foragers also release a pheromone (ethyl oleate) [4] which, like brood pheromone, impacts behavioral maturation of young bees. However, ethyl oleate will slow down the transition to foraging, and maintain bees in the nursing state longer (Leoncini et al 2004a, b). Restricting the flight of foragers so they remain in the colony will slow behavioral maturation of young bees, presumably by increasing their exposure to ethyl oleate (Huang and Robinson 1992, 1996).**	the commercial BP treatments? I'm confused… **Juliana:** I don't think they really controlled the timing of application very much – they just constantly treated **4. Juliana:** look on page 11 of the hive and the honey bee book for these refer.

Addition: **Bolded text;** deletion: ~~struck through texts;~~ comments: numbered

Through their discussions, Gunter and Juliana thus generate the idea of measuring brood pheromones (the italicized sentences). In Review Article 4, Gunter asks for help with a section about brood pheromones, admitting that he does not know what to do about that section. He says he thinks the topic is important but cannot place it exactly within the overall text, and then proffers the use of a box with the title ""Effect of Brood: Direct or Indirect?" (Gunter, Comment, Review Article 4). In response, Juliana reminds Gunter about the discussions they had about adding brood pheromones to colonies, both capitalizing the comments for emphasis and adding a series of citations for more information. She also proposes a way to think about the mechanics behind the better survival conditions brood pheromones create ("Maybe adding BP and pollen can get bees to produce more winter bees, leading to bigger colonies, leading to better survival?"). Finally, she adds her view that they could integrate such a "recommendation/management strategy" in an application for a SARE grant to test this hypothesis.

In response (comment 3 in Review Article 8), Gunter asks whether the proposal would be novel enough for a project since another group in the department is also looking at this point ("isn't that what the other group did already with the commercial BP treatments? I'm confused…"), including an ellipse to signal his confusion and potential embarrassment at correcting her, and to ask for clarification. Juliana explains that the other group did not control for the timing of the treatment and therefore was not designing an intervention to increase winterized bees in colonies. In other words, she intimates to him that such a finding could have commercial applications, socializing him to recognize a form of salience and a contribution that extends beyond academic research. Since entomology is an applied science intimately connected

to the agricultural industry, such work is very much within the purview of the discipline. The sooner Gunter recognizes the field's status as an applied science the better.

Simultaneous to these discussions, Gunter works with another researcher, John (who is neither a part of the lab nor a coauthor on the review article) to further develop the idea of the pheromones and overwintering model. John, a lecturer and research scientist, is a specialist in scientific communication, and collaborating with him helps Gunter better visualize the ideas he is thinking through in his model. Below, he explains how working with John helps his process:

Figure 5: The development of a figure outlining the model Gunter develops working with John.
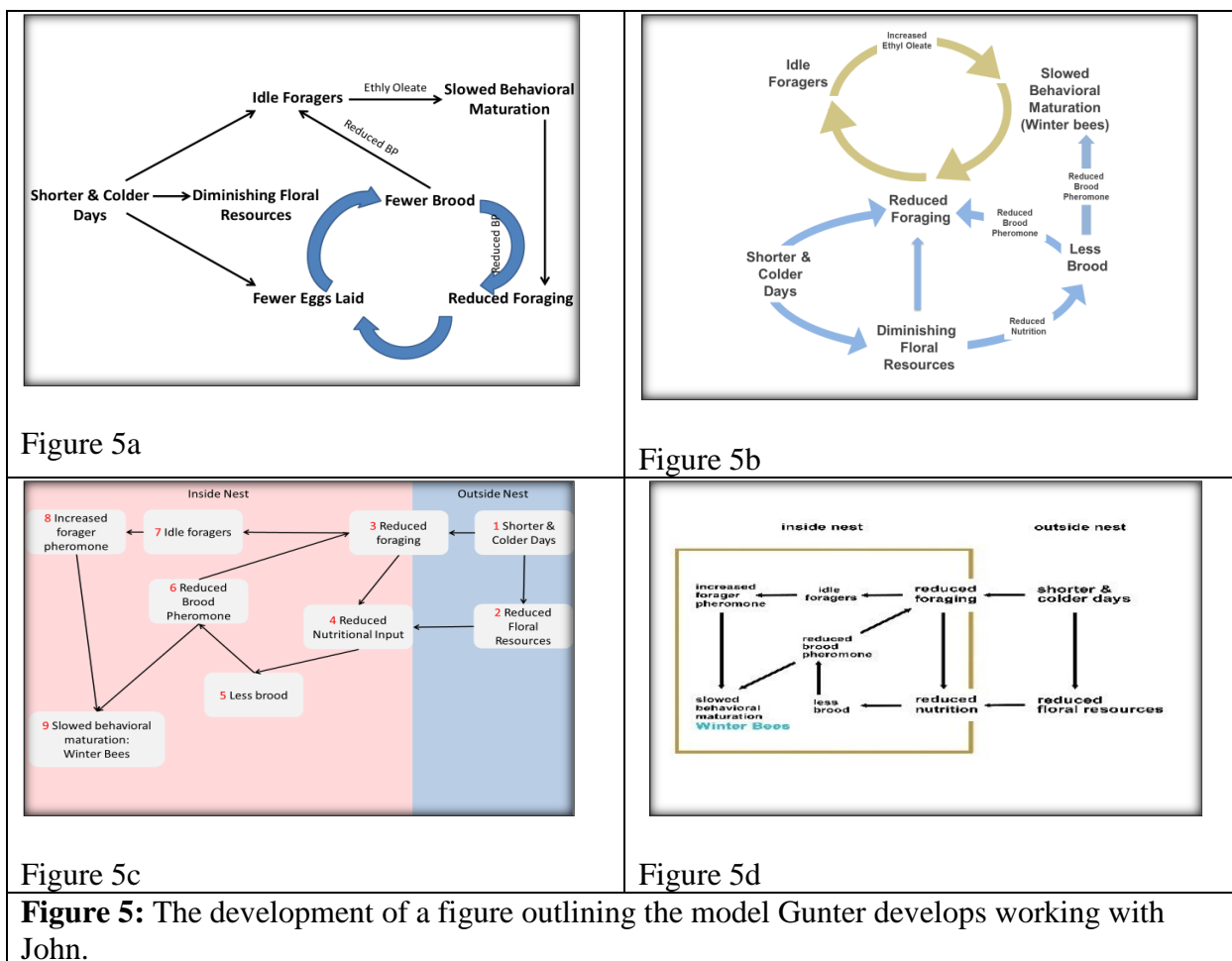
I did the PowerPoint for the figures [3a, 3b, 3c.] I came up with the whole idea of having a hive outside and inside. In the initial stages there was PowerPoints and sketches. It was terrible. But then [John] took it and he made it nicer. He is very

efficient. We met a few times. I came with the inside-outside through the meetings. It is more organized. [John] is educated in visual communication. He has an art degree. You see how much better it got better over time. The first one is useless…Drawing this thing and talking made me rethink the model. The problem was that I was trying to do mechanical understandings of them. Those arrows are not just arrows, but they're directional. So they are talking about induction or inhibition of things. In the last one too. You can see [Figure 5c] and you can see reduced brood pheromones are causing foraging. These are all causal relationships not just temporal. Once you start thinking about those, then I was like well does it and how does it? There were a couple of times we took things out and changed them a little because it stopped making sense. Once you put it in the figure you can see that it doesn't make sense. It made sense when you said it, but you can see it doesn't make sense when you see it all together in the figure. So we changed things. You can see there are differences between the first one and the last one. (Interview, March 22, 2016)

He makes an important point here. He explains that "drawing [the figure] and talking made [him] rethink the model… Once you start thinking about [the things in the figures]… you can put it in the figure you can see that it doesn't make sense. It made sense when you said it, but you see it doesn't make sense when you see it all together." In other words, the figure augments his thinking process; it acts as an externalizing tool that helps him sort out his ideas. A collaborative attitude facilitates this process as John draws a nicer and clearer figure, which makes it easier for Gunter to think through his ideas. Once he sees the figure, he realizes that he needed to rethink his mechanical and temporal understanding of the overwintering process. He concludes that a

mechanical model does not make sense and the relationships are actually causal; the arrows of the figure "are not just arrows, but they're directional… [and] are talking about induction or inhibition of things." Gunter collaborates with John to modify the figure and a "couple of times [they took] things out and changed them a little because it stopped making sense." This openness to the practice pays off: Gunter conceives of a model that differentiates between outside-inside (seen in figure 3c and 3d) and develops the final idea that reduced brood pheromones may be causing reduced foraging and the creation of more overwinter bees in the colony.

A collaborative disposition fuels this literacy practice, which both affords an important insight and a new idea for a research proposal. Additionally, such interactions with others regarding academic genres also show how texts are entextualizations of activities outside the writing process – Juliana refers to the discussions about using pheromones that they had in one of their meetings – of negotiation practices that are translingual. Gunter's use of ellipses to communicate and figures to facilitate the thinking process exemplify such translingual practices. By simply using the "…", Gunter deftly points out his doubts about the project Juliana proposes. Similar to the translingual negotiation practices exhibited by Buthainah (Canagajah 2013), who does not acquiesce to native speaker readers in her writings, Gunter also does not automatically accept his PI's suggestion and so asks for clarification. His responses to others through embedded comments in the review article drafts indicate that he responds to others' suggestions relating to both the inclusion of certain citations (seen in comment 3 "I didn't get relevance of this reference" of Review Article 6) and the conclusions they might offer as opportunities for discussions. As opposed to arguing to defend a position, these interactions show Gunter using discussions with others to better understand the way the overwintering mechanism might work.

His literacy practices show that he is less interested in being right than in continuously thinking through problems with others in his network to find out what makes sense.

This collaborative disposition also manifests in the regular practice of confirmation checks through which he asks his cowriters on the review article and the research paper about the changes he is making on the text. As shown below, he uses these confirmation checks to try to reach consensus about the text:

Text	Embedded comments
Review Article 9	
[1]~~The h~~**H**oney bee**s** (*Apis mellifera*) **live in a wide geographic range occupying various climatic regions and facing different challenges in different parts of the world and times of the year (Ruttner 1998). Winter is the greatest challenge to the honey bee colonies in temperate regions.** *The h*~~H~~oney bee*s* is one of the few insect ~~*species that active throughout the year even in*~~ *is adapted to survive winter conditions without becoming completely dormant*, ~~*climates*~~ entering a distinct physiological and behavioral state ~~*that is different from complete diapause*~~ **(Winston 1991)** ~~*to survive the harsh winter months.*~~ **[2]** **…**	**1. Juliana:** Maybe expand to be about surviving bad times in general, which is winter in temperate regions…. **2. Gunter:** How does it look now? **Juliana:** I made a few more changes. I think it looks good now

To reduce viral titers and protect immunocompetence of honey bees, beekeepers should aim to minimize *Varroa* mite populations and reduce exposure to other stressors, such as pesticides, which can increase viral titers (recommendation box [2, 3, 5]) **[3]**

3. Gunter: I'm not sure if 2 and 5 can be inferred from what we say here

Macy: it is the varroa resistance aspect of this; use of resistant stock hopefully reduced varroa populations thus hopefully reduces virus titers however its is actually covered in 3 so perhaps 2 is not needed here. 5 pesticides are documented to negatively impact immune function thus by protecting bees from pesticide exposure immune functions should be healthier and thus assist in fighting off infection.

…

OW Draft 9

~~Since~~ August Varroa mite levels of N2 colonies, which had not ~~received~~ been treated with oxalic acid, **as well as**

4. Gunter: I tried to give a more complete picture of what happened in accordance with

few colonies within other stocks exceeded treatment threshold level~~s~~ **of 5 mites daily drop on sticky boards** (~~what are those levels and what is the~~ ref?), and a formic acid treatment (Mite Away Quick Strips®) was applied~~. in~~ **Early** September **screening showed that additional colonies were above the threshold and they were treated in the same fashion.**~~, 2013~~. Subsequent **to the treatments**~~ly~~, mite loads of the four stocks **were not significantly different in October, 2013 [F(3, 55)=1.67, P=.184, data not shown]. Moreover, mite loads were not different among the three apiary sites [F(2, 55)=0.39, P=.681, data not shown].** [4]	[Macy's] notes. Does this look good? I still don't have a solid reference for 5 mites per day threshold.
Addition: **bold** (Gunter)**, bold and italics** (Juliana); deletion: ~~struck through texts~~, (Gunter) ~~struck through texts and italicized~~ (Juliana); comments: numbered	

In the first instance, he makes changes to the introductory paragraph in response to Juliana's comment (1) and then asks how it looks (2). Juliana adds several additional phrases and confirms that "it looks good now." In the second example, he ties a statement about the negative impacts of varroa infestation and pesticides to their recommendation, and then comments that their findings are not directly connected to their recommendation about controlling pest infestation and minimizing pesticide usage. Responding to this query, Macy, the extension expert, shows that their points are indeed cohesive with the recommendations and so can be listed. Comment 4 exhibits a similar confirmation strategy 4: Gunter explains his changes ("in accordance with

Macy's notes") and then asks for help with references ("I still don't have a solid reference for 5 mites per day threshold") in the research paper, OW draft.

Characteristic of the literacy practices that emerge out of Gunter's collaborative disposition, this confirmation check strategy creates a discussion spaces where he can ask questions about the academic genres in which he participates and the ideas communicated in the academic texts he writes. In comments 1 and 4, we see that he drafts the texts and asks the others to confirm the new text, legitimating his articulation of the points. In comment 3, he asks for clarification about the connotation of the text and whether connecting it to several recommendations is appropriate. That is, the confirmation check strategy enables him to hear and thereby learn from Macy that "viral titers" are reduced by the use of populations resistant to varroa and that pesticide usage "is documented to negatively impact immune function" in bees.

These confirmation strategies also frequently orbit the topic of potential reviewers reading the articles. Publication is what matters institutionally and therefore collaboration also means practicing the acquisition of the audience-knowledge (Blakeslee 2001) that might enable publication. In 4.5, I show that this is also a common practice in Susan's case. In his embedded comments on the review article and the research paper, Gunter repeatedly refers to journal reviewers as a way of supporting his responses or framing the discussion. For example, he says that he adds a qualifying phrase to a statement Juliana writes in OW 5 and removes a phrase in Review Article 6 referring to an "angry reviewer":

Text	Embedded comments
OW 5	**1. Juliana:** Ok to say?
It also suggests, unfortunately, that the ~~current~~ commercial stocks **used in this study** *that are selected for*	**Gunter:** We only tested 5 of them, so I added the

resistance to Varroa are not effective reducing the ***negative impacts of Varroa infestation*** **[1]** **…** Review Article 6 If honey stores are inadequate, colonies can be fed a 2:1 (sugar:water) syrup in early fall to bring them up to a desired weight. ~~and encourage brood production to ensure large overwintering populations.~~ **[2]** … Review Article 9 4. **[3]** Wind breaks and insulation can be beneficial as long as proper ventilation is provided. Honey bee colonies require varying degrees of protection because winter conditions vary dramatically across the US. Wind breaks are advantageous in locations with prominent cold winter winds…	"commercial stocks used in this study" part in there. I think this is easier to stand behind if reviewers get angry. **2. Gunter:** We may get an angry reviewer yelling "pollen/proteins encourage brood production" **3. Gunter:** We have no reference to recommendation 4 in the text above **Juliana:** Let's not worry about it unless a reviewer complains.

Addition: **bold** (Gunter), ***bold and italicized*** (Juliana); deletion: ~~struck through text~~ (Gunter); Comments: numbered

In another discussion of the review article, Gunter refers to the pre-submission feedback he received from others in the lab literacy network to rephrase certain statements ("I changed the wording here after reading [reviewer's] comment: 'They don't really 'reproduce' by feeding, you

are thinking of gremlins'" in Review Article 9) or make them connotatively appropriate: he

removes the phrase "However, in a more detailed analyses" as a transition between two

statements listing two different research articles in response to a comment made by a member of

his lab that the phrasing makes the first article they reference read as a "bad" study. In other

words, Gunter uses his collaboration with others to iron out potential issues relating to language

that might enable "overly petty" gatekeepers in the discipline to criticize him for sloppy

articulations of research and disciplinary literature.

This sort of collaborative disposition aligns with the publication practices pointed out by

Paltridge (2015), Lillis and Curry (2010), and Belcher (1994) in their studies of feedback as a

form of socializing apprentice researchers. First, in line with the way the scholars have

responded to requested changes or framed discussions of changes to the text, we can see that

Gunter's collaborative disposition leads him to use confirmation checks that strengthen his

literacy practices. He uses comments from others both as evidence to support changes he makes

or to ask about whether changes might be needed. He also uses others' feedback as evidence to

support making the types of changes he wants to make and does not automatically read them as

criticisms or evidence of his own shortcomings. In addition, being able to understand the persona

of a potentially "angry reviewer" is especially consequential because reviewers can block

publication, a literacy practice of fundamental importance to the apprentice researcher. His

collaborations enable him to engage assumptions about what potential reviewers will or will not

accept, in effect testing out his membership and gauging the degree of his socialization. When he

asks the other writers about a potential issue with listing a recommendation that is not referred to

in-text, which Juliana says should not be a problem ("Let's not worry about it unless a reviewer

complains"), he is doing this self-evaluative work.

5.4 Gunter's Functional Disposition and Literacy Practices

Rhetorical genre studies and English for academic purposes research, two influential approaches to understanding writing and its role in academic socialization, view academic literacy practices as responding to the needs of specific disciplinary situations. Both recognize that academic genres are functional texts that perform specific purposeful actions – to, for example, coordinate involvement with other members or communicate research to the field during the socialization process. Extending this notion, Canagarajah (2013) argues that translingual dispositions are characterized by a functional view of communication in which languages or texts serve as resources that do not necessarily belong to any one community in particular. Rather, they are mobile semiotic resources that can be used by any user as dictated by the needs of communicative situations and literacy networks.

In their study of academic writing in a global context, Lillis and Curry (2010) illustrate this understanding of functionalist approaches to academic literacy practices with their study of the publication practices of multilingual researchers in Europe. They point out that semi-peripheral scholars in psychology and education present different types of work to local audiences and global audiences. Work for global audiences is usually written in English and focused on new findings and concepts, whereas work for local audiences is typically written in vernacular or English and focused on recapitulation and practicality (p. 119). These scholars thus choose language and focus to suit given literacy networks and rhetorical situations; in other words, they make these choices on the basis of audience and purpose. If the intended audience is the local community, the writers might use vernacular languages and focus on developing local literacy networks by communicating the current state of the global field to them. In these activities, they repurpose texts from their previous writings as well as works others might have

developed – in a sort of academically motivated fair-use practice – and do not strictly adhere to the IMRD format often assumed as the norm for the research article form.

Utilizing both research and extension work, Gunter's department follows this functional approach to writing in the academic socialization of graduate students. As discussed in 4.2, class and lab activities socialize Gunter into a disciplinary perspective that views academic writing as a situational and networked activity. He learns to understand the grant proposal and the research paper, for example, in terms of a larger set of activities and contingencies. In "Critical Thinking and Professional Development," he learns that the grant proposal must be written as simply and clearly as possible, because the reviewers would likely be academics who are "reading through 50 grants… in one night… [for no pay]" (Interview, March 22, 2016). Through his lab activities, he learns that the research paper is best seen as an entextualization of research activities and generally pitched – i.e. "aligned" – in terms of the research interests of targeted journals. Motivated by his a progressive social values (discussed in 5.2), his presentations to beekeepers demonstrate how he comes to see developing such texts as a way of operationalizing the research in the field in specific social and non-academic professional contexts. Literacy practices in entomology are about communicating to specific people, whether academics and researchers,, other students, or beekeepers.

I believe Gunter adopts this functional view of genre practices in the discipline because he possesses a functional disposition to communication as such. In his own words, he enjoys writing in his disciplinary situations because he has a good network ("I have a good network right now…With the lab group you have to present once a semester…The good thing about this is that it is long and it is about 2-3 hours of roasting. I've seen people almost cry so it's good. After getting my lab meeting, I take all that and start rewriting and then send it to the professors"

(Gunter, Interview, May 30, 2015)) and a good understanding of its purpose ("Now I will say nobody cares if you have good data, you need to communicate it others. Five years ago, I would have said the opposite. Writing is a way of showing it to people. Good efficient writing is key" (Gunter, Interview, May 30, 2015)). Furthermore, his communicative practices and the ways he uses and repurposes figures and texts (Prior & Shipka 2002) across the multiple genres he puts together illustrate the types of functional approaches to communication that Canagarajah (2013b) and Lillis and Curry (2010) highlight as crucial to literacy as immanently multimodal (i.e. semiotic).

Gunter's socialization has shown him that writing is situational and transactional, and he has learned that communicating science involves negotiating multiple literacy practices in purposeful or functional ways. Gunter's explanation of the value of a review article about how bees survive winter in temperate regions evinces this approach. He says:

> The review paper, because you are incorporating many concepts, the larger concepts, and they belong to other people, so you first have to understand, digest and *incorporate in a good way*. A good review in my opinion should offer something new, it can't just be a literature review.... That was one of those things, we also did talk about the colonial life cycle in a more graphic way. We *provided some stuff.* You know some students will read that somewhere and will take the figure and put it in their presentation, this kind of stuff. I am proud of it, it is good because it is *useful,* it's condensed and clear. (Interview, February 16, 2016, emphasis added)

Thinking of the genre practice of the review as primarily about offering "something new," Gunter notes that it has to incorporate others' concepts in a "good way." An ABD, Gunter

is no longer concerned about how he might be evaluated as a student ("[My current writing dynamics with my PI are] more of a peers dynamic. I was working on my findings, but my PI was not being my teacher, she was being my collaborator and peer. The power dynamics is really different, so I don't feel like I am being judged" (Gunter, Interview, February 16, 2016). Rather, as an aspiring apprentice researcher, he now primarily focuses his academic literacy practices on making a contribution to the field.

Tellingly, he views this contribution in relation to its function for the prospective reader. Specifically, he says that his goal in writing the article was "condens[ing] and clearly" explaining "larger concepts" for "some student[s]." Similar to the distinctions Lillis and Curry (2010) make about multilingual academic writers tailoring their texts to either global or local contexts because they represent different networks, Gunter understands that different genres serve different functions. Students and academics read review articles expecting to glean the latest and most relevant information on a topic; they don't expect to learn about new research findings, as they would when reading a research paper. This is the primary function of the review article (see Myers (1991) for a textual analysis of the review article in biology and how the text must rhetorically persuade its audience of the salience of a research topic), and Gunter, writing in this genre, therefore approaches literacy practices primarily in terms of situational purpose rather than with the goal of presenting new findings.

Visuals and simple language are crucial for this; as Gunter points out: "talk[ing] about the colonial life cycle in a more graphic way" is a useful contribution. The format both responds to available space constraints in scientific journals and communicates things "concisely and artistically and [in a] very easy to interpret [manner]" (Gunter, Interview, September 30, 2015). Juliana initially proposes the use of figures in an embedded comment on an early draft of the text

"to help remove some of the text" (Juliana, Comment, Review Article 2). Following her

suggestion to cut text, Gunter develops the illustration with John and then subsequently

repurposes text he wrote in-text for the figure. The way that the text of the paragraph that the

figure supplements does not really change with the addition of the figure evinces this process:
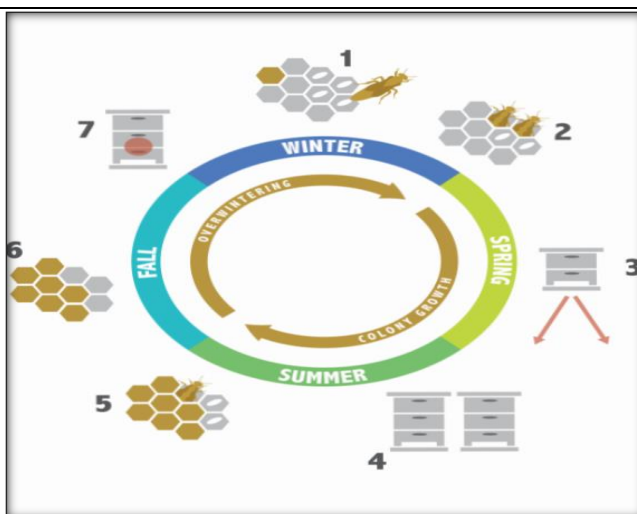
Figure 1. Honey bee colony life cycle. Hexagonal patterns represent cells in combs. Grey

cells are empty, brown cells represent food stored (honey and/or pollen), and white

elliptic figures in the cells represent eggs. Brood rearing starts in winter (1) and peaks in

spring (2). The rapid increase in worker population in spring results in swarming (3).

After swarming, both colonies rebuild their worker populations and forage to increase

their food stores through summer (4). Brood rearing decreases by the end of summer (5)

and ceases in fall (6), with the production of the winter bee cohort. In the winter, worker

bees form a thermoregulating cluster (red circle inside the hive) with the decrease in

ambient temperature (7).

Review Article 2 (prior to the incorporation of the figure):

Honey bee colonies exhibit distinct states during the different seasons (Winston, 1991). In temperate climates, brood rearing starts in early to mid-winter while average maximum ambient temperature is as low as 4°C, peaks in spring, and decreases through summer ceasing in early fall (Seeley & Visscher, 1985; Mattila et al., 2001). Brood build-up in the spring typically leads to swarming, where the majority (two-thirds to three-quarters) of the workers leave the colony with the old queen in search of a new nest site, leaving behind a new queen to take over the original colony (~~for recent reviews on swarming behavior,~~ see Grozinger et al., 2014, Seeley, T. D. 2010 Honey Bee Democracy). After swarming, both original and new colonies spend the remainder of the summer collecting pollen, ~~storing it in the comb as bee bread to feed their young,~~ and nectar which is-converted to honey and used as a general energy source especially during winter months, when foraging resources are limited. When the temperature drops below 10°C, the remaining bees in the colony form a thermoregulating cluster (Phillips & Demuth, 1914). The bees in the cluster vibrate their flight muscles to generate heat that maintains an outer edge temperature higher than 6°C, usually ~12°C. This ensures that the bees on the outermost edges of the cluster do not cool below their viable temperate. When brood rearing is initiated in the late winter/early spring, the cluster surrounds the brood area and maintains the core temperature at ~33°C (Moeller, 1977). This thermoregulation is achieved only when the cluster is in a confined space, as in the case of natural or manmade hives. ~~Larger winter clusters tend to consume greater amounts of honey over the winter; however, they also build larger colonies by rearing more brood in winter and early spring and thus end up with greater annual honey yields despite their consumption (Farrar, 1952 as reviewed in Moeller, 1977).~~

Review Article 6:

Honey bee colonies exhibit distinct states during the different seasons (Winston, 1991, see

Figure 1). In temperate climates, brood rearing starts in early to mid-winter (even when the

average maximum ambient temperatures is still as low as 4ºC), peaks in spring, decreases

through summer, and ceases in early fall (Seeley & Visscher, 1985; Mattila et al., 2001).

Brood build-up in the spring typically leads to swarming, where the majority (two-thirds to

three-quarters) of the workers leave the colony with the old queen in search of a new nest

site, leaving behind a new queen to take over the original colony (Grozinger et al., 2014,

Seeley, T. D. 2010 Honey Bee Democracy). After swarming, both original and new colonies

spend the remainder of the summer and early fall collecting pollen, which is used a protein

source for brood rearing, and nectar, which is converted to honey and used as a general

energy source especially during winter months (Nicolson, 2011). When the temperature

drops below 10°C, the remaining bees in the colony form a thermoregulating cluster (Phillips

& Demuth, 1914). The bees in the cluster vibrate their flight muscles to generate heat that

maintains an outer edge temperature higher than 6°C, usually ~12°C. This ensures that the

bees on the outermost edges of the cluster do not cool below their viable temperate. When

brood rearing is initiated in the late winter/early spring, the cluster surrounds the brood area

and maintains the core temperature at ~33°C (Moeller, 1977). This thermoregulation is

achieved only when the cluster is in a confined space, as in the case of natural or manmade

hives.

Addition: **bolded text**; repurposed text: ***bolded and italicized text***; deletion: ~~struck through texts~~

The figure includes a caption that explains the process and the text in the body of the article-

proper indexes the figure tacitly rather than explaining the process; that is, without also reading

the figure, a reader cannot read the in-text paragraph to understand the "distinct states during the different seasons" notion Gunter draws from Winston (1991) and from Snodgrass (1925).

Gunter uses this same approach in the second figure that he puts together at Juliana's suggestion. The incorporation of the figure enables him to significantly condense his exposition in the text, as the excerpt below demonstrates:
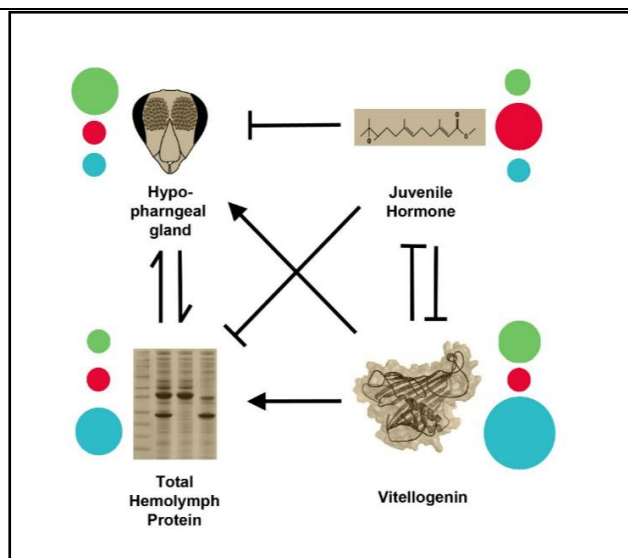
Figure 2. Interaction of key physiological factors in nurse, forager and winter bees. **Colored disks on the side of each factor represents the relative abundance of the factor in nurse bees (green), forager bees (red), and winter bees (blue)**. *As bees transition from nursing to foraging, juvenile hormone (JH) levels in the hemolymph rise. In workers, Vg serves as a nutrient storage protein and is involved in a negative feedback loop with JH – as JH levels raise, Vg levels decrease, and decreasing Vg results in increasing JH. Total hemolymph protein levels - which include Vg and all other types of proteins - are higher in nurse bees than in forager bees. Finally, hypopharyngeal glands are located in heads of worker bees and produce the secretions (brood food) fed to other members of the colony; HPG size is largest in nurse bees.*

Review Article 2

In addition to these profound differences in behavior, honey bees also exhibit dramatic physiological changes across the seasons. Levels of juvenile hormone (JH), vitellogenin (Vg), and hemolymph proteins as well as the size of hypopharyngeal gland (HPG) are correlated with each other and vary significantly between nurse, forager, and winter bees. *As bees transition from nursing to foraging, JH levels in the hemolymph rise (Huang et al., 1991). If bees are treated with exogenous JH or JH analogs, behavioral maturation is accelerated (Jaycox, 1976; Jaycox et al., 1974; Robinson, 1987; Sagawa et al., 1988), while reducing JH levels (by surgically removing the corpora allata, which synthesize it) slows down the rate of maturation (Sullivan et al., 2000). In workers, Vg is used to produce brood food (Amdam et al., 2003), serves as an antioxidant (Seehuus et al., 2006), an immune protein (Amdam et al., 2004) and, importantly, is also involved in a negative feedback loop with JH – as JH levels rise, Vg levels decrease, and decreasing Vg results in increasing JH (Rutz et al., 1976; Guidigli et al., 2005; Corona et al., 2007). Thus, together JH and Vg pace behavioral maturation (Fluri et al., 1982). Total hemolymph protein levels - which includes Vg and all other types of proteins - are higher in nurse bees than in forager bees (Fluri et al., 1982). Finally, hypopharyngeal glands (HPGs) are located in heads of worker bees and produce the secretions (brood food) fed to other members of the colony; HPG size is largest in nurse bees (reviewed in Huang 1989).*

Review Article 6

In addition to these profound differences in behavior, honey bees also exhibit dramatic physiological changes across the seasons. Levels of juvenile hormone (JH), vitellogenin (Vg), and hemolymph proteins as well as the size of hypopharyngeal gland (HPG) are correlated

> with and regulate each other and vary significantly between nurse, forager, and winter bees **(see Figure 2). Briefly, JH levels are low in nurse and winter bees, and higher in foragers. In contrast, levels of Vg and hemolymph proteins, and HPG size are all significantly higher in nurses than foragers.**
>
> Addition: **Bolded text**; addition and repurposed: ***bolded and italicized***

In the second figure, Gunter removes the initial text from the paragraph and inserts it into the legend for the figure, reducing the paragraph from 258 words to 89 words. Rather than deleting the text from the paragraph, Gunter repurposes it for the legend, with the citations removed to adhere to conventions. Almost the entire exposition of the legend is taken from the text Gunter wrote in the paragraph in Review Article 2. The only sentences he adds to text of the legend refer to the color scheme and what the colors represent. In the in-text paragraph, however, he adds a pair of sentences that sum up the hormonal differences between the three types of bees. This way of viewing writing functionally as a mobile semiotic resource fits in with the general approach to entextualization strategies that translinguals often employ in their literacy practices (Canagarajah 2013b): Gunter takes advantage of the "spatial and temporal dimension of text/talk to facilitate and respond to" (p. 79) the situation. He draws from multiple iterations of the article's text to articulate his figure's citations and reduce redundancy in the genre practice. Moreover, this approach is efficient: since he knows that he has already presented the necessary information in another section, he does not have to write-up a new text; he simply has to repurpose it for figure's legend.

To develop these figures and the explanatory texts, he works with others and uses their texts as well. A functional approach to literacy does not prioritize the creation of new textual content for each situation; instead, it uses extant texts or texts by others for communicative

purposes. Linguistic constructions, the figures and the information from research articles are mobile semiotic resources to be "mixed and meshed" (Canagarajah, 2013b, p. 114). From using the images John creates (discussed in 5.2) or repurposing his own writing, Gunter also comes to see the role of the text as providing a service to other academics or students, rather than as positing new knowledge.

Gunter knows the model he develops will help students better understand the lifecycles and hormonal differences between nurses, foragers, and winter bees. More effective than the written text, his functional approach to language and literacy during communication means he sees even academic literacies as fundamentally multimodal. To be sure, he does not originate this independently; Juliana stresses the use of illustrations and figures in the review article. Nonetheless, the approach highlights, in Gunter's academic socialization, the points that Myers (1990) and Bazerman (1991) both make about the fundamental importance of visuals in scientific communication. Gunter recognizes this point; acknowledging that scientific communication encompasses writing and "oral presentations and videos," he points out "[that] there is a trend now with all of this interactive teaching and stuff…and it has a great potential for reaching audiences" (Interview, May 30, 2015).

Gunter's translingual disposition produces literacy practices in his academic socialization that evince an approach to communication – fostered by the general norms of the discipline – that does not prioritize texts. Space is so precious in scientific journals that, as Myers (1990) points out, scientists use graphs and tables to present empirical data and illustrative figures that model the processes or ideas; in this context, writing almost becomes the discipline's mode of last resort because other semiotics are more efficient. Thus, Gunter's functional disposition toward literacy and communication aligns with scientific norms and thereby enables him to more

fully invest in his membership in the discipline. Explaining his rationale for including the model (Figure 3d) in a grant as a supplementary material, Gunter admits that he sees the use of figures as always more communicatively efficient than traditional literacy approaches. The grant is only "about 1500 words," he says, and:

> You have a limited place for writing. That figure if I tried to write about it, it takes two paragraphs. There are a lot of things in there: there's outside the hive, inside the hive, interactions, defining those things in words takes a lot of space. So I saw the opportunity and I said hey why don't we use the figure because it already tells that story. (Gunter, Interview, March 22, 2016)

This functional approach turns out to be rather useful in Gunter's work in the literacy practices of such genre practices as conference presentations. His functional disposition enables him to repurpose the visuals he developed for the review article and the overwintering research because he sees them as semiotic resources to be moved as needed; in the process, he avoids using written texts to communicate. Not only does this save him time, it is also the most effective process of entextualization because it facilitates the uptake of his research for the non-academic audience that comes to the conference
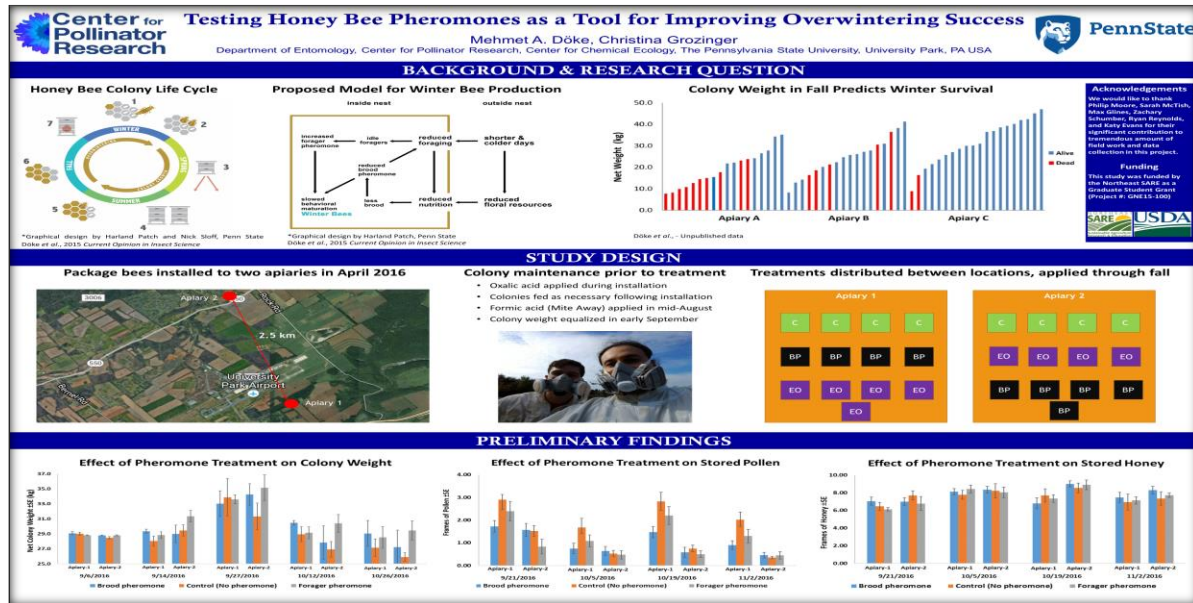
(Gunter, Poster presentation 2016)

Prior (1998) has pointed out that graduate students often repurpose texts both inside academia and outside it. Han, for example, uses a class assignment to draft her dissertation proposal, showing that apprentice scholars might economize their activities across contexts to maintain focus. Arguably, in repurposing th figures and graphs in the poster, Gunter exhibits a similar tendency. Gunter takes nearly all the images on the poster above from things he had developed for other genre practices. He developed the "Honey Bee Colony Life Cycle" and "Proposed Model for Winter Bee Production" for the review article, created the bar charts and "Treatment distributed" figures for the overwintering research project, and used the two photographs as a part of a conference presentation he put together a year prior. Rather than develop new texts for the poster, Gunter repurposes his review article and overwintering research activities – the extant figures and images -- in the conference presentation.

The use of these figures is effective; the poster is striking and his station at the conference draws a significant number of people who stop by to ask questions. Observing his poster

presentation, I can tell that the audience appreciates the images and visuals and they work because Gunter is on hand to communicate the details of the research (Figure 1 in 3.4.3 includes a picture of Gunter presenting his research at the conference – with his poster). It also does not hurt that Gunter uses a plain communicative competence, which I discussed in 5.2. He speaks a lot and his audience – experienced with the topic and in possession of situational knowledge – asked questions continuously, demonstrating their understanding of both the ideas presented in the poster and what he says. The images are about orienting their discussions. In other words, the use of the images and research is functional, and Gunter understands that the importance of using them to help negotiate meaning between himself and his audience. Texts are needed only in as much as the rhetorical situation dictates and, to this end, repurposing the figures he developed during the literature review and OW paper helps.

Myers (1990) suggests that the use of figures and illustrations is a key difference between research articles and other genres in science. He shows that while the discipline's limited publication space makes multimodal literacies common in biology, the types of visuals used depend on the genre practice. While researchers use graphs and charts to present empirical data, they use figures to elucidate the objects of discussions in popular science texts. This approach is evident in the way Gunter repurposes figures and visuals as a part of various genre practices The types of visuals he takes from the overwintering project – i.e. makes use of in the OW paper – are bar-charts about data and illustrations about the research process. The figures he develops for the review article, on the other hand, foreground the model they propose to study to the lifecycle of bees through interactions of key physical factors in the bees. These figures are visually effective and useful in educating specific stakeholders. Entomology students or those studying

bees can read and put them into presentations (Gunter, Interview, February 16, 2016), and Gunter can use them to speak with beekeepers about his research.

These presentations are a crucially important for promoting and disseminating the work being done in Juliana's lab and by Gunter as a researcher. Blakeslee (2001) has shown that physicists publicize their work through conferences and colloquia in addition to publications. That is, they know that the publication of findings is only one aspect of their disciplinary practices, and they need to disseminate their work through continuous engagement with multiple literacy networks. This is the discipline and academic socialization means teaching skills to fulfill such activities. By spreading these ideas outside of the research domain through extension and other conference activities, Gunter maintains the reputation of the lab and its work, and gets his own name out there. He knows that the latter matters because it will potentially benefit his more traditional academic activities. Regarding the importance of presenting at conferences, Gunter says: "Those people that will be watching [my talks, for example] will be in a panel a couple of years from now for funding… That is important. That is kind of like a closed group of people that are funding each other because we are the experts, and we decide who will get the money" (Interview, November 10, 2015).

5.5 Disciplinary Norms and Translingual Dispositions in Susan's Academic Socialization

Social practice researchers generally contend that translingual dispositions afford literacy practices and academic socialization. Opening up the uses of multiple languages and literacies for communicative purposes, they say, provides writers space to focus on content rather than get tied up with issues of form. In his work on translingualism, Canagarajah (2013b) has been a strong advocate of encouraging students to use whatever language they are comfortable using to outline and invent arguments. This stance has become the norm in writing studies as such,

usually recognized as the "accommodationist stance" (Matsuda & Cox 2009). More radical

positions suggest that using multiple languages as resources in disciplinary literacy practices can

pluralize or transform academic writing (Street 2015). Called the separatist stance by

composition scholars, proponents of such positions argue for "maintaining separate linguistic and

cultural identities, and [advocate] for NES readers to read ESL texts 'generously' with more

appreciation… The separatist, then, reads to overlook, and therefore preserve, difference"

(Matsuda & Cox 2009: 42).

In an analysis of two multilingual vendors discussing an issue with a shipment of cheese,

Canagarajah (2013b) shows how the speakers are able to use English in ways that rely on

envoicing and recontextualizing strategies that do not conform to standardized language use.

However, this appropriation of English as a resource used for their own specific purposes – in

forms defying language norms – facilitates their negotiations. Prior (1998) presents the case of

Lilah, a Latino PhD sociology student, who gathers information for a seminar project from a

local restaurant she frequents to study a San Francisco Latino community's "instantiation" of

Cinco de Mayo celebrations. She takes advantage of her language competence and membership

in the community as resources to develop research of concern to academic sociology.

Susan chooses to focus her dissertation research on East Asia based on a set of social

values similar to those of Lilah and Gunter (discussed in 5.2) – specifically, values related to

language and membership in a community as resources that afford research (i.e. literacy

practices) and engagement with non-academic networks in socialization. She says:

> So, yeah, and initially I wanted to look at Japan and South Korea, and I did go to
>
> Japan and South Korea to conduct preliminary, preliminary field research, and I
>
> found that it was too difficult for me to include them as my cases, because I don't

speak Japanese, *I ended up looking at Taiwan and China because we share a similar… like we speak Mandarin. I have social capital and connections there.* But no I can't, no, I can never ever say that I'm picking Taiwan because I have personal connections, that would look, that would be condemned. (Susan, Interview, February 25, 2016, emphasis added)

Practically speaking, Susan's calculations make good sense. She is Taiwanese and worked in China in the past. This means that she has "social capital and connections there [in China]" and she can live with her parents when collecting data in Taiwan. She speaks Mandarin and is of Han descent. In other words, her linguistic and racial affiliation enables her to speak with informants and accrue more information for her research with Chinese migrants in Taiwan and Hong Kong: "for interviews, when I started and by the end people could tell what class and region people are from. Linguistics is interesting stuff" (Susan, Susan Group April 20, 2015).

Writing scholars would champion her strategy and view her translingual practices as potential benefits. Them serve as tools she can draw on in her dissertation and academic socialization. However, as Susan explains, she still has to contend with the literacy practice of justifying her interest in doing work on Taiwan so as to draw on her linguistic and social capital in a disciplinary way. Regarding using her personal connection to Taiwan to justify her case selection, she says:

But no, I can't, no. I can never ever say that I'm picking Taiwan because I have personal connections, *that would look bad, I would be condemned*. I [have to] say something like I pick these cases up because, I often have to talk about why I select these four cases [it's an important point in political science] because Taiwan and Hong Kong is very understudied, but they are also the top

destinations for migration in East Asia. I mean*, I feel like my justification, my*

case selection sucks. (Susan, Interview, February 25, 2016, emphasis added)

Stating the reason for selecting her research site and object, therefore, puts her at odds with the

norms of political science. To negotiate these norms, she says that Taiwan and Hong Kong are

"very understudied." This is a generic move and an unsatisfactory one because her disciplinary

colleagues respond by asking why she chooses to focus on Asia to study gender and

immigration. About the most common responses to her research, she says:

One is data and one is the fact that they *don't think Asia is any different*. So [in

the Asian MP] *I spent more time talk about why Asia is different and I think that*

is the biggest dilemma I have had in my entire life. In all my research, is to tell

people why Asia is different from western democracies. Then you don't say Asia

is different, when you say, oh well, Asia is the same, people will be like: how can

you say that Asia is the same? It's that story for comparativists. Whatever you

say, they are always [responding with some] issue about how you compare

countries. (Susan, Interview, November, 20, 2015)

Her frustration about this double-bind is clear in her comments and the literacy practices

in her research articles. Her comments signal an instance of the type of "divestiture" that can

imperil socialization processes as graduate students opt out of professional activities and

discourses, often choosing to leave their programs completely (Wideman et. al. 2001). This is

what happens to Virginia in Casanave (2002). Susan spends a considerable amount of time in her

papers articulating this aspect of case selection – explaining that she focuses on Asian nations to

compare them to the US and UK with the goal of deriving insights about democracies. Yet, even

after having to answer this question in multiple research papers, she feels as if her answer is never satisfactory and that her "case selection sucks."

The realization that this dilemma is a disciplinary one, and that scholars and academics working in women's studies – i.e. the humanities – might never have to be concerned about case selection reinforces this frustration. She talks about an interaction regarding the feedback she received on her "case selection chapter" from a women's studies member of her committee:

> So I, sent my case selection chapter to the women's studies member on my committee, and she was basically like, *why are you justifying that?* You don't need to talk about why you choose your cases, and I'm like what do you mean, *it's important, for, for political scientists*. And she's like, we never do that. She's a geographer also. This is exact quote, she's like we never have to explain why we choose our cases, and our cases kinda just like fall on us, it's kinda like serendipity, that's the word she used. *Serendipity…like I can't say that like, my cases are like serendipity. I can't say that in political science.* (Susan, Interview, February 25, 2016, emphasis added)

Case selection norms in political science are part of its disciplinary formation and practice as a social science. Embracing parameters of scientific objectivity, it eschews any appearance of subjectivity. Bazerman (1998) talks about the cult of empiricism that emerged in psychology at the beginning of the twentieth century because it aspired to scientific legitimacy. We can see this same sort of adherence to a sense of scientific rationality – of objectivity and methodological coherence – at work in the way Susan's academic socialization shows case selection for research as an important competence in the discipline. Kazenstein (2003) says that

political science research is organized around research questions that researchers must try to answer by gathering and analyzing appropriate datasets..

The issue for Susan, it seems, is that she begins with the data, which is not acceptable socialization practice. She gathers information because she is Taiwanese and is more interested in issues of culture than empirical data: "In College, I studied American studies and minored by international peace studies. I picked American Studies because I was fascinated by those issues. I am more interested in these things than political science. I have an MA in policy advocacy in Vermont before I came here [to do a PhD.] It was a degree about managing an NGO, something like that" (Susan, Interview, January 12, 2011). This identity trajectory seems fine, and in fact, is rather admirable. Like Gunter, Susan is motivated by social values and concerns, a "civic-orientation" (Canagarajah 2002) though her concerns relate to Taiwan and issues faced by women migrants rather than academic elitism. Unfortunately, though, the norms of the discipline do not accept such a rationale as legitimate, and therefore she ends up confronted by the post-hoc need to articulate a set of research questions based on her dataset.

Drafts of her research paper exhibit this tension and show that it is a continuous concern during her development of academic genres. This question of "Why Asia" is indexed in multiple iterations in her paper Media and Gender:

Media and Gender 5

Evidence suggests that the newspapers are likely to bias the consequences of immigration, but how such biases in the media's portrayals of immigrants' impacts remains underexplored (Bradimore and Bauder 2011; Quinsaat 2014; Charteris-Black 2006; Mehan 1997; Triandafyllidou 1999; Cisnero 2008). ~~Particularly, as concerns with immigration center on the economic and cultural impacts, how immigrants' gender identities represented by the media~~

~~connect with these dimensions has yet to be examined~~. Moreover, although international migration has been a phenomenon in recent decades, little is known about how immigrants in Asia are portrayed by the media because most studies focus on the North American and European contexts.

…

~~As my cases allow me to compare cross-nationally and cross-culturally, both the eastern and the western contexts each have one representative case (Hong Kong and the U.S.) where citizenship (or residency) is granted by birth. Both contexts where citizenship is by birth and by naturalization also each have a representative case (Hong Kong and Taiwan) where the percentages of female migrants are higher. These differences also allow me to test how immigrants are accepted or opposed by citizens. It is important to note that although Hong Kong is not an independent regime, its permanent residency permit functions in a way like citizenship where it requires a difficult process to obtain and carries the same benefits that citizenship would. Table 4 illustrates the dimensions of my cases. Most significantly, as I choose cases that vary across dimensions that might affect the way native citizens view immigrants, my preliminary analyses, discussed in the subsequent section, demonstrate that these four cases represent the multiple ways that the media represent immigrants.~~

Media and Gender10

While there is a wealth of case studies discussing how immigrants' gender identities are framed (Messner 1999; Bredstrom 2003; Durham 2004), little systematic analysis of media frames has occurred and this work does not examine how gender interacts with different types of frames. Moreover, although international migration has been a phenomenon in recent decades, little is

known about how immigrants in Asia are portrayed by the media because most studies focus on the North American and European contexts…

…

Although these four countries may have had a long history of immigration, immigration continues to be a pressing issue, particularly surrounding its impact on the national economy. In November 2014, the media reported on President Barack Obama's speech on the immigration overhaul in the U.S. Years leading up to his address, there had been many debates about either the economic cost or gain from varying policies regarding immigrants, such as the Deferred Action for Parents Act, the DREAM Act, etc. In the same year, the U.K. had also been debating the immigration overhaul as Prime Minister David Cameron was confronted with the European Union's Open Door policy, particularly pertaining to Eastern European migrants who enter the U.K. for work and who are also entitled to benefits provided by the government. On the other side of the world in East Asia, both Taiwan and Hong Kong, whose largest immigrant populations are mainlanders from China, experienced much political action implicitly targeted at the increasing number of Chinese immigrants. Taiwanese students occupied the parliament in the protest of the Cross-Strait Service Trade Agreement (CSSTA) in March 2014. They initially protested the undemocratic process of the passage of the trade agreement, but eventually the fear of Chinese immigrants' taking over local businesses through the open door policy surfaced. Months after the Sunflower Student Movement in Taiwan, students in Hong Kong also occupied major public spaces in Central Hong Kong to protest against the restrictive electoral system implemented by the Communist Party. Although the Umbrella Revolution was not directly aimed at immigrants from Hong Kong, the protests reflected

> **broader issues between Hong Kong and China, particularly pertaining to Chinese immigrants' and tourists' economic behavior in Hong Kong and Hong Kong's economic dependency on China throughout the years.**
>
> **The long and yet different histories of immigration and the diverse immigrant populations and compositions in Hong Kong, Taiwan, the U.K., and the U.S. allow for a more in-depth understanding of the media's gendered portrayals of the economic dimensions of immigration. More importantly, my comparison and contrast of these four diverse cases allow for contextualizing the media's gendered representation of immigration in areas that have been previously ignored.**

Added: **bolded text;** deleted: ~~struck through text~~

The rewrites and the development of the Media and Gender paper during April and September 2015 show that this aspect of academic literacy practices (i.e. of why look at Taiwan and Hong Kong) becomes increasingly urgent as an issue of writing. Susan keeps the sentence "although international migration has been a phenomenon… little is known about how immigrants in Asia are portrayed." This sentence reiterates her rationale that East Asia has received inadequate attention in women's studies and political science. Concern about her rationale for picking these cases and doing a comparative study also leads her to delete the paragraph about how "her cases allow [her] to compare cross-nationally and cross-culturally" and then write a longer explanation of how a "comparison and contrast of these four diverse cases" will enable her to contextualize "the media's gendered representation of immigration in areas that have been previously ignored" [i.e. East Asia].

Susan's Asian Women MPs paper also exhibits these academic literacy practices. One paragraph in particular addresses such concerns:

Asian MP 3

This research makes important contributions to the study of political participation ~~as well as the study of gender in Asia~~. As the opportunities to engage in politics signal development of a democratic state, it is also ~~crucial~~ to understand how and to what extent such ~~actions are influenced by the presence of female politicians. Women political leaders may have varying impacts depending on the form of the participation. Women political leaders may also signal different cues besides gender equality in politics. For instance, if women politicians are only served as tokens to signify the diversity of the government administration, it raises questions about what such representation truly means to women's status in society~~. My findings suggest that female legislators actually discourage some of political actions among women and yet serve as role models for other actions. Such distinctive results, particularly differed from the western context, raises questions in the applicability of many feminist ideas and suggestions.

Asian MP 5

This research makes important contributions to the study of women's political **representation and** participation. As opportunities to represent in politics signal development of a democratic state, it is also **imperative** to understand how and the extent to which such actions **engender political institutions and their consequences**. **First, this paper explores how women's descriptive representation makes a substantive difference for women in Asia, which has generally been understudied. Second, this paper also explores how such descriptive representation affects varying modes of women's political action.** My findings suggest that women's political representation actually discourages some forms of political action

among Asian women and yet serve as role models for other actions. Such distinctive outcomes from those in the western context raise questions in the applicability of many western feminist ideas.

Asian MP 8

As opportunities to represent politically imply development of a democratic state, it is imperative to understand how such actions engender political institutions and their consequences. **This research contributes in the understanding of how women's descriptive representation makes a substantive difference for women's political participation in East and Southeast Asia, a grossly understudied area. It also contributes in the understanding of how the influence of women's descriptive representation varies by the modes of political action**. My findings suggest that women's political representation has no strong influence on some forms of political actions while discourages other forms of political actions among East and Southeast Asian women. Such outcomes distinctive from those in the previously studied western democracies, Latin America, and Sub-Saharan Africa (Wolbrecht and Campbell 2007; Barnes and Burchard 2012; Kittilson and Schwindt-Bayer 2012) raise questions in the applicability of western feminist understanding of women's political representation and participation in East and Southeast Asia.

Added: **bolded text;** deleted: ~~struck through text~~

The paragraph in Asian MP 3 includes several lines that, in Asian MP 5, Susan deletes and replaces with sentences about cohesion or organization. Susan is indeed concerned with the genre features of the research article genre, and these concerns manifest in an internalization of the literacy practice that Lucy, her advisor, inculcated in her, as I show in 4.5 ("In my

introduction, be like, ok this is what the paper is gonna look like. I like doing that. But [my advisor] wants me to have like, at the end of every section, talk about what I'm gonna talk about in the next section" (Susan, Interview, 30/11/15)).

The text of Asian MP, which she submits for consideration for publication to prominent journals in political science, also articulates a stronger – or boosted – rationale for case selection. She says that the research contributes to the understanding of women's political participation in East and Southeast Asia "a grossly understudied area" and that her findings are distinct from the findings of studies that examine such topics in western democracies, Latin America, and Sub-Saharan Africa. Of critical import to political science, she implies is that her findings "raise questions in the applicability of western feminist understandings of women's political representation and participation in East and Southeast Asia." In other words, Susan doubles down on her argument that she studies East Asia because researchers have given it insufficient attention.

Her academic texts contain no details about the situated nature of her data collection and her personal connection to the sites mentioned. They contain no reference to an open norm, one that a translingual approach to writing would advocate as affording academic socialization by pushing writers and researchers to see their social capital and linguistic resources as assets to actively draw on. In disciplines more open to case selection or "serendipity," such extended engagement in rationalizing the choice of research subject would be unnecessary. In a humanities discipline, for example, her research on East Asia would likely be articulated as a case study, a way to test "how theoretical perspectives and principles manifest themselves in a given circumstance" (Lea & Street 1998, p. 4) and her personal connection would actually be foregrounded.

5.5 Discussion and Conclusion

In this chapter, I discussed how apprentice-researchers' translingual dispositions shape their literacy practices and socialization. I aimed to present a picture of three aspects of what Canagarajah (2013b) calls the translingual disposition, a habitus of communication in practice that assumes language difference and negotiated meaning as a norm. I began my enquiry by pointing out that academic socialization makes Gunter accept a less colorful style of writing. At the same time, my examination shows that Gunter exhibits considerable control over his literacy practices and academic socialization, as literacy practices that make up the process of his formal genre practices and extra-academic presentations demonstrate. His social values resonate with these non-academic literacy networks and change as he goes about communicating and working with beekeepers. His collaborative dispositions are a real affordance to both his education and his research, made all the more efficacious since collaborative writing is the norm in his discipline. His functional approach to literacy and language also enables him to repurpose his research and activities in multiple literacy practices, facilitating the socialization process overall. I ended with the story of Susan's struggle with case selection after she draws on her linguistic and social capital in research-related calculations.

Understanding how Gunter's dispositions change and affect his literacy practices enables me to see how such capacities play out in his academic socialization. His social values enable him to engage in practices that foster shuttling across different contexts and literacy situations. Social values and the "doing it right" ethic lead Gunter to engage in entomology extension activities. Participating in beekeeper conferences and meetings enables him to feel grounded and avoid the fate of "socialization gone awry" experienced by Virginia (Casanave (2002), p. 142). He explains his takeaway from participation in such genre practices in affective terms, saying

that the beekeepers he presents his work to are "real human beings… and not robots like in academia… [They give] real feedback" (Interview, November 11, 2016).

In literacy practices, Gunter is able to develop competence in discourses and literacies not immediate to the academic domain through his shutting across academic and beekeeping communities. This also shows how, through his socialization into entomology, he comes to recognize the value of pragmatic industrial concerns – something the scientist in him, interested in pure evolutionary knowledge, would not have previous seen as relevant – to his research. His use of direct sentences in his slides reformulate academic discourse into clearer utterances aimed at non-academics, and his use of comics to explain scientific processes is a clear illustration of good "popular scientific communication." In fact, as he explains in an interview, the literacy practice itself lets him develop an internalized sense of these communicative literacies: "I actually came up with more changes, because it sets you in a certain mindset; you start thinking like that. And before there was a lot of texts, a lot of hard-to figure out graphs, so I changed all that" (Gunter, Interview, November 22, 2015).

The texts Gunter creates also show that he is culturally competent even though he is an international student who only came to the US to pursue his PhD education and had mostly studied English in Turkey in the science classes in school. Unlike the students identified by Poe, Lerner, and Craig (2010), English is not solely a register for technical communication for Gunter. He uses English to communicate using cultural competencies and therefore as a language for non-technical communication. His involvement in genre practices enables him to understand literacies in contextually contingent and more sophisticated ways. Moreover, his translingual disposition manifests through these practices. He is able to own English with his own intentions and purposes as he uses it, practicing what Canagarajah (2013) calls "envoicing." His

competence with English is manifestly so developed that he is able play around with metaphors, and in one case coin a wholly original and effective way to frame his queries about what is expected for the conclusion in a review article for publication. Thinking of the conclusion as a landing is an accurate way to conceptualize its role in the genre practice. It works so well that Juliana takes up his request without needing any additional clarification. Perhaps genre scholars should start thinking about conclusions as landings.

Gunter's collaborative disposition is valuable because it aligns well with the cognitive apprenticeship approach methods already employed in the discipline. In other words, we see that his collaborative disposition directly enables learning. As both Gunter and writing studies scholars point out, collaboration is the norm and writing with others is how disciplinary activities in STEM are organized. Unlike the hierarchical model one might imagine as typical of the master-apprenticeship model, Gunter's lab is a literacy network with a "more democratic manner." Directives are open to negotiation and this deliberative process affords the discovery of new information. The discussions lead to elaborations on what count as salient contributions to the field in ways that also teach Gunter such knowledge (unlike the unelaborated feedback that Blakeslee (2001) points out, which actually confuses the apprentice scholar). Collaborating with a lecturer on a figure enables Gunter to rethink the model the figure represents by showing the ideas visually. He subsequently revises the model in terms of causality and differentiates between outside-inside processes (seen in figure 3c and 3d) to arrive at the final idea that reduced brood pheromones cause foraging in the bees.

I show that Gunter's belief in collaboration shapes his linguistic practices in two identifiable ways. One is the use of confirmation checks, often relying on humor as a communicative style. Gunter's collaborative disposition means that he believes in democratically

reaching consensus – a social value – with others, and so his textual changes are continuously accompanied by queries to others about whether they find such changes acceptable (Paltridge 2015). These confirmation checks on his changes enable him to rehearse the role of the "angry reviewer" and identify potential weaknesses in research arguments under the supervision of experts in the literacy network. The experts are able to both attest to his competence in understanding what the reviewer expects – i.e. the norms of the field – or respond to errors in his understanding –Juliana's clarification about not worrying "about [not having an in-text reference for a specific recommendation] unless a reviewer complains" is an example of the latter. Writing scholars including Belcher (1994), Blakeslee (2001) and Paltridge (2015) say such knowledge is a key distinction between expert members and novices, and Gunter's example shows that this knowledge can be acquired through extended involvement in academic genres with more experienced "old-timers".

Finally, Gunter's functional disposition enables him to understand disciplinary literacy in ways that resist a static and formal approach to language and communication. He repeatedly repurposes texts and figures from one activity to another, "mixing and meshing" (Canagarajah 2013) as he sees fit. He initially develops several figures for the review essay that he understands as useful in other purposes as well. To this end, he uses these figures for a poster presentation at a beekeepers' conference and for a grant proposal. When incorporating the figures into his original essay, he also repurposes text he wrote in the article for the figures' legends, entextualizing the legend with the overall purposes of the genre practice. Gunter makes no formal distinction between text and other modes in his communicative habitus; what matters to him is information being articulated to the audience using whatever semiotic resource is appropriate.

Extending Myers' (1990) analysis, we can see that the use of illustrations actually functions as a part of the overall text rather than merely as a visual supplement. In his review article and conference presentations, Gunter's figures communicate information to the audience not included in the written texts. In the review article, Gunter designs the figure to be read or interpreted as a part of the delineation of the model; without it, the article would be incomplete. In the conference presentation, the poster simply does not include any textual information denoting the information in the figure. Instead, Gunter elaborates on the model in person; the figure is there to align the genre practice of the presentation and provide an opportunity to discuss and communicate his research activities with beekeepers. This practice can be extremely helpful for graduate students because it enables them to negotiate and multitask multiple disciplinary activities by repurposing texts.

In comparison, Susan's story illustrates how translingual approaches to socialization must always consider disciplinarian norms. Language is a semiotic resource only in terms of its domain of practice, and rigid disciplinary norms must either be deferred to or negotiated deftly to avoid frustration and disinvestment in the socialization process. Lilah, Prior's (1998) subject, was able to write research work based on her own insider-dom and linguistic capital because it related to a class-project. When undertaking dissertation research, an extremely high-stakes genre for graduate students, student researchers must be cognizant of more nuanced situational constraints. Susan's use of her own background leads her into a research project that in turn leads her to articulate a case selection in disciplinary terms that do not align with translingual practices – especially her social values. She is unable to do this satisfactorily in both her dissertation and the research articles she writes for publication.

Susan's story therefore more closely resembles Virginia's than Lilah's. More disposed to a humanities approach and a translingual disposition where social values and a view of language as a resources figure strongly, her socialization into political science becomes rife with tensions. Disciplinary norms dictate that she should start with the research question and then go about collecting data to answer that question. However, the lives of apprentice researcher are not free of contingencies; that someone in Susan's position would want to pursue a data collection process that would take advantage of the social and cultural capital she possesses is not surprising. Language as a function of her situation certainly aligns with such a choice. However, as Susan's case shows, issues beyond language norms constrain literacy practices in this discipline. My study indicates that the big constraint apprentice-researchers face in this discipline are research norms that often overdetermine whether or not one uses language formally or functionally. Adherents to social practice approaches, like the translingual approach to academic socialization, must therefore be sure to understand to what extent aspects of academic literacies are negotiable, and what potential negotiations scholars have to make when they use their contingent language repertoire in a normative context.

This chapter sought to develop an emic understanding of literacy practices and academic socialization based on a notion of translingual disposition. Focusing on how Gunter's social values motivate disciplinary activities, a collaborative approach to disciplinary literacies, and a functional approach to communication enabled me to show how such attitudes afford academic socialization. Susan's story shows how a translingual disposition can create a situation where the apprentice researcher struggles to negotiate disciplinary literacy practices. We have to be wary of espousing such a translingualagenda in the context of graduate student education in US institutions. Not only does monolingualism still operate as the modus operandi of the space,

different disciplines also maintain their own norms and centripetal forces. Individuals with translingual dispositions who seek to negotiate disciplines must be aware of what will work and what will not. A view of pragmatism and functionality will not always be acceptable during the socialization process. Disciplines adhere to their own internal practices often because they view them as purposeful and the products of evolution through decades of methodological debates. Attempts to push back against them using radical pedagogical agendas such as translingualism must be undertaken carefully and slowly, or they will be censored. In the final chapter, I present some holistic perspectives on the types of social practice approaches to academic socialization that my study raises. In other words, I discuss how writing studies researchers and writing teachers can support activities of cognitive apprenticeship in ways that do not shut out the interests and affordances graduate students bring to their academic socialization.

Chapter 6: Conclusion

> Social identity theory posits that beginning in the preprofessional stages and continuing through graduation, students cloak themselves in professional identities, which usually forces a modification of their personal identity such that the two are intertwined and compatible rather than dissonant and competing.
>
> Weidman, Twale, & Stein, *Socialization of Graduate and Professional Students in Higher Education: A Perilous Passage?,* 2001, p. 29.

> I use the term "expert" to refer to someone who has not only mastered the conventions of a particular genre or a number of genres but also who has the experience of a particular social context and the necessary sensitivity to apply those conventions appropriately.
>
> Smit, *The End of Composition Studies* 2004, p. 143.

6.1. Introduction

In this study, I aimed to understand how literacy practices, academic or extra-academic, impact the socialization of graduate students as they become apprentice researchers. I believed this question would be best addressed through a naturalistic study, one that situates graduate student literacy practices in terms of other disciplinary activities and provides an emic perspective on their socialization process. The two epigrams opening this chapters raise the point that graduate student socialization means becoming comfortable with being an apprentice researcher and professional member of the field. They also suggest that writing abilities and competencies are embedded parts of larger social identities. As they begin to develop their professional academic and researcher identities, graduate students must also fundamentally

minimize their identification as students. Aspects of this development, on the one hand, and retrogression, on the other, manifest clearly in literacy practices; graduate writers must have some expertise – i.e. proficiency – in the genres that are part of the everyday academic and social practices of their profession. To this end I focused on social aspects of the literacy practices involved in graduate student socialization processes. Specifically, I organized my study around several questions (listed in 1.1): How are graduate student academic genres and literacy practices shaped by social elements in the socialization process? How are those texts mediating interactions and mentorship and vice-versa in this process? How might the students' dispositions to communication shaping them? What, in fact, are they learning – e.g. strategies and genre knowledge – as they are participate in academic literacy practices – i.e. outcomes – during their socialization?

I found that socialization through literacy practices during the all but dissertation (ABD) stage of graduate school produces involvement in the disciplinary activities of students' respective fields and investment in the professional researcher "identity trajectory." Disciplinary activities and academic literacy practices are crucial to the acquisition of knowledge about the culture and the content of the discipline, and literacy practices enable this inculcation process indirectly. My study also suggests that a social practice approach to graduate student education can help facilitate the particular socialization process of international graduate students – a process that requires familiarizing students with both disciplinary and US culture simultaneously. The social practice approach's emphasis on "dialogue on the nature of student writing in relation to institutional practices, power relations, and identities," provides a powerful way to socialize those who have had little or no experiences with higher education – with its emphasis on disciplinary and esoteric activities – in ways that foster reflexivity and in ways that recognize the

agendas and values they might bring to graduate education (Street 2009, p. 26). It also provides graduate students opportunities to familiarize themselves with the general communicative and cultural context of the broader US society in which the disciplines are situated.

While we know a lot about academic writing, much of our understanding relates to writing competence at the undergraduate level. Consequently, we must ask whether what we know about academic literacy practices and pedagogy related to writing competence might apply to understanding academic literacy practices at the graduate level. The academic literacy practices graduate students must become competent in during their academic socialization are generally embedded in genre practices and social practices rather than classroom practices. The academic literacy practices of graduate students are also generally a part of the long-term activities of both disciplinary and academic agendas in that they function to both create new knowledge and educate new members. As Allison et. al. (1998) explain:

> a graduate dissertation will take 3-5 years and is likely to be in the region of 80,000 words plus. The nature of such a task places particular demands on the graduate writer, namely the need to sustain an argument over an extended piece of discourse and the need to review and revise what may have been written months earlier. (p. 201-202)

To this end, viewing writing competence as a part of the daily practices of the discipline, part of the work of the profession is crucial. Writing competence is not about individual assessment or communicating one's knowledge about one module or discrete topic to professors. In other words, it is necessary to view and represent academic literacy practices as a part of the overall socialization process and academic profession. However, this perspective is absent from much of the work being done in writing pedagogy. Our focus on writing instruction in the classroom does

not – and cannot – really account for the practice-based writing graduate students need to master. As Rose and McClafferty (2001), put it: "We seem to do little to address the quality of writing in a systematic way [for graduate students who are the future academics and professionals making up the disciplines] at the very point where scholarly style and identity is being shaped."

Still, my research shows that disciplinary writing instruction and socialization are progressing without input from writing scholars. They have to for the continuation of the fields. Graduate students are crucial for the reproduction of the disciplines and training in the literacy practices of the discipline is being provided tacitly; explicit writing instruction at universities continues to be limited to undergraduate-oriented classrooms or insular conversations within the liberal arts and education colleges. The only gains made in this area in recent decades have resulted from WID initiatives, but these always focused on undergraduate education. To wit, writing instruction at the graduate level is an embedded part of general seminar activities, often as a module on conferences or grant proposals. My study shows that this lack of systematic instruction has not egregiously harmed graduate students. My participants are highly capable individuals who make use of multiple resources to accomplish their writing and academic genre goals. They are smart people and they know how to problem solve, whether or not they are provided adequate resources and instruction about academic practices (literacy or otherwise). At the same time, however, they do sometimes encounter problems, and dialogue about writing instruction can be used to discuss these elements of academic and institutional norms in productive ways. Such dialogue can lay bare the presence of literacy networks and dispositions that afford socialization, providing graduate students the choice to connect to such networks and develop those dispositions.

This chapter recapitulates the major points raised by my case studies about literacy mediators and dispositions (two major dimensions of literacy as social practice) in the academic literacy practices of Gunter and Susan, and how they impact their academic socialization. Focusing on these two elements, I believe, provides a way to meet these students in their socialization practices, where they are. I end this chapter with a short discussion of the potential takeaways of my study and how we can use what I report here to think about work by graduate writing centers and writing studies activities. In particular, I argue that writing studies and pedagogy must use social practices approaches to facilitate the adjustments graduate students make as they take on more professional literacy practices and leave behind student genre practices.

6.2 Graduate Student Socialization from a Literacy Mediation Perspective

My study showed that literacy mediations are foundational to Gunter and Susan's literacy practices and their socialization. Table 1 presents the strategies, outcomes, and genre knowledge my research identified as emerging out of these literacy mediations:

Forms of Literacy Mediations Socialization Literacy Practices	Sponsoring	Feedback	Co-writing
Strategies	"pitching" (Gunter); Cognitive apprenticeship (Susan & Gunter); Scaffolding (Gunter)	Concerned interventionist stance (Gunter); Hedging and boosting (Gunter)	Recontextualization (Gunter); Cognitive apprenticeship (Susan & Gunter)
Outcomes	Review Article (Gunter);	Academic voice (Gunter);	Review Article and OW Article (Gunter);

	Extra-academic presentations (Gunter); Academic voice (Gunter); Disciplinary literacy norms (Gunter & Susan)	Disciplinary literacy norms (Gunter & Susan);	Academic voice (Gunter); Disciplinary practices (Gunter)
Genre Knowledge	Situated understanding of genre practice (Gunter); Gatekeeping (Gunter & Susan); Academic genres are persuasive texts (Gunter); Hedging and boosting (Gunter)	Academic writing as incremental (i.e. procedural knowledge) (Gunter); Academic literacy practices as transactional (Gunter); Audience awareness (Gunter)	Academic writing as contribution or transactional (Gunter); Introduction, conclusion, and abstract as rhetorical (Gunter); Hedging and boosting (Gunter)

Table 1: Aspects of Literacy Practices and Academic Socialization Afforded by Different Literacy Mediations.

Table 1 synthesizes my main findings into a set of identifiable practices: strategies, outcomes, and genre knowledge. By strategies, I mean general ways of interacting with others or ways of engaging with the work of the disciplines – a way of doing things. Outcomes refers to the material results generated by the mediations I identify (sponsoring, feedback, and co-writing). Outcomes are things we can definitively point to. Finally, genre knowledge is specifically about ways writing concepts are understood. Since the points I identify are parts of practice, several elements overlap across multiple domains (i.e. rows or columns in the table).

This goes to show that practices are messy and overlapping, and nothing in practice is just one thing.

I found that Gunter acquires the genre knowledge of the "situated nature of academic writing" through the instructions in a class: "Critical Thinking and Professional Development." As I report in his takeaways from the class, he learns knowledge through an activity based on a "dialogue on the rhetorical situation of academic genres" that helps him see texts as transactional, between a writer and reader: a social practice comprising the activities of entomology and inflected within broader social situational contexts.

He acquires knowledge that enables him to view academic activities as part of his overall work in the discipline and he begins to involve himself in such activities. That is, he writes more, and writes more intently. As I spell out in 4.2, unlike the way he learns about an academic genre in his postsecondary institution in Turkey, the literacy sponsorship represented by the graduate seminar at Penn State simulates an academic genre in terms of its authentic activity in the field. He comes away from the class with a situated understanding of grant practices, and a recognition that experimenting with form can be costly because grant proposal practices are generally structured to wean out proposals. This genre knowledge regarding gatekeeping manifests itself in terms of the "pitching" strategy and the literacy practice of direct and tone-downed prose ("they don't have time for monkey business" (Gunter, Interview, March 22, 2016)). Gunter's recapitulation of the SARE grant proposal makes this plain:

> I submitted to the [grant funding institution] last year and it didn't go through.
> This program is very applied and *the people on the committee are made up of also*
> *beekeepers. They expect it to be practical, sustainable, and relatable.* Beekeepers
> are very educated in Pennsylvania, but just not scientifically educated. The first

tone was different, but this time *they bought it. It depends on who was on your committee of your evaluation. We made it very clear that we did this for the wellbeing of the bees.* Seriously, we are not an agricultural lab. My real interest is in evolutionary processes, how things came to be as they are now, how bees work and how they click. *But we pitched it like we made it looked like that we are doing it for the bees; we just shaped our research process.* (Gunter, Interview, September 30, 2016, *emphasis added*)

Such comments illustrate that Gunter has internalized the way his lab represents writing. Since Gunter learns to see academic literacy practices in this way early on as a researcher, he will likely carry this knowledge and approach to writing throughout his career as a scientist. Writing studies scholars and professionals might benefit from working with students like Gunter at this stage as well; if they could inculcate the vocabulary of academic genres as transactional literacy practices (as basically the same thing as pitching), they could provide more cohesion about writing across the graduate disciplines. Developing a similar set of vocabularies to understand writing has been one of the major innovations of the writing across the curriculum movement – I'm thinking about the many ways writing is now referred to as a tool to think, as a recursive mental process, a mode of communication, a form of transaction, etc. – in its discussions of academic literacies in higher education, and I believe writing studies must continue that work by carrying such an agenda into cross-departmental dialogues about graduate student socialization and academic genres.

My study showed that written feedback on academic genres functions to socialize Gunter and Susan. Blakenslee (2001) and Tardy (2005) point out that feedback practices on student writing communicate disciplinary norms and my case studies confirm this. The regular feedback

Gunter and Susan receive on articles or presentations inculcate general cultural norms as well as specific situated knowledge in the disciplines. In Gunter's case, the emphasis on collaboration manifests both in the regularity of the feedback he receives on his work as well as the "concerned interventionist" strategy taken in the comments. The normative picture of discipline that emerges through such literacy practice (presented in 4.3) interactions is of feedback as collaboration rather than error-correction or gatekeeping. This feedback practice is also used by experts (i.e. mentors) such as Juliana and Macy to socialize and "cognitively-apprentice" Gunter into both better declarative knowledge of the discipline and the "procedural knowledge" of genre practices. All these interactions point to a socialization approach that works because the people providing feedback are invested in Gunter's literacy practices and the disciplinary norms are about practicing writing as collaboration.

In contrast, the feedback Susan receives is less about collaboration and more about enculturating her into the norms of the discipline. Unlike Gunter, her socialization through literacy practices takes place primarily through interactions with her advisor and other faculty members. She interacts with the latter through the research group meetings discussed in 4.5. She says that she does not rely on peers in her discipline because "[the comparative politics project] I'm writing is so different than other people in my department do, I don't really ask them for anything… I try to not talk to my peers about my research. It stresses me out!" (Susan, Interview, January 12, 2015, emphasis added). As in Virginia's story (Casanave 2002), Susan's experiences with academic socialization in political science testify to her struggles to fit in or her "disidentification" with the discipline as a community.

The things she learns about academic literacy practices through feedback that I identify relate to identifiable rhetorical skills and cohesion in writing. They also seem to be designed to

socialize her into the norms rather than practices. That is, the literacy practices emerge out of activities that do not directly integrate her into extant research activities. A social science approach to socialization that views writing as individual authorship and research rather than communication (i.e. it is constitutive of meaning) often means graduate students are expected to pursue their own research and mentors provide feedback on that work. However, she does receive important feedback related to the disciplinary norms of research in political science and the advice and socialization she gets should not be seen as minor or facile. Lucy tells Susan during her feedback on the Media and Gender paper that the paper would be more aligned with the norms of the discipline if it focused just on the discursive representations of economic migration. She also says that Susan should be careful about how she incorporates works of discourse analysis into her dissertation, as it does not fit with the general quantitative work of political science.

Perhaps the most interesting insight I gleaned from my study relates to the benefits of co-writing and how such activities represent both literacy brokering (Lillis & Curry 2006) and academic socialization. Collaborative writing is the norm in most STEM fields (Bazerman 1988; Ede & Lunsford 1992) and Gunter's academic literacy practices conform to this norm. Studies regarding collaboration between advisors and advisees on writing research for publication have pointed out that apprentice-researchers learn by working with experts (Li & Flowerdew, 2007; Blakenslee, 1997). For Gunter, such co-writing activities enable learning by showing him – as a graduate student – in practice the most rhetorical or argumentative aspects of academic texts including the introductions, conclusions, or abstracts. This is the benefit of lab-based socialization that Gunter is able to acquire through the collaborative norms of writing in scientific education overall. Researchers in most STEM fields do not see writing as their major

work; instead, they think that they communicate their activities through text. The relationship is transactional. Thus, they help each other ensure the writing fits together well.

The strategy of recontextualization Juliana employs to redraft Gunter's text clarifies this aspect of genre knowledge. Juliana's text focuses on the major contributions the article makes: the development of the model and the recommendations for improving beekeeping management. It does this because it is critical for the article genre to end with a take-away and contribute to the profession (Myers 1991). Her paragraph also lays out the other function of the conclusion – the so what or future work – by stating what additional work needs to be done in connection to the model they have developed.

Lunsford & Ede (2012) and Belcher (2007) advocate for greater collaboration in writing studies between experts in Anglophone institutions and graduate students and off-networked scholars. They argue that such academic practices would enable the emergence of new voices in the field and reduce the hierarchical structure of academic disciplines. In a similar vein, I argue that co-writing also enables learning by graduate students. I have pursued comparable co-writing strategies during my own PhD research activities. I have co-written a chapter on ethnic identity, translingual practices, and the teaching of writing with my advisor, two other graduate students, and an assistant professor. More recently, I have collaborated with my advisor to develop an article for publication in an interdisciplinary journal. The process of developing the article was very informative, and I learned aspects of doing academic research and practices I would not have learned as effectively if I had not been working closely on my own research with Dr. Canagarajah, an expert and well-experienced member of the field.

6.3 Graduate Student Socialization from a Translingual Disposition Perspective

Dispositions, my study points out, crucially shape Gunter's literacy practices and involvement in the socialization process as such. Table 2 presents the strategies, outcomes, and genre knowledge that emerged during the socialization process:

Forms of Translingual Dispositions / Socialization Literacy Practices	Progressive Social Values	Collaborative Dispositions	Functional approach to communication
Strategies	Shuttling (Gunter); humor (Gunter)	Negotiations and confirmation checks (Gunter); distributed (visual) cognition (Gunter)	Repurposing (Gunter); multilingualism as a resources (Susan)
Outcomes	Presentations to extra-academic populations (Gunter);	SARE grant proposal (Gunter); Figure about OW process and the life-cycle (Gunter)	Multimodal literacies used across multiple genre practices (Gunter); A comparative research study (Susan)
Genre Knowledge	English as a communicative (Gunter); multimodality as a feature of genre practice (Gunter)	Grant proposals as testing hypothesis (Gunter); reviewer knowledge (Gunter)	Academic literacy practices as transactional (Gunter); case selection as a disciplinary norm (Susan)

Table 2: Aspects of Literacy Practices and Academic Socialization Afforded by the Different Forms of Translingual Dispositions.

Table 2 synthesizes the majority of my information into a set of identifiable practices: strategies, outcomes, and genre knowledge. As in Table 1, the points I identify comprise a social practice with several elements overlapping across multiple domains (i.e. rows or columns in the

table). Practices – to repeat the point – are messy and, in practice, no single thing is only one thing.

I found that Gunter's social values significantly animate his involvement in extra-academic literacy and genre practices. These practices are structured around shuttling and he is able to utilize such experiences to maintain his investment in his academic socialization. He is also able to negotiate his disposition for colorful literacy practices with academic expectations for "dry and factual writing" and thereby avoid the disinvestment in the socialization process that led to Virginia's "socialization gone awry" (Casanave 2002). He is happy to inform and collaborate with beekeepers in his work, calling beekeepers "a human audience and not robots like… in academia." He is able to combine his motivation to do research with a non-elitism and social motivation to keep himself interested in the socialization process.

A multilingual who has moved across languages and educational situations throughout his life, Gunter is aware that literacy practices index multiple meanings based on contexts and therefore there is no one "right or normal" way of using language; in other words, he does not see the world through a monolingual lens. This facilitates his academic socialization, enabling him to make use of his own creative and non-standardized language repertoires in extra-academic genres (such as when he is presenting to beekeepers) and in the conversational interactions he has with his fellow writers during the process of drafting academic genres (5.2). In each of these genre practices, Gunter is able to deploy different types of English: from the formal standardized register of the OW paper or review article to the more conversational and communicative tone in this presentations. These uses of different registers is a form of translingual practice. His use of a conversational tone, humor, and metaphor during the development of the articles resonates with arguments made in translingual research that even

writers of standardized written English use "difference-in- similarity" (Canagarajah 2013a, p. 9) in their writing processes.

His collaborative disposition vis-à-vis literacy practices and communication also helps him considerably in the socialization process. Working with others helps Gunter identify an original way of understanding the overwintering process, which he then articulates for a successful grant proposal (discussed in 5.3). Furthermore, working with another researcher, Gunter is able externalize and transform his ideas: once he is able to see the information represented visually he realizes that he needs to rethink his mechanical and temporal perspective. This openness pays off: Gunter develops a model that differentiates between the "outside-inside" of a beehive and a wholly new idea that merits new research. These outcomes result in a successful grant and enable Gunter to participate in activities related to disciplinary research, extending his investment in the project (because it is his own project rather than his PI's).

Collaborations with others also enable Gunter to practice the perspectives reviewers and other gatekeepers in the discipline might have about texts submitted for publication consideration. Institutional pressures in the context of higher education and graduate student socialization mean that publications are prioritized above all other genres, and the main hurdle Gunter faces in publishing his articles are the reviewers who review his work. To this end, he must be familiar with what reviewers expect from research and he uses his interactions with others during the pre-submission phase to voice his understanding of audience (Blakenslee 2001). Predicting the response or the reading of a potentially "angry reviewer" is an important part of the knowledge an apprentice researcher must develop. Collaborating with experts and peers during his literacy practices of drafting academic genres enables him to voice his views

and assumptions about what potential reviewers will or will-not accept, in effect testing out his membership and gauging the efficacy of his socialization.

Finally, my study shows that Gunter brings a functional view of literacy to his academic communication. This certainly has limitations as it pushes Gunter away from thinking about the community and ideological concerns in his work. In viewing the review article as a publication genre fundamentally different than a literature review, he says that he understands the genre as a transaction (i.e. a contribution function):

> A good review in my opinion should *offer something new, it can't just be a literature review*.... That was one of those things, we also did talk about the colonial life cycle in a more graphic way. *We provided some stuff*. You know some students will read that somewhere and will take the figure and put it in their presentation, this kind of stuff. I am proud of it, *it is good because it is useful*, it's condensed and clear. (Interview, February 16, 2016 *emphasis added*)

Two things are clear about his understanding of functionality. The first is that he recognizes the usefulness of disciplinary literacy practices and understands academic communication as contingent on who is reading the text. Students, for example, as potential readers of the review article, would find it useful because they would be able to use the figure in their own presentations. The second point is that figures – i.e. multimodal literacy practices – are normal articulations in the academic literacy practice in entomology. In fact, they are often the more preferred mode of communication when the genre practice is not a research article (in RAs the preferred mode is generally tables, graphs, and charts). Thus, his functional disposition to communication, which sees visual modes of communication as equal to linguistic modes of communication, fits with the general norms and social practices of the discipline (discussed in

5.4). In academic and research practices, visuals might take the form of graphs, charts, and tables; in other contexts, such as extra-academic literacy practices, they might take the form of figures and/or even cartoons. Language is only another tool in his communicative repertoire.

Given the general practices of entomology as a scientific discipline closely tied to business and the agricultural industry, Gunter had to learn more general communicative practices during his socialization. Entomologist researchers and graduate students in his program regularly present to general audiences to help farmers and large-scale agro industries tackle issues such as pollinator populations and pest control (both critical issues of agriculture). In such genres, multimodal literacy practices are profoundly useful. The posters and presentations effectively illustrate this aspect and focus of disciplinary literacy practices. His use of posters composed only of visuals during beekeepers conferences and PowerPoints that use cartoons to communicate scientific ideas are normal forms of literacy practices in his discipline; other graduate students in entomology also use such literacy practices and the social practices vis-à-vis literacy practices seem to signal and reinforce functional dispositions. Gunter's participation in these literacy practices also facilitates the development of this disposition during his academic socialization; his presentations testify to his increasing use of multimodal literacies as he progresses through the program.

In contrast, as a result of her functional view of literacy and communication Susan sees her linguistic capital as a resource to facilitate her research practices. While this is fine by itself, it also forces her to communicate a comparative rationale for her dissertation research with which she struggles. While writing and translingual scholars generally do not account for such disciplinary norms in their arguments about the affordances of viewing multilingualism as a resource – rightly so, since these are questions of disciplinary socialization rather than of

language as such – we should be cognizant of such institutional and normative aspects. Graduate students always write for their disciplinary audiences and anyone trying to understand literacy practices and academic socialization must prioritize the expectations of these contexts.

Susan communicates that articulating case selection is the major concern she continues to have in presenting her research during her dissertation and while submitting research articles for publication. These experiences greatly frustrate her (as I illustrate in 5.5) and signal moments of potential disinvestment from the socialization process. She does not seem able to move past the question of case selection and continues feeling that her "case selection sucks." Repeatedly in the articles she submits for consideration and in her dissertation, she has to explicitly articulate that her research contributes to the general understanding of women's political participation in East and Southeast Asia, "a grossly understudied area". This argument, she admits, does not get a great deal of traction among her readers and audiences. Her academic texts include no details about the situated nature of her data collection and her personal connection to the sites mentioned.

In other words, in her disposition toward academic writing, one fostered through socialization into academic norms, she is unable to identify areas of negotiation. There may be no alternative to the norms of disciplinary research and writing in political science vis-à-vis the genre of research case selection. However, a socialization process that relies mostly on writing into the normative practices of the genre arguably would not have exposed Susan to many different research or disciplinary activities and spaces where "serendipity" or interested research – i.e. doing research on East Asia simply because it is where she from – would have been appropriate. She is unable to change the context of her research, in other words, and possibly is

not disposed to do so because graduate socialization in political science does not shuttle across contexts. She never learns or develops such dispositions because she is part of such a practice.

6.4 Theoretical Implications: Academic Socialization as Social Practice and Authorship as Distributed

My findings show that academic socialization is not just multidirectional activities but also a social practice. It comprises any number of networks of disciplinary literacy and social activities. Gunter participates in multiple academic and extra-academic literacy activities simultaneously, with the latter only tangentially connected to the academic discipline of entomology. Disciplines are social spaces and therefore disciplinary activities are social practices; we can see this clearly in Gunter's simultaneous participation in the academic literacy practices of publication and extra-academic literacy practices of presentations to beekeepers and citizen scientists. The benefits of the latter to academic socialization are not straightforward. For Gunter, presenting to non-academics has no immediate socialization utility. However, even though he says putting such presentations in CVs might help in grant applications, that is not what the activity is about for Gunter. The value of presenting to non-academics is affective – not "presenting to robots" (Interview, November 11, 2016), and he enjoys it. It keeps him from potentially disinvesting in actual academic socialization activities because he is able to fulfill his interest in communicating using "colorful" or flourished literacy practices. Without such an outlet, a person with Gunter's disposition for using playful language and anti-elitist self-identification might, like Virginia (Casanave 2002), become frustrated. This means that academic socialization must account for and provide space for interactions and practices that are not academic but rather social.

Such an approach also has the advantage of addressing the charge of academic esotericism. Disciplines have dynamic relationships with non-academic spaces and socialization into academic professions must account for this wider array of connections. Seeing the socialization process as a social practice opens up graduate student education to ways of communicating to non-academic constituents, an activity that is crucial for academic work to continue. Additionally, this process can enable students to adjust and integrate their non-professional identities and interests with their professional ones, making them "compatible rather than dissonant and competing" (Weidman, Twale, & Stein 2001, p. 29.). A social practice approach to academic socialization incorporates the student as she moves into multiple social spaces during the socialization process and develops as a person balancing professional and personal practices across multiple networks of meaning.

This view can also tell us exactly how multilinguals might build or maintain communicative competence in English. International students like Gunter and Susan would not use English as a register like the students identified by Poe, Lerner and Craig (2010). They possess a sophisticated cultural understanding of US society and their US academic and extra-academic interlocutors because globalization has sutured US American culture into general Turkish and Taiwanesse societies (though Susan also arrived in the US at 18 and so has had about 12 years of direct situated experience of US society.) This cultural competence is also supported by their general social dispositions toward communication, which sees social dispositions as part of a social end and socially situated. Academic socialization for Gunter and Susan means joining a group with other members, each of whom is situated outside the academic spaces. They look for this aspect of situatedness to facilitate their communication, and thereby are able to identify aspects of culture and humor that can serve as common ground for

communication. Viewing their interlocutors in literacy practices as socially dimensioned persons and not robots opens them up to learning strategies for communicating in general ways during academic activities and teaches them new discourses that are appropriate to US culture as such.

My study also implies that notions such as cognition and authorship ought to be understood as networked or distributed activities. Ever since Foucault (1980) pointed out that authors are the names we give to discourses and not to the individuals writing texts, critical theorists advocated a view of knowledge as antifoundational and created by a discipline (this is not to say notions of truth and social fact are to be dismissed as naïve categories because truth claims are discursive and structural constructs). My study of Gunter and the norms of writing in entomology shows that academic texts in the discipline literally do not have one author, but authors, and so the disciplinary group generates the text. How are we to understand aspects of cognition in the writing subject when they are subjects situated within a discipline? What would it mean to say that academic writing is transactional when the writing practice is organized around writing *with* others in a discipline, not solely *for* others in the discipline?

In fact, co-written texts are not just characteristic of writing practice in STEM disciplines; co-writing is common in most professions (see Brandt (2015) for a study of writers in corporations that shows this is the dominant literacy practice in contemporary society). If this is the reality of writing and literacy practices, then we must rethink how we understand writing competence as collaborative – beyond the facile way we represent it in "writing as a sociocognitive process." In the current model, representations of writing competence and ability still center on the individual thinking and writing a text, getting feedback from others, and then incorporating that feedback in a continuous, recursive process. This is what happens in Susan's

literacy practices and certainly in the research group meetings (see 4.5), but this is not the case for Gunter.

Gunter's insight about using the "inside-outside" model to understanding how pheromones control the creation of the overwintering stage in hives (talked about in 5.3) comes from working with others on figures and arguments. Cognitive understandings of academic literacies would certainly recognize the practice of drawing out potential ideas as a tool for invention, and would say that Gunter is doing what they might refer to as concept mapping. However, I would argue that Gunter does not map his concepts independently; rather, the skills and capacities of John (the visual artist he is working with) are fundamental to how the model develops. In other words, this mapping is a networked activity. A similar networked practice is evident in the discussions between Gunter and Juliana that lead to a recognition that their model is testable (see the discussion between the two in the embedded comments presented in 5.3). The idea does not come from Gunter or Juliana; it develops in their discussion. The idea comes from the practice of advisor-advisee meetings.

Individual notions of authorship and cognition simply do not account for what is happening in these interactions. We need a notion of distributed or networked authorship. Literacy as a social practice accommodates this way of looking at academic writing in the sense that it argues for seeing academic authorship as situated in disciplinary practices. This reinforces the point that individual notions of writing competence – i.e. the cognitive process – are simply incorrect and the writing studies critique of such notions is justified. However, a misrecognition of ideas and writing as having one source or author persists, and is reproduced in our practice of assessing the text by assigning a grade to it and to its "one" writer. A theory of networked authorship would have to disavow such practices of assessment and that would be hard to do. If

we are to effectively train graduate students to write as academics or researchers, however, this is what needs to happen.

6.5 Pedagogical Implications: Of Reflexivity, Writing Groups, and Graduate Writing Centers

In a longitudinal study of one writer's college career (double-majoring in History and Engineering) and first two years as a professional engineer, Beaufort (2007) suggests that students' competencies vis-à-vis professional and academic literacy practices rely on discourse community knowledge, subject matter knowledge, genre knowledge, rhetorical knowledge, and writing process knowledge. Classroom writing pedagogy, she argues, cannot ever fully simulate disciplinary or professional situations, and therefore writing teachers should teach students situational awareness (i.e. genre, rhetorical, and writing process knowledge) and inculcate certain dispositions that can best facilitate transfer of discourse community knowledge and subject knowledge through literacy practices. Devitt (2010) argues for teaching critical genre awareness in writing pedagogy, wherein writers are taught to "seek the rhetorical [and ideological] nature of the genre, to understand its contexts and functions for its users, in order to avoid formulaic copying of a [extant genres as a] model [and its practices]" (p. 201).

In a recent forum about translingualism, De Costa, Singh, Milu, Wang, Freiburg, and Canagarajah (2017) advocate this new approach in writing studies as an exciting pedagogical development because it simultaneously makes space for recognizing contemporary communication practices and the cosmopolitan dispositions multidialectical and multilingual students bring to them. They point out that its pedagogical principles of "a broadened understanding of semiotic resources, student repertoire and critical awareness development" (De Costa et. al., 2017: 465) merge new ways of understanding communication with a broader work

of decolonizing minds and undoing structuralist assumptions linked to nationalism, even as it can maintain a focus on teaching students disciplinary genres and academic literacy practices. Coming from researchers concerned with L1 and L2, these two recent moves to "teach for transfer" or to teach translingually show significant interest in the field regarding ways of teaching academic literacy practices that draw the resources and knowledge students bring to learning in their socialization processes.

So, how exactly should writing studies pedagogy respond to this reality? How are we to advocate for academic literacy practice approaches in graduate student disciplines and add value when it seems that even genre and rhetorical knowledge is fundamentally interconnected to disciplinary knowledge and practice, which we, as outsiders, do not really have access to and therefore should not try to intervene in? How exactly are we expected to facilitate cosmopolitan dispositions in our students when the concept can be so divergent and abstract that it confounds – sometimes even undermines – academic socialization? Such questions have become so exigent that the Council of Graduate Schools (2010), in *Ph.D. Completion Project,* recommends that schools address graduate student attrition rates in ways that recognize the fundamental transformation higher education is undergoing and better prepare students for future professions outside academia. Weidman, Twale, and Stein (2001) argue that the graduate student socialization process is more complex than ever before because the general agenda of graduate studies is undergoing profound change. A demographic shift in higher education is currently underway vis-à-vis greater numbers of non-traditional and international students in the disciplines than ever before and the fact that graduate education is now overwhelmingly about training graduate students for non-academic positions. Put another way, how can we address this

particular "literacy crisis" or literacy gap in the general notion that academic writing is everyone's second language?

One solution may involve increasing writing teachers' awareness of the affordances of the structure and critical orientations of the humanities discipline and encouraging them to see how these principles can align with the process of academic socialization in other disciplines that can be open to non-academic literacy practices. Writing studies scholars debate whether writing should be taught by the disciplines or whether it should be taught by separate writing departments (commonly understood as the WAC vs. WID debate). While my study suggests that writing in the disciplines is certainly effective, it also indicates that the humanities still have something to offer graduate socialization or education in other disciplines. As participants in a field rooted in the humanities with social science aspirations, writing studies researchers are keenly aware of the affordances and benefits of critical reflexivity, and the ways practices can be developed to foster it. Literacy as social practice is fundamentally based on a situated and functional approach to literacy that sees writing as doing work in the community and the academies, and writing pedagogy based on such a model can go a long way toward articulating academic socialization as a social practice and opening up fecund spaces of critical reflexivity for the academic writers.

Graduate students are some of the most technically competent and highly educated individuals in society and some are undoubtedly future leaders. It therefore behooves humanities researchers and scholars to inculcate a sense of reflexivity about the practices disciplinary activities are aligned with during the socialization process. Such a pedagogy would help to foster critical awareness. For example, in my own dissertation research, I regularly share my analysis and opinions about the significance of socialization practices with Gunter and Susan. In one

analysis, outlined in Rabbi and Canagarajah (2017), I argue that socialization had begun inculcating a neoliberal disposition in Gunter. Initially, Gunter rejected this reading, but my analysis caused him to reflect further. In a subsequent interview, he agreed that, although problematic, some of the points I raised about his socialization were worth considering. "It's like looking at the mirror and realizing that you're getting fat," he said characteristically. "I was upset at first, but it's a good thing that you're pointing that out. It is important to be careful" (Gunter, Interview, November 12, 2016).

Another way writing studies pedagogy can help foster the socialization of graduate students as apprentice researchers relies on providing spaces of disciplinary communication and support outside of academic disciplines and/or classrooms. This pedagogy would work to develop "a broadened understanding of semiotic resources [and] student repertoire expansion." Teachers of writing need to extend ways of communication to include literacy practices outside the classroom, drawing on competencies students already possess in such practices. We need to think about whether disciplinary writing – in addition to providing instruction on genre practices – can incorporate multimodal literacies into the array of assignments and instructions we provide. This can include activities that relate to creating presentations and visualizations of the arguments made in written essay for specific stakeholders. Rather than requiring four or five different essays in a composition class, we can ask students to compose in different modes. Such activities can be predicated on a practice of public communication in academia, aligned to writing in the community projects developed by the WAC movements in previous decades. However, I believe that what makes such activities effective pedagogy is that they make public communication of the disciplines part of the academic socialization of graduate students. This would foster a social disposition in graduate students, which can often atrophy under the push for

technical academic writing that communicates information and knowledge to other disciplinary members. It would also help create more adept and skillful writers because they would be able to practice developing both common communicative repertoires and semiotic resources by shuttling across situated communities – academic and non-academic.

Graduate writing centers and writing groups can also add tremendous value to the literacy practices of new scholars (e.g graduate students) or scholars new to US higher education contexts (e.g. international multilingual scholars), if writing studies choses to use these tools. My dissertation research has convinced me that classroom writing can certainly be foundational to all other forms of academic writing the graduate student does, but it is a minor part of the overall process through which students develop writing competence. The large majority of academic literacy practices are situated outside of the classroom, and writing pedagogy must move there to do its work. Writing centers can be places to situate such work. They exist in most institutions that educate graduate students, often cater to international students, and provide extended engagement regarding specific activities. Professors can also incorporate them as resources and literacy networks for learning modules related to academic writing without outsourcing the entire activity to another department (they might not be so interested in doing this given the close connection they would sense between research and writing work).

Researchers of graduate writing centers have said that the standard model of writing center work simply does not apply when working with more mature writers and aspiring apprentice researchers. Cirillo-McCarthy, Del Russo, and Leahy (2016) point out that most graduate students – whether L1 or L2 writers – come to the centers already more socialized into disciplinary norms than undergraduate students, and standard writing center practices of countering the "deficit narratives" do not apply. Therefore, graduate writing centers must

reformulate their missions to address working with graduate students who are experts in their

domains and thereby possibly become more open to the priorities such students bring to their

writing activities. Put simply, we need to be more prepared to work with issues of language and

form in the writing center. We cannot and should not reject such concerns when working with

graduate students, many of whom would not have reached their advanced disciplinary stages if

they had not already developed the cognitive and technical capacities that incorporate writing

and rhetorical knowledge, and which standard writing center pedagogies foreground when

students reject working with issues of language.

Summers (2016) also argues that graduate writing consultants need to utilize more

sophisticated levels of interactions than general academic socialization. She argues for

developing a set of skills and tool-kits that are text-based (e.g. proofing), discourse-based (e.g.

scaffolding questions such as asking for a summary of the overall argument), and expertise-based

(e.g. genre knowledge). The latter, she goes on to say, must be trained for explicitly, and the

people who work with graduate students must possess explicit training in writing pedagogy and

genres to be able to add value to graduate students' literacy practices by drawing on knowledge

of common academic genres, managing writers' expectations, and modelling. Finally, in their

seminal piece about directive tutoring, Shannon and Burns (1995), argue that well-trained

consultants can make use of models to provide "sheltered, protective time and space within the

discipline for… intermediate and advanced students to make the shift between general strategies

to domain strategies" (p. 183).

Susan's experiences with the writing center show how this can happen. She says that she

mainly comes to the writing center for access language brokering services that will make her

texts "more specific and concise" (Susan, Interview, January 21, 2015) and give her a sense of

writing as process. She refers to this latter aspect of writing knowledge when makes the following remarks about the GWC:

> It has *helped me a lot generally, a lot, in structuring papers, grammar, typos*. It's also *helped me psychologically in thinking this is a much better product* than I would have thought on my own. But since the people I meet with at the GWC are not in my discipline and I think that's a good thing. *It's you could have people who don't understand what you're doing and then it's a fresh pair of eyes*. Sometimes this is good. But sometimes it's also not a good thing. Because comments and suggestions they give you is not very helpful for your field. But overall *I've had a great experience with it, or else I would not have gone there so regularly.* (Susan, Interview, October 8, 2015, emphasis added)

While she becomes frustrated with the contradictory information she receives from her advisor – discussed in 6.2 – about aspects of genre (i.e. topic sentences), she learns from the GWC. She still feels as if the writing she develops with the help of the center is good: "The GWC and I came up with a great topic sentence and my advisor would say this is not good. I would think at times that something is good from the GWC, and then my advisor would say this is not ok*"* (Susan, Interview, October 8, 2015). We have to recognize that, as a graduate student who has completed her program, she does know what she is talking about, even if it runs contrary to her advisor's view of academic genres. In other words, we also must avoid ignoring her opinions about writing center activities and pushing her into another deficit discourse regarding her own understanding of her own academic literacy practices, as Cirillo-McCarthy, Del Russo, and Leahy (2016) warn.

In a similar vein, we must recognize that generalist tutors might have some limitations because the type of feedback they provide "is not very helpful for [her] field." To this end, we need to consider the type of tutoring skills advocated by Summers (2016). A tool-kit based approach to graduate writing center consultation seems to be imperative when working with apprentice researchers like Susan and Gunter (who says he does not need the writing center because his lab provides the disciplinary writing consultations Shamoon and Burns (1995) advise). They certainly benefit from accessing language-brokering services in writing centers, and I believe we should be able to provide that service to them. Writing consultants have to have a tool-kit, and proofing competence has to be part of it. Given the level of expertise graduate students already have in their disciplines, graduate students – L1 or L2 – are generally not at risk of being seen as deficient students in need of remediation.

During my time as a graduate center tutor, I found that the international students who attended regularly always appreciated directive tutoring. I would often make use of handouts on genre forms – for example, for introductions or abstracts. I would also frequently draw papers from the Michigan Corpus of Upper-Level Student Papers (MICUSP) as models to discuss how the graduate writer might start to write effective pedagogical genres, such as response papers or evaluations of readings, they had not previously encountered. Finally, I never shied away from providing them directives about how they might trim their prose using the Paramedic Method develop by Richard Lanham in *Revising Prose*. For the most part, the students I worked with on the production of academic texts readily accepted my suggestions for revision. However, other times, they explained that my suggestions seem to take their arguments in directions they did not wish to go. In such instances, most students asked pointedly for my revision rationale, and in the process ended up making explicit "domain-appropriate abstractions, domain-appropriate linkages

to case-specific data [that provided] opportunities for reflection and critique" (Shamoon and Burns 1995, p.147). In other words, the process made them articulate their disciplinary understanding in a different manner and in functionally direct language, enabling them to both develop their communicative competence and test their own knowledge and understanding of their own arguments.

Writing studies practitioners could also draw from the interdisciplinary writing groups often established by enterprising professors and other faculty in various schools as non-classroom resources. Studies of writing groups have recently advocated for their use as literacy networks to foster academic socialization. Aitichison (2009) says writing groups (whether within a discipline or interdisciplinary) facilitate learning in the disciplines by providing graduate students networks to practice feedback and disciplinary critiques. Writers learn writing processes as they execute writing tasks, engage with the feedback they receive on their texts, and rework new knowledge through rewrites in such literacy practices. Readers learn appropriate literacy practices of the discipline by providing feedback and revising their own views based on discussions. Jerkey (2013) says that writing groups can bring together experts and graduate students in ways that make the "behind-the-scenes practices" involved in negotiating the linguistic and disciplinary practices of publication visible to new members of the field and cultivating writing culture in them. Such groups could also enable graduate writers learning academic English to develop a network of literacy sponsors that can enable their academic writing.

The picture I show in 4.3 and 4.5 strongly supports such views. Gunter and Susan learn a good deal through their interactions with others regarding their academic genres. They are able to intuit both the culture and the research expectations of their disciplines through involvement in

such activities. Writing groups are the authentic spaces of literacy in the disciplines and thus writing instruction should make use of such literacy networks to advance our agenda. New scholars are most tuned-in and invested in such disciplinary spaces because the work being done is the most salient to their own academic activities, and whatever literacy practices they develop in such spaces are likely to take root. Writing studies practitioners must recognize and intervene in such literacy networks both to scaffold interactions to develop writing process and rhetorical knowledge and to develop as effective and "concerned interventionist" readers who can help broker texts for publication.

6.6 Coda

My years-long research into Gunter's and Susan's socialization and literacy practices began as a way to think about how I might use my interests in critical theory to develop a situated understanding of how academic authors are made. In some ways, as I proceeded, I began to understand that academic authors are less authors than academic communicators and writers of research; their power as authorities is less discursive and more technical, and to approach it otherwise would be to misinterpret a domain of activity that is not like ours (i.e. interpreting writing processes in disciplines outside the humanities through methodologies situated in the humanities). The etic approach began to strike me as wholly presumptuous and I came to see that the emic approach valued by ethnographers would be more suitable. The more I began to "hang out" with these aspiring apprentice researchers, the more I realized that I have only begun to scratch the surface of this project, and to really understand socialization processes and how they create the experts we see named as authors in published papers, I will need to continue my research.

Both Susan and Gunter have completed their programs. Susan worked as a visiting assistant professor of political science at a prestigious liberal arts college during the 2016-2017 academic year, and has since accepted a tenure-track position at an R1 university in England. A peripatetic by choice, Susan now must socialize herself into a new academic and national culture as she develops as an early career academic. Soon to publish several articles in prestigious political science journals, her career is poised to truly coalesce.. Gunter has accepted a post-doctoral at a university in Puerto Rico where he will work directly under his long-term mentor. He believes working in that institution will be better than working on the US mainland simply because the new situation will actually allow him to do research rather than contribute to academic activities as such. He has also submitted several articles for publication and believes some of the findings presented in the new papers will contribute significantly to the field. He believes they will solidify his status as a researcher and that makes him happy as he contemplates his career prospects.

I hope that I can continue to follow Susan and Gunter during this crucial time in their professional academic careers. I firmly believe they will go far and those of us in the humanities can learn a lot from observing how they develop as scholars and researchers. I have been greatly fortunate to develop close relationships with both of them during my dissertation research and I aim to continue collecting information from them as they develop as early career researchers. I believe this more in-depth study of disciplinary socialization, which will include examinations of Gunter and Susan's identity trajectories from their graduate studies into their early professional careers, will enable me to truly articulate how writing facilitates the creation of authority in contemporary society.

References:

Aitichison, C. (2009). Writing groups for doctoral education. *Studies in Higher Education*, *34*(8), 905–16.

Allison, D., Cooley, L., Lewkowicz, J., & Nunan, D. (1998). Dissertation writing in action: The development of a dissertation writing support program for ESL graduate research students. *English for Specific Purposes*, *17*(2), 199–217.

Bakhtin, M. M., Holquist, M., & Emerson, C. (1986). *Speech genres and other late essays* (1st ed). Austin: University of Texas Press.

Bawarshi, A. (2000). The genre function. *College English*, 335–360.

Baynham, M. (1993). Code switching and mode switching: Community interpreters and mediators of literacy. In B. V. Street (Ed.), *Cross-cultural approaches to literacy* (pp. 294–314).

Baynham, M. (1995). *Literacy practices: Investigating literacy in social contexts*. Cambridge Univ Press.

Baynham, M., & Prinsloo, M. (2009). Introduction: The future of Literacy Studies. In M. Baynham & M Prinsloo (Eds.) *The Future of Literacy Studies* (pp. 1–20). New York, NY: Palgrave Macmillan.

Bazerman, C. (1981). What written knowledge does: Three examples of academic discourse. *Philosophy of the Social Sciences*, *11*, 376–387.

Bazerman, C. (1988). *Shaping written knowledge: The genre and activity of the experimental article in science*. Madison, Wis: University of Wisconsin Press.

Bazerman, C., & Paradis, J. G. (Eds.). (1991). *Textual dynamics of the professions: Historical and contemporary studies of writing in professional communities*. Madison, Wis: University of Wisconsin Press.

Bazerman, C., & Prior, P. A. (Eds.). (2004). *What writing does and how it does it: an introduction to analyzing texts and textual practices*. Mahwah, N.J: Lawrence Erlbaum Associates.

Beaufort, A. (2007). *College writing and beyond: A new framework for university writing instruction*. Logan, UT: Utah State University Press.

Becker, H. F., Geer, B., Hughes, E. C., & Strause, A. L. (1962). Boys in white. *Academic Medicine*, *37*(4), 406.

Beebee, T. O. (1994). The ideology of genre. *Pennsylvania: Pennsylvania State UP*.

Belcher, D. (1994). The apprenticeship approach to advanced academic literacy: Graduate students and their mentors. *English for Specific Purposes*, *13*, 23–34.

Belcher, D. (1997). An argument for nonadversarial argumentation: On the relevance of the Feminist critique of academic discourse to L2 writing pedagogy. *Journal of Second Language Writing*, *6*(1), 1–21.

Belcher, D. D. (2007). Seeking acceptance in an English-only research world. *Journal of Second Language Writing*, *16*(1), 1–22.

Benesch, S. (2001). *Critical English for academic purposes: Theory, politics, and practice*. Mahwah, N.J: L. Erlbaum Associates.

Berkenkotter, C., Huckin, T. N., & Ackerman, J. (1988). Conventions, conversations, and the writer: Case study of a student in a rhetoric Ph.D. program. *Research in the Teaching of English*, *22*, 9–45.

Berkenkotter, C., Huckin, T. N., & Ackerman, J. (1991). Social context and socially constructed texts: The initiation of a graduate student into a writing research community. In *Textual Dynamics of the Professions: Historical and contemporary studies of writing in professional communities* (pp. 191–215). Madison, Wis: University of Wisconsin Press.

Bezilla, M. (1985). *Penn state: An illustrated history*. Pennsylvania State Univ Pr.

Bhatia, V. K. (2008). Towards critical genre analysis. *Advances in Discourse Studies*, 166.

Blakeslee, A. (1997). Activity, context, interaction, and authority: Learning to write scientific paper in situ. *Journal of Business and Technical Communcation*, *11*(2), 125–169.

Blakeslee, A. (2001). *Interacting with audiences: Social influences on the production of scientific writing*. Mahwah, N.J.: Lawrence Erlbaum Associates.

Blakeslee, A. M., & Fleischer, C. (2007). *Becoming a writing researcher*. Mahwah, N.J: Lawrence Erlbaum Associates.

Blommaert, J. (2008). *Grassroots literacy: Writing, identity and voice in central Africa*. London ; New York: Routledge.

Bogdan, R. C., & Biklen, S. K. (1992). Qualitative research: An introduction to theory and methods. *Needham Height: Allyn & Bacon*.

Bourdieu, P. (1990). *The logic of practice*. Stanford, Calif.: Stanford University Press.

Brandt, D. (1998). Sponsors of Literacy. *College Composition and Communication*, *49*(2), 165.

Brandt, D. (2015). *The rise of writing: Redefining mass literacy*. Cambridge, United Kingdom: Cambridge University Press.

Brim, O. G. J. (1968). Socialization Through the Life Cycle. *Ch. Gordon and K. J. Gergen (Eds.), The Self in Social Interaction. Vol. I: Classic and Contemporary Perspectives, New York (John Wiley & Sons) 1968, Pp. 227-240.*

Brodkey, L. (1987). *Academic writing as social practice*. Philadelphia: Temple University Press.

Brooke, R., & Hogg, C. (2004). Open to change: Ethos, identification, and critical ethnography in composition studies. *Brown and Dobrin*, 115–29.

Burrough-Boenisch, J. (2003). Shapers of published NNS research articles. *Journal of Second Language Writing*, *12*(3), 223–243.

Canagarajah, A. S. (1996). "Nondiscursive" Requirements in Academic Publishing, Material Resources of Periphery Scholars, and the Politics of Knowledge Production. *Written Communication*, *13*(4), 435–472.

Canagarajah, A. Suresh. (2002). *A geopolitics of academic writing*. Pittsburgh: University of Pittsburgh Press.

Canagarajah, A. Suresh (Ed.). (2013a). *Literacy as translingual practice: Between communities and classrooms*. New York: Routledge.

Canagarajah, A. Suresh. (2013b). *Translingual Practice: Global Englishes and Cosmopolitan Relations*. London ; New York: Routledge.

Casanave, C. P. (2002). *Writing games: Multicultural case studies of academic literacy practices in higher education*. Mahwah, N.J: Lawrence Erlbaum Associates.

Casanave, C. P., & Li, X. (Eds.). (2008). *Learning the literacy practices of graduate school: Insiders' reflections on academic enculturation*. Ann Arbor: University of Michigan Press.

Cirillo-McCarthy, E., Del Russo, C., & Leahy, E. (2016). "We Don't Do That Here": Calling Out Deficit Discourses in the Writing Center to Reframe Multilingual Graduate Support. *Praxis: A Writing Center Journal*, *14*(1), 62–71.

Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive apprenticeship: Teaching the crafts of reading, writing, and mathematics. In L. B. Resnick (Ed.), *Knowing, learning, and instruction: Essays in honor of Robert Glaser* (pp. 453–494). Hillsdale, N.J: Lawrence Erlbaum Associates.

Collins, H. M., & Evans, R. (2007). *Rethinking expertise*. Chicago: University of Chicago Press.

Crawford, L. A., & Olsen, D. (1998). A five-year study of junior faculty expectations about their work. *The Review of Higher Education*, *22*(1), 39–54.

Crowley, S. (1998). *Composition in the university: Historical and polemical essays*. University of Pittsburgh Pre.

Curry, M. J., & Lillis, T. (2015). The politics of English, language and uptake: The case of international academic journal article reviews. *AILA Review*, *28*, 127–150.

De Costa, P. I., Singh, J. G., Milu, E., Wang, X., Fraiberg, S., & Canagarajah, S. (2017). Pedagogizing Translingual Practice: Prospects and Possibilities. *Research in the Teaching of English*, *51*(4), 464.

DeSilver, D. (2015). Growth from Asia drives surge in US foreign students. *Pew Research Center*.

Devitt, A. J. (2010). *Writing genres* (Nachdr.). Carbondale: Southern Illinois Univ. Press.

Duff, P. (2010). Language socialization into academic discourse communities. *Annual Review of Applied Linguistics*, *30*, 169–182.

Duff, P. A. (2014). Case Study Research on Language Learning and Use. *Annual Review of Applied Linguistics*, *34*, 233–255.

Ede, L. S., & Lunsford, A. A. (1992). *Singular texts/plural authors: perspectives on collaborative writing* (Paperback ed). Carbondale: Southern Illinois University Pr.

Felton, G. (2011, December 21). Penn State Entomology and our Future Outlook. Retrieved from

    http://ento.psu.edu/news/2011/penn-state-entomology-and-our-future-outlook

Flowerdew, J. (1999). Problems in writing for scholarly publication in English: The case of

    Hong Kong. *Journal of Second Language Writing*, *8*, 243–264.

Flowerdew, J. (2000). Discourse community, legitimate peripheral participation, and the

    nonnative-English-speaking scholar. *TESOL Quarterly*, *34*(1), 127–150.

Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings, 1972-1977*.

    Pantheon.

Freedman, A., & Medway, P. (Eds.). (1994). *Genre and the new rhetoric*. London ; Bristol, PA:

    Taylor & Francis.

Gee, J. P. (1989). Literacy, discourse, and linguistics: Introduction. *The Journal of Education*,

    171(1), 5–176.

Gee, J. P. (1998). What is literacy. *Negotiating Academic Literacies: Teaching and Learning*

    across Languages and Cultures, 51–59.

Geisler, C. (1991). Toward a sociocognitive model of literacy: Constructing mental models in a

    philosophical conversation. In C. Bazerman & J. Paradis (Eds.) (pp. 171–190). Madison,

    Wis: University of Wisconsin Press.

Geisler, C. (1994a). *Academic literacy and the nature of expertise: Reading, writing, and*

    knowing in academic philosophy. Hillsdale, N.J: Lawrence Erlbaum Associates.

Geisler, C. (1994b). Literacy and expertise in the academy. *Language and Learning Across the*

    Disciplines, *1*(1), 35–70.

Green, J., & Bloome, D. (1997). Ethnography and ethnographers of and in Education: A situated perspective. In J. Flood, S. B. Heath, & D. Lapp (Eds.), *Handbook of research on teching literacy through the communicative nd visual arts* (pp. 181–202). New York: Macmillan.

Halliday, M. A. K. (1994). *Language as social semiotic: The social interpretation of language and meaning* (9. impr). London: Arnold.

Hammersley, M., & Atkinson, P. (2007). *Ethnography: Principles in practice* (3rd ed). London ; New York: Routledge.

Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. cambridge university Press.

Heath, S. B., & Street, B. V. (2008). *On ethnography: Approaches to language and literacy research*. New York: Teachers College Press: NCRLL/National Conference on Research in Language and Literacy.

Horner, B. (2002). Critical Ethnography, Ethics and Work: Rearticulating Labor. *JAC*, *22*(3), 561–584.

Horner, B., Lu, M.-Z., Royster, J. J., & Trimber, J. (2011). Language Difference in Writing: Toward a Translingual Approach. *College English*, *73*(3), 303–321.

Huiling Ding. (2008). The Use of Cognitive and Social Apprenticeship to Teach a Disciplinary Genre: Initiation of Graduate Students into NIH Grant Writing. *Written Communication*, *25*(1), 3–52.

Hyland, K. (1996). Writing without conviction? Hedging in social science articles. *Applied Linguistics*, *17*, 433–454.

Hyland, Ken. (2006). *English for academic purposes: An advanced resource book*. Routledge.

Hyland, Ken. (2015). *Academic publishing: Issues and challenges in the construction of knowledge*. Oxford, United Kingdom: Oxford University Press.

Jerkey, M. (2013). Literacy brokers in the contact zone, year 1: The crowded safe house. In Canagarajah (Ed.), *Literacy as Translingual Practice* (pp. 197–206). New York, NY: Routledge.

Katzenstein, M. (2003). Writing political science: Asking a question then (actually) answering it. In J. Monroe (Ed.), *Local Knowledges, Local Practices: Writing in the Disciplines at Cornell* (pp. 171–180). Pittsburgh: University of Pittsburgh Press.

Kay, S. A. (1978). Socializing the future elite: The nonimpact of a law school. *Social Science Quarterly*, *59*(2), 347–354.

Lather, P. (1986). Issues of validity in openly ideological research: Between a rock and a soft place. *Interchange*, *17*(4), 63–84.

Lea, M. R., & Street, B. (2006). The "Academic Literacies" Model: Theory and Application. *Theory into Practice*, *45*(4), 368–77.

Lea, M. R., & Street, B. V. (1998). Student Writing in Higher Education: An Academic Literacies Approach. *Studies in Higher Education*, *23*(2), 157–172.

Lee, J. W., & Jenks, C. (2016). Doing Translingual Dispositions. *College Composition and Communication*, *68*(2), 317.

Leonard, R. L. (2014). Multilingual writing as rhetorical attunement. *College English*, *76*(3), 227–247.

Li, Y. (2006). Negotiating knowledge contribution to multiple discourse communities: A doctoral student of computer science writing for publication. *Journal of Second Language Writing*, *15*, 159–178.

Li, Yongyan. (2006). A doctoral student of physics writing for publication: A sociopolitically-oriented case study. *English for Specific Purposes*, *25*(4), 456–478.

Li, Yongyan, & Flowerdew, J. (2007). Shaping Chinese novice scientists' manuscripts for publication. *Journal of Second Language Writing*, *16*(2), 100–117.

Lillis, T. (2008). Ethnography as Method, Methodology, and "Deep Theorizing": Closing the Gap Between Text and Context in Academic Writing Research. *Written Communication*, *25*(3), 353–388.

Lillis, T., & Curry, M.-J. (2006). Professional Academic Writing by Multilingual Scholars: Interactions with Literacy Brokers in the Production of English-Medium Texts. *Written Communication*, *23*(1), 3–35.

Lillis, T. M., & Curry, M. J. (2010). *Academic writing in global context*. Milton Park, Abingdon ; N.Y: Routledge.

Lunsford, A. A., & Ede, L. S. (2012). *Writing together: Collaboration in theory and practice, a critical sourcebook* (1st ed). Boston, MA: Bedford/St. Martins.

Matsuda, P. K., & Cox, M. (2009). Reading an ESL writer's text. In S. Bruce & B. A. Rafoth (Eds.), *ESL writers: A guide for writing center tutors* (2nd ed., pp. 42–50). Portsmouth, NH: Boynton/Cook Heinemann.

Mihut, L. (2014). Literacy Brokers and the Emotional Work of Mediation. *Literacy in Composition Studies*, *2*(1), 57–79.

Miller, C. (2015). Genre as Social Action (1984), Revisited 30 Years Later (2014). *Letras & Letras*, 56–72.

Morita, N. (2009). Language, culture, gender, and academic socialization. *Language and Education*, *23*, 443–460.

Myers, G. (1985). The social construction of two biologists' proposals. *Written Communication*, *2*, 219–245.

Myers, G. (1989). The pragmatics of politeness in scientific articles. *Applied Linguistics*, *10*(1), 1–35.

Myers, Greg. (1990). *Writing biology: Texts in the social construction of scientific knowledge*. Madison, Wis: University of Wisconsin Press.

Myers, Greg. (1991). Stories and styles in two molecular biology review articles. In C. Bazerman & J. Paradis (Eds.), *Textual Dynamics of the Professions: Historical and contemporary studies of writing in professional communities* (pp. 45–75). Madison, Wis: University of Wisconsin Press.

Paltridge, B. (2015). Referees' comments on submissions to peer-reviewed journals: When is a suggestion not a suggestion? *Studies in Higher Education*, *40*(1), 106–122.

Perry, K. H. (2009). Genres, contexts, and literacy practices: Literacy brokering among Sudanese refugee families. *Reading Research Quarterly*, *44*(3), 256–276.

Poe, M., Lerner, N., & Craig, J. (2010). *Learning to communicate in science and engineering: Case studies from MIT*. Cambridge, Mass: MIT Press.

Polinator Health Task Force. (2015). *National Strategy to Promote the Health of Honey Bees and Other Pollinators*. Pollinator Health Task Force.

Pratt, M. L. (1987). Linguistic utopias. In C. MacCabe, N. Fabb, D. Attridge, & A. Durant (Eds.), *The Linguistics of Writing: Arguments Between Language and Literature* (pp. 48–66). New York: Routledge.

Prior, P. A. (1997). Literate activity and disciplinarity: The heterogeneous (re)production of American Studies around a graduate seminar. *Mind, Culture, Activity: An International Journal*, *4*(4), 275–295.

Prior, P. A. (1998). *Writing/disciplinarity: A sociohistoric account of literate activity in the academy*. Mahwah, N.J: L. Erlbaum Associates.

Prior, P. A., & Shipka, J. (2002). Chronotopic Lamination: Tracing the Contours of Literate Activity. In C. Bazerman & D. R. Russell (Eds.), *writing selves, writing societies: research from activity perspectives*. Fort Collins, CO: WAC Clearinghouse.

Ratcliffe, K. (2005). *Rhetorical listening: Identification, gender, whiteness*. Carbondale: Southern Illinois University Press.

Reay, D. (2010). Identity Making in Schools and Classrooms. In M. Wetherell & C. T. Mohanty (Eds.) *The SAGE Handbook of Identities* (pp. 277–294). United Kingdom: SAGE Publications Ltd.

Reckwitz, A. (2002). Toward a Theory of Social Practices: A Development in Culturalist Theorizing. *European Journal of Social Theory*, *5*(2), 243–263.

Reutten, M. K. (1998). Abidjan Journal. *College English*, *60*(1), 51–56.

Rose, M., & McClafferty, K. A. (2001). A call for the teaching of writing in graduate education. *Education Researcher*, *30*(2), 27–33.

Russell, D. R. (1997). Writing and genre in higher education and workplaces: A review of studies that use cultural-historical activity theory. *Mind, Culture, Activity: An International Journal*, *4*(4), 224–237.

Russell, D. R. (2002). *Writing in the academic disciplines: A curricular history* (2nd ed). Carbondale, IL: Southern Illinois University Press.

Russell, D. R., Lea, M., Parker, J., Street, B., & Donahue, T. (2009). Exploring notions of Genre in "Academic Literacies" and "Writing Across the Crriculum": Approaches across countries and contexts. In C. Bazerman, A. Bonini, & D. de C. Figueiredo (Eds.), *Genre in a changing world* (pp. 395–423). West Lafayette, Ind: Parlor Press.

Schultz, K. (2002). Looking across Space and Time: Reconceptualizing Literacy Learning in and out of School. *Research in the Teaching of English*, *36*(3), 356–90.

Seitz, D. (2004). *Who can afford critical consciousness?: Practicing a pedagogy of humility*. Cresskill, NJ: Hampton Press.

Shamoon, L. K., & Burns, D. H. (1995). A critique of pure tutoring. *The Writing Center Journal*, *15*(2), 134–51.

Sheridan, M. P. (2012). Making ethnography our own: Why and how writing studies must redefine core research practices. In Sheridan, Mary P & L. Nickoson (Eds.), *Writing studies research in practice: Methods and methodologies* (pp. 73–86). Carbondale: Southern Illinois University Press.

Smagorinsky, P. (Ed.). (1994). *Speaking about writing: Seflections on research methodology*. Thousand Oaks, Calif: Sage Publications.

Smit, D. W. (2004). *The end of composition studies*. Carbondale, IL: Southern Illinois University Press.

Smith, K. S. (1993). A case study on the successful development of an international teaching assistant. *Innovative Higher Education*, *17*(3), 149–163.

Sowel, R. S., Zhang, T., Bell, N. E., & Kirby, S. N. (2010). PhD completion and attrition: Policies and Practices to promote student success. *Executive Summary. Washington, DC: Council of Graduate Schools*.

Sowell, R., Allum, J., & Okahana, H. (2015). Doctoral initiative on minority attrition and completion. *Washington, DC: Council of Graduate Schools*.

Street, B. (2009). The Future of Social Literacies. In M. Bayhham & M. Prinslooo (Eds.) *The Future of Literacy Studies* (pp. 21–37). New York, NY: Palgrave Macmillan.

Summers, S. (2016). Building expertise: The toolkit in UCLA's graduate writing center. *The Writing Center Journal*, *35*(2), 117–45.

Swales, J. M. (1990). *Genre analysis: English in academic and research settings* (13. printing). Cambridge: Cambridge Univ. Press.

Talmy, S. (2009). A very important lesson: Respect and the socialization of order(s) in high school ESL. *Mobilizing Respect and Politeness in ClassroomsRespect in Classroom*, *20*(3), 235–253.

Tardy, C. M. (2005). "It's like a story": Rhetorical knowledge development in advanced academic literacy. *Journal of English for Academic Purposes*, *4*(4), 325–338.

Tardy, C. M. (2009). *Building genre knowledge*. West Lafayette, Ind: Parlor Press.

Walvoord, B. E., & McCarthy, L. P. (1990). Thinking and Writing in College: A Naturalistic Study of Students in Four Disciplines.

Wardle, E. (2012). Creative Repurposing for Expansive Learning: Considering "Problem-Exploring" and "Answer-Getting" Dispositions in Individuals and Fields (Vol. 26). Presented at the Composition Forum.

Weber, M. (1949). *Max Weber on the methodology of the social sciences*. Free Press.

Weidman, J. C., Twale, D. J., & Stein, E. L. (2001). *Socialization of graduate and professional students in higher education: A perilous passage?* San Francisco: Prepared and published by Jossey-Bass in cooperation with ERIC Clearinghouse on Higher Education,

Association for the Study of Higher Education, Graduate School of Education and Human Development, the George Washington University.

Wenger, E. (2008). *Communities of practice: Learning, meaning, and identity* (16th pr). Cambridge: Cambridge Univ. Press.

Yin, R. K. (2013). *Case study research: Design and methods*. Sage publications.

You, X. (2016). *Cosmopolitan English and Transliteracy*. SIU Press.

Appendix:

PENNSTATE
1855

Vice President for Research	The Pennsylvania State University	Phone : (814) 865-1775
Office for Research Protections	The 330 Building, Suite 205	Fax: (814) 863-8699
		Email : orprotections@psu.edu
		Web : www.research.psu.edu/orp

Date: March 12, 2014

From: The Office for Research Protections - FWA#: FWA00001534
                       Julie A. James, Compliance Coordinator

To: Shakil Sarforaz Rabbi

Re: Determination of Exemption

IRB Protocol ID: 45201

Follow-up Date: March 11, 2019

Title of Protocol: "Habituating Expertise: Strategies and Tactics in the Writing Practices of
                          Graduate Students"

The Office for Research Protections (ORP) has received and reviewed the above referenced eSubmission application. It has been determined that your research is exempt from IRB initial and ongoing review, as currently described in the application. You may begin your research. The category within the federal regulations under which your research is exempt is:

45 CFR 46.101(b)(1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

45 CFR 46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Given that the IRB is not involved in the initial and ongoing review of this research, it is the investigator's responsibility to review IRB Policy III "Exempt Review Process and Determination" which outlines:

- What it means to be exempt and how determinations are made
- What changes to the research protocol are and are not required to be reported to the ORP
- Ongoing actions post-exemption determination including addressing problems and complaints, reporting closed research to the ORP and research audits
- What occurs at the time of follow-up

Please do not hesitate to contact the Office for Research Protections (ORP) if you have any questions or concerns. Thank you for your continued efforts in protecting human participants in research.

This correspondence should be maintained with your research records.

Shakil Sarforaz Rabbi

EDUCATION

Ph.D., English, The Pennsylvania State University, December 2017
M.A., English, The Pennsylvania State University, May 2013
M.A., English Literature, The University of Dhaka, December 2009
B.A. English, Franklin and Marshall College, May 2007

SELECTION OF CONFERENCE PRESENTATIONS

"Learning Through Recontextualization: The Role of Rhetorical Attunement for a Graduate Writer Writing for Scholarly Publication." Conference on College Composition and Communication, Portland, Oregon, USA, April 2017.

"Differentiating Feedback in the Disciplines: A Multilingual Graduate Student's Writing Practices with Literacy Brokers." "College Writing": From the 1966 Dartmouth Seminar to Tomorrow, Hanover, New Hampshire, USA, July 2016.

"Writing Center Practices in Context: Literacy Activities of a Graduate Student in a Graduate Writing Center and in Discipline-Specific Reading Groups." International Writing Centers Association Conference, Pittsburgh, Pennsylvania, USA. October 2015.

"Translingual Disposition: The Socialization of a Graduate Student as Rhetorical Attunement." Conference on College Composition and Communication, Tampa, Florida, USA, April 2015.

"Ideologies of ESL and First Language Composition Pedagogies: Constructing Student Identities." Conference on College Composition and Communication, Las Vegas, Nevada, USA. April 2014.

""Literacy is like an art, almost": Notions of Literacy and the Meaning of Writing for Students of First- Year Composition" 34th Annual Ethnography in Education Research Forum, University of Pennsylvania, Philadelphia, Pennsylvania, USA. October 2013.

SELECTION OF PUBLICATIONS

Rabbi, S. & Canagarajah, A.S. (2017). "Socialization in the Neoliberal Academy of STEM Scholars: A Case Study of Negotiating Dispositions in an International Graduate Student in Entomology." *Humanities 6*, 39. Guest edited by Dr. Ronald Strickland.

Alvarez, S. P., Canagarajah, S, Lee, E., Won Lee, J., & Rabbi, S. (2017). "Translingual Practices, Ethnic Identities, and Voice in Writing." In B. Horner & L Tetreault (Eds.) *Crossing Divides*. Salt Lake City: Utah University Press.

Rabbi, S. (2016). "A Rhetoric of Decency: An Essay on Identification and Recursivity in George Orwell's Writings on Spain." *Crossings: ULAB Journal of English Studies,* 6 (1), 56-67.

Rabbi, S. (2014). "Hacking Composition: Rethinking Codeswitching in Written Discourse." *Composition Studies* 42 (1), 128-136. [Review of *Language Mixing and Code-Switching in Writing,* edited by Mark Sebba, Sharzah Mahootian, and Carla Jonsson; *Language and Mobility*, by Alastair Pennycook; and *Translingual Practice*, by Suresh Canagarajah.