Social Environments, Writing Support Networks, and Academic Writing: A Study of First Year International Graduate Students

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Abstract

This dissertation is an inquiry into the social experiences of first year international graduate students, and how those social experiences inform their academic writing development. Drawing from the sociocognitive perspective (Atkinson, 2002; Lantolf, 2000), this study recognizes that the university is social in nature, and language learning occurs in the mind, body, and world (Atkinson et al., 2007). The international graduate students in this study were recruited from the first quarter academic writing class in fall 2014 (n=113), and were surveyed at four time points throughout the academic year. The dissertation focuses on four students, Luiza from Brazil, Camila from Chile, Q from Korea, and Kira from China as illustrative examples of the social environments that students have as well as trajectories of writing development. The focal students participated in three interviews throughout the year and written texts were also collected at three time points (at the end of the fall, winter, and spring quarters). Findings from the students' social environments suggest that students tend to gravitate towards co-nationals in social settings. In terms of receiving writing support, students in the study relied primarily of colleagues and friends, followed by professors. Writing tutors and family members were sought out the least for writing support. Peers tended to be more accessible and approachable than professors, while professors were rated as more helpful than peers. In terms of the writing development of the students, this study focuses on clausal, phrasal, and lexical complexity. Findings from the textual analysis portion suggest that the writing of the focal students became more complex based on these measurements. In particular, students generally scored higher on the number of modifiers per noun phrase measure throughout the year, suggesting that their noun phrases were becoming more complex, although there were some deviations to this pattern. Also, students used more words from the academic word list and field specific jargon throughout the year. The implications of

this study are relevant to writing professors, STEM professors, international student services, and the university as a whole.

Acknowledgements

In many ways this dissertation has been an internal journey as much as it has been an external one, touching on my own sociocognitive process of learning. Throughout the process of researching and collecting data on social environments and complexity in writing, I have needed to come to terms with my own writing process. Writing about writing in itself has been an illuminating aspect of this project. Needless to say, this project has been so much more than a series of data points. In collecting the data, I have met so many inspiring students who are making a brave journey into an unknown land in pursuit of higher education. I am so inspired by the students who participated in this project. I owe each of them a debt of gratitude, and their trust in me and this process has not go unnoticed. It is with great humility that I recognize the people who have supported me throughout the dissertation process. It is with their support that I have been able to see this project through to completion. While I do not have enough space to acknowledge everyone who has positively impacted me in this process, I will use this space to name those who were instrumental in supporting me in my journey. First, I have endless appreciation and respect for my adviser, Dr. Julia Menard-Warwick, who has been a great mentor, ally, and guide from the very beginning of my graduate program. I also give thanks to the professors who served on my committee: Dr. Perrault, Dr. Hawkins, and the late Dr. Timm. Their comments on my dissertation have greatly improved the final product. I have gratitude to my linguistics colleagues who have been an incredible source of emotional support, Katie Evans, Miki Mori, Serena Willliams, Grant Eckstein, Dan Villarreal, and Michelle Cohn. My family, who has always been my biggest supporter, is appreciated beyond words. My partner, Rebecca Shepherd, brings me joy, compassion, and reassurance on a daily basis. I also humbly give thanks to my 56 friends and housemates at Hillegass Parker house. Without the support of all of these individuals, I would not be where I am today.

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Chapter 1: Introduction

1.1 Writing Development: Context and Needs

> *I started making this yesterday night and this was super hard because I was alone to work, but it was hard because the idea was to write a lot of things, but only two pages. And two pages, I think, is more difficult for writing skills because it was the first time I tried to say that one paragraph. On one line, I spent a lot of hours.* (Camila, fall interview)

Camila[1], an international graduate student from Chile studying Food Science, balances her time as a mother of a young child, a wife, and a student. Her husband is also a graduate student from Chile, who speaks and writes in English at a higher level than she does. Camila relied on her husband for writing support on many of writing tasks throughout the year. I interviewed Camila throughout the year, and in each interview I thought about how important a role her husband was playing in her success as a graduate student, especially with regards to written assignments. I remember that she told me how the only pieces of writing that he does not look at were the ones that she submitted to her English class, because there she would get feedback from the ESL instructor. Otherwise, her husband would read, edit, and revise almost every other piece of writing that dealt with her academics, from emails to colleagues and professors to written assignments and papers in her Food Science classes. The resulting piece of writing, then, was a dialogue that includes her husband's voice in addition to her own. In the opening quote, taken from the fall quarter interview with Camila, she recounts an instance when she had to write on her own without the help of her husband. She says that she spent hours on a single line of text. The fact that the assignment was limited to two pages added the challenge of conciseness, specifically conciseness in a language and genre in which Camila was still

[1] All the names of the participants have been changed to pseudonyms.

becoming familiarized. Camila is one of the focal students in this dissertation, and her case will be explored greatly throughout, but what I would like to bring awareness to is the complexity of her situation, and other international graduate students, as well. Writing, after all, is not a straightforward, linear process, but rather a dialogic one that involves input from multiple sources. Camila, with the help from three other focal students and several more research participants, will provide a way-in to examine and explore the depth of experience that first year international graduate students have in their social environment and how those social environments interact with their writing process and progress.

Writing was chosen as a primary focus for this study for many reasons. For one, academic writing serves as a mode of communication through which knowledge is shared and garnered in academic discourse communities, yet writing is not explicitly taught in most graduate programs. Aside from a limited array of workshops/classes, or perhaps an outline provided by a professor, students are generally alone in their pursuit of mastering academic writing. Students are often taught to mimic how scholars write in academic journals, a lofty goal that cannot be achieved by merely trying to copy what is done by respected scholars. Instead, students need focused lessons on genre, accompanied by structured grammar, vocabulary, and rhetorical lessons that are scaffolded in order to help students improve their writing. Additionally, professors, who are almost always the sole audience of the written assignment, may have a diverse set of expectations within the same field, so students are left trying to appease a variety of professors. Graduate students are expected to produce written texts in a variety of genres, oftentimes with little or no instruction on the conventions of that genre. The role of genre will be explored more in the literature review.

It was not until I came across Ferenz (2005), who looked at EFL writer's social networks in Israel did I realize that there was a piece of the puzzle that was missing from the literature. There are numerous studies that consider the emotional well being of international students (Perrucci & Hu, 1995; Lee et al., 2004), studies that explore the development of certain writing

features (Laufer & Nation, 1995; Biber et al., 2011) and many more that focus on errors (Larsen-Freeman, 2006; Ferris 2014), but few beyond the Ferenz (2005) study begin to make the link between writing development and social networks. It is the path through the student's social and academic connections that will contextualize the student's writing in this study. Using Van Lier's (2000) notion of linguistic *affordances*, that is, what linguistic resources are available by having access to certain people/communities, I will bridge pieces of the puzzle that are currently disparate in the literature - writing studies and sociocultural studies. Furthermore, much of the literature focuses on students who are receiving help with writing from writing tutors and writing specialists (Harris & Silva, 1993), but as data from this study will show, the primary source of assistance for my participants comes from peers, that is, friends and colleagues. From this point of departure, I began reading the literature about academic discourse communities (Morita, 2004; Flowerdew, 2000; Spack, 1988; Spack, 2011) and communities of practice (Lave & Wenger, 1991; Wenger, 2002; Montgomery & McDowell, 2009), finding that SLA researchers largely agree that language learning is social in nature. Language learning is not purely a cognitive process occurring in the brain, but rather a social process occurring in the classroom, after classes, and in social contexts (Atkinson, 2002; Atkinson et al., 2007, Lantolf, 2000, Batstone, 2000). Interactions of all kinds are opportunities for language learning to occur.

Writing, although on the surface seeming to be a solo or independent task, is actually *situated* within a social context (Angelova & Riazantseva, 1999). The student engages with the professor or class material through a prompt. The writing is then developed in an iterative way through drafting or revising, editing, or reworking. The writing is geared towards a particular audience, and must fit the genre in which it is written. Then, sometimes, but not always, feedback is provided. Also, in the process of writing, the student may reach out to a friend or colleague for writing support. So, even though the product itself appears static, the process through which the document is developed is dynamic and a product of the students' cognition and social environment. Casanave (1995) argues that instead of focusing on the larger global

aspects of a discourse community, researchers ought to pay more attention to the local and immediate factors that are affecting the student writer. As such, the current study analyzes the local and immediate factors of the students' social environments.

1.2 Background and Context of Study

This study was conducted at the University of California, Davis, a quintessential college town approximately 20 miles from the capital of California. UC Davis is an R1 institution, meaning that the university is listed as having the highest level of research activity. The UC Davis graduate studies website explains more about what programs they offer:

> UC Davis offers graduate and professional degrees in nearly 100 areas of study, ranging from cultural studies to veterinarian medicine. More than half of our graduate programs are organized interdisciplinary graduate groups, giving students and faculty alike the freedom to explore interests across disciplines, engage in various areas of research, and reach new heights of knowledge. Known for our state-of-the-art research facilities, productive laboratories and progressive spirit – UC Davis offers collaborative and interdisciplinary curricula through graduate groups and designated emphasis options – bringing students and faculty of different academic disciplines together to address real world challenges. (Graduate Studies website)

In terms of the international graduate student population, approximately 26% of the graduate students at UC Davis are international. STEM field programs (fields that include Science, Technology, Engineering, and Math) have particularly high percentages of international students. In fact, in 2014, when the data for this study were collected, seven out of the eight programs that had a majority of international students were STEM disciplines. This is consistent with the trend across U.S. universities nationwide (Open Doors). The graduate program with the highest percentage of international students is Statistics, which has an international student

population of 66%. Social Science fields draw fewer international students, while fields in the humanities draw the fewest international students, with the exception of language departments. The rise in international students has been steadily consistent over the past ten years and promises to continue to rise in light of a campus-wide initiative called the 2020 plan, which proposes to increase the entire student population by 5000 students over the next several years. Students hail from countries around the world; however, the distribution is not at all balanced. The vast majority come from China, and this trend seems as if it will only continue. Why so many students come from China may be explained by a range of reasons, including the fact that China is the most populous country with over one billion people. In addition to the immense population, China has the largest middle class in the world, with over 300 million people, which is approximately the population of the entire U.S. Also, China has thirst for growth and education; the result is clear, a generation of sojourner education seekers. Other highly represented countries include (in order of highest percentage to lowest), Taiwan, Japan, Korea, Chile, Brazil, and Thailand. Interestingly, given that Chile is a relatively small country, Chile provides the fourth most international students at UC Davis, most of who study in agriculture related fields. A combination of factors have led to this decade's long inter-country relationship, specifically a large pool of scholarships that are granted for Chilean students to go abroad coupled with the fact that similar crops are grown in both California and Chile, so the material studied in the U.S. is highly relevant to their future careers in agriculture. Countries where English is a national language are excluded from the above list, as this study focuses on students who are non-native English speakers. A more detailed description of the students in this study will be explored in Chapter 3.

Students are placed into, or are exempted from, the initial ESL course, LIN 25, depending on their TOEFL score or placement exam score. The students who score lower than 90 on TOEFL or score poorly on the placement exam are offered a 10-week ESL class that runs concurrently with their field specific academic courses. While the introductory ESL course is

often desired and needed, adding another course makes their first quarter course load much more impacted. This class is optional; the student's graduate program may exempt them from taking this course, while sometimes there are more students who want to take the course than there are places available within the course. Moreover, students who want to take this ESL class and more focused English classes, when available, are often met with difficult decisions about how to spend their limited amount of time. English classes are beneficial and desired, but the increase in workload is not always welcomed by these busy students who are still adjusting to the local academic and social environment. So these students, who are pressed for time, yet are in need of extra support, are put in a difficult situation. Furthermore, many of these students arrive just days before classes begin, which does not give the students much time to prepare. Because UC Davis is on the quarter system, meaning that classes are a mere 10 weeks long, tests, midterms, papers, and other written assignments are frequent and fast-paced.

This dissertation project stems from work that I completed for my Master's paper (Moglen 2015), where I ran a correlation analysis between TOEFL scores and English placement test scores for international graduate students between 2007-2011. The goal of this previous study was to, if possible, streamline the English placement test, as well as collect information about the test that would help the university make decisions about placement. The results of the study found that TOEFL iBT can only predict placement tests scores at the highest range (105 and above) and the lowest range (below 90), but not the middle range (90-104) (Moglen 2015). My Master's project used quantitative methods and focused on one of the first points of interaction between the student and the university. Consequently, the research trajectory from this starting point led me to ask questions about the students' development and experience as they adjust to the campus climate. The questions that sparked my interest revolved around how these students fared over their first year of graduate school, which is the focus of the current study. In addition to my Master's study, I had the opportunity to work directly with this student population as the instructor of the LIN 25 class. I taught this class in

fall 2011 and fall 2012. It was as an instructor working with first year international graduate students that I was drawn to this population. As I worked with them on grammar, academic vocabulary, paraphrasing, and giving presentations, I realized the amount of practice they need in order to achieve a level of comfort and confidence with their English. I also noticed that each student struggled with different aspects of learning English, and each student had vastly different life and educational experiences. The diversity of the group of students, along with the need to advocate for more resources guided my interest in this project.

When international students leave their home country to study in a foreign country, they bring with them knowledge about how the university system operates in their home country, but most lack knowledge about how the university system works in the foreign country. The question is then, who is responsible for helping international students gain membership into a particular discourse community? What does that process entail? Spack (1988), in reference to ESL undergraduate students in the larger academic discourse community, suggests that writing teachers ought to initiate the socialization process, but cannot be responsible for teaching the wide varieties of genres that specific disciplines require. Rather, writing teachers can mainly be expected to teach general academic principles. This may be partially true for International graduate students, as well, in that part of the socialization process occurs in a writing class. At UC Davis, it is the graduate department that ultimately determines whether or not a writing class is required. Much of the academic socialization process occurs in conjunction with a major professor/advisor. Clearly other players (colleagues, friends, etc.) are involved in bringing an international student into the discourse community. As for the process of entering a discourse community, Angelova & Riazantseva (1999) note that gaining membership entails both learning the writing conventions as well as the greater social practices of the discourse community, likening the process of gaining membership to an "identity kit" (p. 492; see also Gee, 1990), although successful initiation into the discourse community, especially academic discourse communities, is evaluated, in part, by the quality of writing (Schneider & Fujishima, 1995). As I

grappled with thinking about how international graduate students become writers, I realized that it was not a simple nor straightforward process. This dissertation aims to connect the individual student's text to the broader context of his or her social environment.

1.3 Interest and purpose

The current study fills a gap in the literature by bridging together social experiences and development of academic writing in first year international graduate students at UC Davis. The study itself should be of interest to the university and may have implications for how the university seeks to socialize international graduate students into their respective disciplines. We actually know very little about the type of communities that our international graduate students are joining, their language use within those communities, and their access to resources related to writing support, yet several administrative decisions are made without this knowledge (which writing classes to offer, orientation topics, training or lack of training for professors who work with international students, etc.). The university will benefit, then from inquiries such as the present study. While the variety of experiences will look as vast and varied as the number of students, there are certain trends that arise that will be beneficial for the university to take into account moving forward. Based on these trends the university can serve, augment, and promote successful strategies among international students to better serve the students' needs.

At the root of this study is the realization that international graduate students are often left underserved and without sufficient resources to meet their needs. In essence, international students are expected to perform on par with native English speaking students even though they start with a much weaker grasp of the language (Jenkins et al., 1993; Angelova & Riazantseva, 1999). They are expected to be able to navigate the university system even though the higher education system in the U.S. may be profoundly different than what they are used to. They are expected to learn about how to move, act, and interact in a new culture, even though many are overcoming a lack of confidence, or cultural barriers (Andrade, 2006). It is the

the gap between the expectations that are placed upon these students and the lack of resources, or access to resources, that this dissertation wishes to address. International graduate students have a common set of needs and face a unique set of circumstances that has been overlooked and underresearched in the literature. My personal experiences working with international students, coupled with an interest in helping these students, have led me on this research trajectory.

1.4 Research design: participants, instrumentation, and procedure

In order to address the questions in the present study, a number of tools and analyses will be implemented. I chose to collect wide-ranging data that provided information from different angles, including surveys, interviews, and writing samples. Each of these data sources were collected at three time points - end of fall quarter 2014, end of winter quarter 2015, and end of spring quarter 2015 - in order to provide a diachronic perspective. The only exception was the initial survey, which served to collect basic demographic data, as well as to gain informed consent. The surveys were distributed to a wider population of students, all of whom were recruited from LIN 25. The goal of the survey was to gain a broad perspective of which networks students were a part of, as well as their language use. I also interviewed 12 students throughout the year. The interview portion used a semi-structured schedule, which was designed to allow for students to elaborate on topics that were important to them. The surveys and the interviews were used as checks for one another, both during the data collection and during the data analysis phase. I brought in survey questions to the interviews, for example, and had the focal students expound on their survey responses, when appropriate. Finally, the last primary data points come from the students' writing samples. The written texts that were collected for the study were the same ones that the students submitted to their classes. These texts were collected in order to conduct a linguistic analysis of the students' writing trends over the course of their first year of graduate school. The advantage of collecting these writing

samples is that they are independent of the surveys and interviews. If a student says that he is struggling with a particular aspect of writing (i.e. using academic vocabulary), then that issue could be checked against the writing. There were four students who participated fully in the data collection portion of the study, and these four students will serve as the focal students. Ultimately, the goal of this dissertation is to weave these three data sets (surveys, interviews, and texts) together to better understand the phenomenon of learning genre specific academic writing in an L2 context within the greater social environment.

1.5 Key Terms

This section is dedicated to explaining some of the key terms that will be used throughout this dissertation. These terms will be defined again in their corresponding sections, but this section will serve as a mini glossary for the dissertation. I will group together the key terms that correspond with each other for purposes of convenience. When appropriate and available, I will provide examples to help illustrate the respective terms. I will also include terms that have a specific meaning in the context of the current study.

A term that will be used throughout the dissertation will be *international graduate student*, which, in the context of this study, will be more precise than the self-evident meaning of the term. Here, it will refer to international graduate students who are: 1) non-native English speakers, 2) enrolled in either a Master's or Ph.D. program, and 3) from the Linguistics 25 class. The generic term, international graduate student, is used as a shorthand in this study for students who meet the criteria mentioned above. Also, as all of the students in the study are first year students, it should be noted that unless otherwise stated, when international graduate students are referred to in the study, I am referring to first year students.

Throughout the dissertation I will refer to the nationality of people in the student's social environments. I will be using the terms *co-national*, *host national*, and *multinational* to describe three broad categories of people. First, co-national is a term used widely by researchers

studying networks of international students (Major, 2005; Bochner et al., 1977; Hendrickson et al., 2011; Furnham & Alibhai, 1985; Furnham, 2004), yet is not well defined beyond "individuals from their own country" (Hendrickson et al., 2011, p. 282). While this definition is self evident and reasonable to a certain degree, it is also problematic in the sense that this definition does not encapsulate the complexities of identity. By this definition, someone from Chile and someone from Peru would not be co-nationals, even though they share the same language and may have overlapping cultural norms. To that extent, co-national in this study will refer to individuals from the same country, and will extend the definition to mean individuals who share a common language and/or culture. In this way, co-national refers to a shared identity rather than just a shared country of origin. Host nationals, defined in the literature as "individuals from the country where the student is studying" (Hendrickson et al., 2011, p. 282), is also seemingly self evident, yet merits further discussion. For example, a U.S. person of Chinese heritage may be considered a co-national to Chinese international student if they share a common language, culture and/or identity. Host nationals, for purposes of this study, will also be referred to as U.S. people, and designate people who are native English speakers, embody U.S. culture, and specifically do not share a common culture or language with the given international student. Finally, *multi-nationals*, defined as "individuals from other foreign countries" (Hendrickson et al., 2011, p. 282), are people who are also international students, but do not share a common language or cultural background with the student. In this dissertation, I will use the term multi-nationals or other internationals to refer to this category of people in relation to the given student. Also, I have chosen not to use the word *American* to refer to U.S. students as to avoid confusion from students who are from other countries in the Americas. The word, *American,* when used in a quote, however, will remain intact to keep the author's integrity.

A key piece of the present study revolves around the social experience of the International graduate students. The people and communities that these students engage with directly determine the types of linguistic, cultural, and emotional support and resources that are

available to them. In order to discuss and describe the makeup of these various social circles, I will introduce some concepts and key terms here. Students, as they join their respective disciplines, find themselves enmeshed in a particular academic *discourse community* (Swales, 1990; Flowerdew, 2000; Spack, 1988; Duff, 2010). Flowerdew (2000) defines a discourse community as "a group of people who share a set of social conventions that is directed towards some purpose" (p.129). Swales (1990) defines discourse community based on a set of criteria, namely: 1) set of common goals, 2) channels of communication, 3) exchanges of information and feedback, 4) specific communicative genres, 5) specialized vocabulary, and 6) a threshold of expert members. An international graduate student would, for example, join the discourse community of their academic discipline, where the student would encounter particular research trajectories (common goals), academic coursework (channels of communication), papers and tests (exchanges of information and feedback), certain acceptable genres, field-specific jargon, and professors (expert members).

Learning takes place in a social context through interactions with people within a *community of practice*, defined by Wenger (2002) as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area *by interacting on an ongoing basis*" (p.4, emphasis added). The three criteria that must be met in order to be a community of practice include mutual engagement, joint enterprise, and shared repertoire (Wenger 1998). Students in the current study participated in a variety of communities of practice, including intramural sports teams, student clubs, and study groups. Lucy, a Taiwanese student, was deeply involved in the Taiwanese student association. This association helped students acclimate to the new campus by assisting new students in finding housing, setting up a bank account, and learning about the local bicycle culture.

A community of practice and a discourse community differ in that a discourse community may have members who rarely or who never interact, and who may be in various regions around the world. In other words, a discourse community has mechanisms of communication,

but those channels are not necessarily utilized by everyone. A community of practice meanwhile, tends to be more localized, but not necessarily, and crucially has ongoing interaction amongst its members. Both discourse communities and communities of practice are places where knowledge is shared and produced.

Another key term that will be used is the concept of *networks* (Milroy, 1980; Bochner et al., 1977; Hendrickson et al., 2011). Networks come in a variety of forms, and for purposes of this study, they may be socially oriented or academically oriented. Networks differ from communities of practice in that they are defined by the focal point, in this case the student, through which numerous connections and relationship are explored (Milroy, 1980). In the current study, we will also consider a network that is loosely formed around writing support, which Ferenz (2005) refers to as the *writer's social network*. The current study chooses to use the term *writing support network* to encapsulate the people who provide writing support to the students in the study. For example, Camila, from Chile, relies heavily on her husband, who is also Chilean, to help her with her writing. Her husband is a part of her writing support network, which affords her the resource of nearly unlimited assistance upon request. Another network related term that will be used throughout the dissertation is *associates*, which refers to the people in a particular network.

These terms (discourse community, community of practice, and network) will be used throughout the dissertation, but even more frequently in chapter four, where these social connections are analyzed. These terms also provide ways to discuss the larger phenomenon of affordances, acculturation, socialization, and co-nationalization. The term *affordances* (va Lier, 2000) refers to the types of resources and level of accessibility to those resources which are provided by the environment. For example, Lucy, as a member of the Taiwanese student association, has access to people in Taiwanese student group who are able to show her how to open up a bank account. This access to help would be considered an affordance. She may utilize or not utilize this affordance, but the affordance is still there. Meanwhile, someone who is

not a member of the Taiwanese student group would not have access to the affordances provided by that group. Through these various social connections, students become *acculturated* and *socialized* into the local community. Acculturation is the process through which students become more familiarized with navigating the local way of life. Acculturation does not mean a loss of their native culture, nor does it imply a full mastery of the local culture; rather, the process of acculturation refers to the way in which the student learns to navigate the local culture through various socialization practices. The terms covered in this section will be used throughout this dissertation to explore the research participants as they progress towards a deeper understanding of academic writing.

1.6 Dissertation chapter topics and content

The introduction chapter of the dissertation has served to provide the context and background for the current study, as well as to raise critical, yet under researched, topics in the field of second language writing. This chapter has also brought in the researcher's perspective and background in order to show the relationship between the researcher and the topic of study. I will outline the goal and purpose of each of the subsequent chapters in the section below.

1.6.1 Chapter 2: Review of literature

The literature review section explores the theoretical frameworks used in this study, as well as clarifies what previous research in second language writing has found. In the literature review chapter, I will examine gaps in the literature and I will explain how this dissertation directly addresses those gaps. In particular, the literature review will describe in greater depth pertinent concepts for each of the chapters in the study, such as community of practice, discourse community, social networks, writing support networks, and ways of measuring writing.

1.6.2 Chapter 3: Methods

The methods chapters will describe the way in which the data were collected in this study, and in particular, the decisions I made about the data collection and analysis. Included in

this discussion are methodological decisions that I made at one point, but ultimately did not use. I will also describe the research questions that guide this study in this chapter. The goal of this chapter is to clearly explain the manner in which the study was carried out.

1.6.3 Chapter 4: Social Adjustment

In the first data chapter, I will use interview and survey data to illustrate the various types of communities of practice, discourse communities, and social networks that the students are involved in. Each community will then be analyzed through the lens of linguistic affordances, that is, what kind of support, opportunities, and resources that the community or network offers the student. By considering the interplay and impact of each of these communities on the student, we will have a clearer understanding of how the student adjusts to the new social and academic environment.

1.6.4 Chapter 5: Writing Support

The goal of this chapter is to examine the ways in which students are (or are not) finding support with their writing. Because textual data in the study come from assignments turned in for class, it is important to collect information about who, if anyone, was helping the student, as well as the frequency in which support was received. This chapter also considers whether or not the student found the help useful or not. In particular, data are presented where students are showing signs of genre awareness. Learning about genre and gaining genre awareness indicate a successful socialization into the discourse community.

1.6.5 Chapter 6: Describing Writing

Chapter 6 provides an in depth linguistic analysis of the focal students' writing over their first year of graduate school. I will discuss the types of genres that the students are writing in. Then I will examine the focal students' text using a variety of measures, including grammatical complexity, noun phrase complexity, and lexical complexity. This chapter will also include

excerpts from the writing of the focal students, when appropriate. The development of writing complexity will help illuminate the writing trajectory of L2 graduate students.

1.6.6 Chapter 7: Conclusion

In the conclusion, I will reiterate the research questions, which will be presented in chapter 2, and give concise responses to those. I will also address the study as a whole and explain the importance of this study in the context of today's university environment. Implications, limitations, and future research will also be explored.

Chapter 2: Literature Review

2.1 Introduction

Although international students have been flocking to U.S. university programs for decades, the uptick in international student rates has accelerated since the turn of the 21st century. The Institute of International Education (IIE) tracks international student demographic information and rates, finding that in the 2015/2016 academic year the number of international students topped 1 million (see figure 1) in the U.S. The vast majority of these students, over 50 percent of them, are in Engineering, Business/Management, and Math/Computer Science programs. Less than 10 percent of international students are in the Social Sciences, and less than 3 percent are in the Humanities (Open Doors). Approximately 40 percent of International students are enrolled in graduate programs, while approximately 43 percent are enrolled in undergraduate programs.

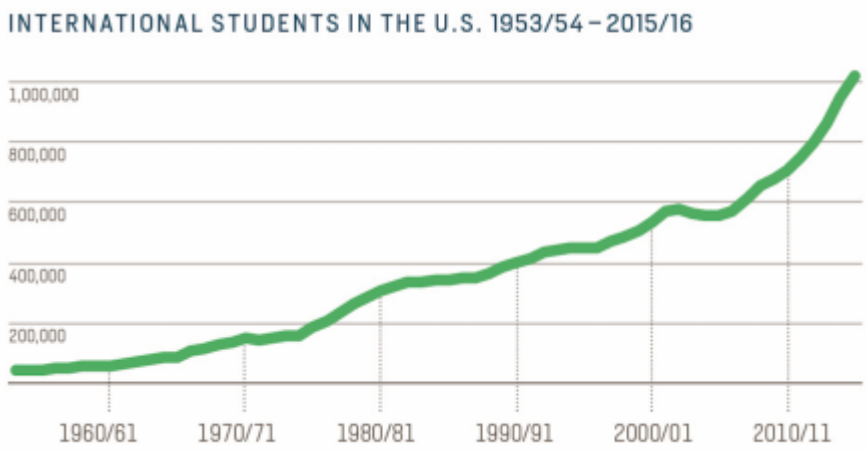

Figure 1 (source: Open Doors)

32 percent of all international students studying in the United States are from one country: China. The country that supplies the second highest number of international students, India, contributes 16 percent of total international students. The rates of students and the demographic makeup of students will naturally vary among universities; however, IIE provides

important data that expose the changing demographic of the university climate in the United States.

In conjunction with the rise of international students comes the rise of the body of literature on international students. Much of the literature on international students focuses on the impact of cultural adjustment, or *acculturation*, (Andrade, 2006; Dao et al., 2007; Constantine, Okazaki, & Utsey, 2004) on the student's academic success. The literature around cultural adjustment is often framed in terms of *acculturative stress*, coming from the fields of psychology and counseling, where the focus of research is on the mental health concerns of international students (Dao et al., 2007; Constantine, Okazaki, & Utsey 2004; Yeh & Inose, 2003), as well as the social support systems that may help buffer the negative consequences of acculturative stress (Lee, Koeske, & Sales, 2004). There are many factors that cause acculturative stress, including loss of home network (Sawir et al., 2008), financial stress (Yeh & Inose, 2003), language deficiencies (Andrade, 2006), and perceived discrimination (Lee & Rice 2007; Poyrazli & Lopez, 2007), to name a few. Many studies have made language deficiencies the independent variable (i.e. language deficiencies lead to acculturative stress); however, rarely has the reflexive nature of this relationship been acknowledged (acculturative stress leads to decreased learning potentials). Acculturative stress and language difficulties are likely interdependent, where one variable affects the other.

Many studies have indicated that international graduate students feel separated from the host culture and are unable to integrate easily (Myles & Cheng, 2003; Poyrazli & Lopez, 2007). International students may feel like they lack opportunities to interact with local people, or there may be too large of a gap in culture for the international students to feel comfortable approaching locals. While most of the studies point out the benefits of integration (Trice, 2004), others (Montgomery & McDowell, 2009; William & Johnson, 2011) demonstrate that strong international social networks, or co-national networks, can provide similar benefits and support. Williams & Johnson (2011) report that:

> Having a domestically based social support system is important for easing the acculturation process and for the successful adaptation of international students to their host culture… While developing friendships with someone of the same ethnicity provides critical social support and is an effective and beneficial acculturation strategy, using a bicultural or multicultural strategy is more adaptive. (p. 41-42)

The debate about whether international students should try to interact with domestic students is still ongoing. The answer likely resides in the individual; for some, having a strong co-national network is the preferred route.

The literature review consists of two main sections. The first section will examine the literature on social theories of learning. The second section will describe how writing gains have been quantified and calculated. Put together, the literature review aims to show that writing is impacted by the complex web of interactions that make up one's social experience. Finally, what will result is a unique picture of the journey that international graduate students embark on in the first year of graduate school.

2.2 Theoretical Framework - Social Theories of Learning

Early L2 theorists viewed L2 acquisition as purely a cognitive process (Brown, 1973; Dulay & Burt, 1973; Larsen-Freeman, 1976), documenting aspects of language acquisition such as the order of morpheme development. One of the prominent L2 theorists, Diane Larsen-Freeman, acknowledged her beginnings in SLA theory as a cognitivist, but became "disenchanted" with its limitations:

> While I certainly endorse a role for cognition in SLA, over time I became disenchanted with the limitation of this focus. Although the factors thought to influence SLA kept multiplying, no greater understanding seemed to result. Experimental designs attempted to control for all factors except the one

> hypothesized as causal. Not only was such research of suspect *ecological* validity, it also rested on the questionable assumption that a single factor caused some effect. To me this denied the commonsense understanding that SLA processes were *complex*, *situated*, and likely *multivariate*. (Larsen-Freeman, 2011, p. 48-49, italics added)

Larsen-Freeman, and other scholars, began to look beyond cognition in order to understand L2 acquisition. Moving away from the purely cognitivist approach is one that both acknowledges the importance of cognition, but also recognizes other factors such as the social environment. The *sociocognitive* approach (Atkinson, 2002; Atkinson et al., 2007; Lantolf, 2010; Batstone, 2010) recognizes the roles that the mind, body, and world play in language learning. Atkinson et al. (2007) state their argument for the sociocognitive approach in three stages:

> 1. If language is crucially a form of social action and/or a tool for performing social action, then it must be learned in, for, and by virtue of the social world
> 2. Yet the term *social* is problematic here - as part of a larger, historically constituted *mind* versus *world*, *psycho*- versus *socio*-, *internal* versus *external* dichotomy, the cognitive and the social have been diametrically opposed
> 3. We do not accept this dichotomy as an adequate description of reality. Instead, we seek to view mind, body, and world relationally and integratively, as constituting a continuous ecological circuit. (p. 170)

This argument of rejecting the mind/world dichotomy, and rather viewing the mind, body, and world as continuum, or "continuous ecological circuit" fits well within the current study of international graduate students at an U.S. university. The current study acknowledges that the university setting is inherently social in nature, where knowledge is shared through interpersonal communication in the classroom, during office hours, in the hallways, in the cafeteria, etc. Moreover, the extent to which the students can align themselves with their social environment will determine their learning outcomes. Essentially, Atkinson et al. (2007) argue for an

integrative approach, which acknowledges the mutual impact and influence of mind, body and world. Considering social factors while simultaneously moving away from the purely cognitivist approach presents both a more complex and accurate approach to language learning. The sociocognitive approach theorizes that language learning does not solely happen in the brain, but rather through an *alignment* of the mind, body, and surrounding world (Atkinson, 2007). Watson-Gegeo and Nielson (2002) concur, saying, "cognition *originates* in social interaction. Constructing new knowledge is therefore *both* a cognitive *and* social process" (p. 156). Duff and Kobayashi (2010) continue in a similar vein:

> Learning (cognition), knowledge, socialization, and participation are different facets of the same experience - the development of the human mind (gaining knowledge, expertise) and the enablement of linguistic action in society - reflecting processes and understandings that are distributed across many co-participants or members in a community (or across many communities) both diachronically and synchronically. (p. 77)

What is striking about the preceding quote is how these major concepts are linked and tied together through the central focus of the development of the human mind. In terms of second language writing, language learning and knowledge are part of the internal processing, while the socialization and participation are external, yet both are co-occurring and mutually impactful. Because of the social nature of the university, the sociocognitive approach in SLA provides a valuable theoretical framework for the current study.

Another valuable and related framework that will provide theoretical underpinnings for this dissertation is the ecological approach (van Lier, 2000; Kramsch, 2003; Kramsch & Steffensen, 2008; Firth & Wagner, 2007). Coming from the ecological approach, Kramsch and Steffensen (2008) write that second language acquisition is viewed as:

> an emergent phenomenon, triggered by the availability of *affordances* in the environment, heavily dependent on an individual's perception of these

> affordances and his/her willingness to participate actively in their use. (p. 23, italics added)

The ecological approach provides the concept of *affordances*, which is a concept borrowed from psychologist James Gibson. Affordances are broadly defined as something that "...affords further action (but does not require it)" (van Lier, 2000, p. 252). For example:

> A leaf can offer very different affordances to different organisms. It can offer crawling on for a tree frog, cutting for an ant, food for a caterpillar, shade for a spider, medicine for a shaman, and so on. (van Lier, p. 252)

In connecting this concept to language learning, van Lier (2000) writes:

> The linguistic world to which the learner has access, and in which she becomes actively engaged, is full of demands and requirements, opportunities and limitations, rejections and invitations, enablements and constraints - in short, affordances. (p. 253)

Through the concept of linguistic affordances, I will begin to examine these different pieces of the student's ecological environment to see where social, linguistic, and emotional support are coming from.

2.3 The Social Environment

From the theoretical standpoint of the sociocognitive approach and language ecology, I now turn to more concrete aspects of a L2 learner's social environment. This section will cover specifically the concepts of community of practice, discourse community, and networks.

As mentioned in chapter 1, learning takes place in a social context through interactions with people within a *community of practice*, defined by Wenger (2002) as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area *by interacting on an ongoing basis*" (p.4, emphasis added). The three criteria that must be met in order to be a community of practice include

mutual engagement, *joint enterprise*, and *shared repertoire* (Wenger 1998). *Mutual engagement* entails that members of the community of practice are not merely connected through books and artifacts, but rather are actively engaging with each other, whether in person or in virtual spaces. It is through mutual engagement that the community is maintained and advanced. *Joint enterprise* connotes that members within the community of practice are negotiating with each other, holding each other accountable, and responding and adapting to new situations, all with the tacit understanding that the community shares similar goals, purposes, and pursuits. Finally, *shared repertoire* indicates that the community of practice has a shared understanding of the types of books, ways of speaking, materials, artifacts, tools, etc. that hold meaning for the members (Wenger,1998). In order for a community of practice to exist over time, new members must be introduced and take on roles within the community by engaging in *legitimate peripheral participation* (Lave & Wenger 1991; Wenger 1998), whereby junior members learn the norms of the group from senior members. This term is a positive one and is central to Wenger's theoretical model *situated learning*. Examples of communities of practice are abundant and come in many forms (see Lave and Wenger, 1991, for examples in Yucatec Mayan midwives in Mexico, Vai and Gola tailors in Liberia, and butchers in US supermarkets, among others). The theory of *apprenticeship learning* is the underlying concept. As the term community of practice can be broadly applied, I will next turn to studies that have used communities of practice in educational settings.

In the context of graduate level classes, Kim (2011) used the framework of community of practice in order to investigate the ways in which international graduate students felt excluded from classroom practices. The findings from this study suggest that international graduate students generally felt excluded because the classroom practices were not always clear. For example, one of the students, Jung-Hun, in the Kim (2011) study did not understand the purpose of giving oral presentations or having group discussions. Jung-Hun had difficulty focusing when the other students presented, and did not feel like other students were paying

attention to him when he gave his presentation. As a result, the purpose of the classroom practice of discussion groups and oral presentations was not clear to Jung-Hun, which left him feeling excluded (Kim, 2011). Another student in Kim's study, Kao, was a Chinese male in the social sciences who was still a newcomer in the community of practice. Kim (2011) wrote about Kao:

> Kao did not know what was expected in the situation and thus missed the chance to engage with others. Such experiences commonly made participants lose confidence… As newcomers, participants in this study were in unfamiliar territory and felt that they lacked competence. (p.290)

Kao perceived the question that the professor was asking as being too easy, so he did not answer it. When another student answered and received praise, Kao realized that he had missed an opportunity. In this sense, Kao had the necessary knowledge to engage in the classroom discussion, but lacked a sense of knowing when it was appropriate to respond, so he was not yet able to engage in legitimate peripheral participation. The process of participation was modeled for him by other students, so Kao was learning how and when to make responses in class. Cho (2004) corroborates Kim's findings, as Cho (2004) found that much of the participation of international graduate students was *peripheral*. International students in the Cho (2004) study felt marginalized because of their non-native English speaker (NNES) status and their novice researcher status. In another study, Montgomery & McDowell (2009) observed that the international community at a university in the U.K. formed a community of practice, where support was self-sustained within the community. International students reported helping each other with academic tasks by forming discussion groups and sharing notes, and also in social situations by helping each other with problems associated with day-to-day life. International students who had spent more time in the UK passed on knowledge to newer students. For example, an Italian student from the Montgomery & McDowell (2009) study reported, "if I have a serious problem, I have spoken with Bridden. You know, just to get his opinion he's been living

longer in the UK" (p. 461). Ultimately, Montgomery & McDowell use the community of practice framework to argue against the implicit idea that international students are inherently disadvantaged because of cultural difference and language difficulties. Instead, one of the purposes of the community of practice like the one described in their study, was the "reconstruction of the social capital that the students lose through their transition to the United Kingdom" (Montgomery & McDowell, 2009, p. 464). Montgomery & McDowell (2009) note that:

> The suggestions that international students 'don't want to mix' or 'like to stay with their own nationality' are sometimes made by staff and other students, and these criticisms extend into the classroom with comments such as, 'they don't contribute to class discussions,' and 'they are reserved in class'. (p. 455)

These types of comments contribute to what Montgomery & McDowell refer to as the deficit model that is often projected onto international students, and may have detrimental effects on the students. The current study acknowledges the process of co-nationalization as one that serves the needs of the students in a manner that is immediate and accessible.

What follows is an example from one of the peripheral participants (not a focal student) in the study to exemplify a community of practice. Lucy is a Taiwanese graduate student who studies Veterinary medicine. Lucy has family, who are culturally Taiwanese, including an uncle, an aunt, and her sister, who live near the Bay Area. Lucy had been to the U.S. a few times to visit her family, and another time on exchange as a student in North Carolina. As a result, Lucy had had exposure to the host language and culture. Still, Lucy recognizes the importance of connecting with co-nationals for support, as shown in the following excerpt from the fall quarter interview.

> **Daniel**: Have you made some friends in Davis?
>
> **Lucy**: Yes. But most of my friends are Taiwanese, actually, because we have association, a Taiwanese grad student association, so we hang out a lot. But it would be great if I have a more chance to hang out with my American friends, so

like I speak more English? My best friend here is my roommate. She's also Taiwanese though. We met here but we've contacted each other when we were in Taiwan when I was looking for a roommate in Taiwan.

Daniel: Can you tell me more about the Taiwanese student association? Like what kinds of activities do you do together?

Lucy: Yes, they have some welcome party for new-coming students and sometimes they have, they hold some activities such as skiing, Lake Tahoe or hot pot party, something like that, the Chinese kind of party for dumplings. So it's pretty fun.

Daniel: Okay, so they do lots of, lots of social things.

Lucy: Just like a big family here, and everyone is very close to each other.

Daniel: And there's like people who have been here for a while and they kind of help the people who just are moving in—

Lucy: Yeah. For housing or bike. Any suggestion like for insurance. But sometimes we have the optometry thing, right? It's pretty complicated for new students so they give us instruction.

Daniel: So it's, so that's been pretty helpful for kind of adjusting to the university environment here?

Lucy: Yeah, so we can help the next, next new-coming students afterwards.

She is a part of the Taiwanese student association, which forms a community of practice whose purpose is both social in nature and agenda driven, the agenda being to help Taiwanese students acclimate to life in Davis. This student group has an online presence, which is where Lucy found her co-national roommate. In addition, the student association has welcome events for new students, as well as ongoing social events. These social events serve as the conduit through which social interaction occurs, and where more experienced students can help less experienced students navigate the local culture. Lucy mentions how this community can be

called upon for help finding out information about bikes, insurance, and which optometrist to go to. For an international student who has enormous academic responsibilities, having such a community would seem to be immeasurably beneficial. Instead of each student individually having to navigate a new system as a new student, the Taiwanese student association provides a built-in system for dispersing information to its members. Lucy even refers to the association as a "family", suggesting that these fellow students share camaraderie, friendship, and trust. Lucy mentions something significant at the end of this excerpt, that "we can help the next, next new-coming students afterwards". So, as new members participate in legitimate peripheral participation, through these social events and asking for help along the way, they become expert members in the group and are able to help the next batch of students. In this sense, the Taiwanese student group is an incredible asset for Taiwanese students. Additionally, gaining membership to this community seems to be easy if a student is from Taiwan. Nevertheless, having a roommate, who is also a best friend, from the same country as Lucy, and being heavily involved in the Taiwanese community, limits her opportunities to speak in English. As she says, it would be nice if she had more time to spend with her U.S. friends, suggesting that she has contact with U.S. people, but at the same time does not spend much time with them.

Another component of the complex social environment of international graduate students is the academic discourse community. Flowerdew (2000) defines a discourse community as "a group of people who share a set of social conventions that is directed towards some purpose" (p.129). While this definition provides a starting point, Swales (1990) demonstrates that loose definitions of discourse community lose value without a clear set of criteria. To constitute a discourse community, the following characteristics must be in place:

1) set of common goals
2) channels of communication
3) exchanges of information and feedback
4) specific communicative genres

5) specialized vocabulary

6) a threshold of expert members (Swales 1990)

Discourse communities are not strictly limited to academic settings, although the concept lends itself well for purposes of study within academic environments. For example, a specific discipline, say Astronomy, has the shared goal of exploring outer space, communicates via peer reviewed journals, exchanges information through conferences and classes, adheres to agreed upon genre conventions, has a specialized vocabulary, and has enough experts to sustain the field. A graduate seminar, on the other hand, would not hold as a discourse community in itself, but is likely a local instantiation of a discourse community.

As for the process of entering a discourse community, Angelova & Riazantseva (1999) note that gaining membership entails learning both the writing conventions and the greater social practices of the discourse community, likening the process of gaining membership to an "identity kit" (p.492; see also Gee, 1990), although successful initiation into the discourse is more likely to be judged primarily by writing (Schneider & Fujishima 1995).

Flowerdew (2000) expresses a link between learning the genre conventions of a discourse community and learning appropriate research methodologies, suggesting that learning to write appropriately within a genre is indicative of more than just knowing the conventions of that genre. Also, in the context of writing in a discourse community, Cho (2004) writes as a NNES about the NNES graduate student plight in gaining membership to a discourse community through publishing. In her study of 4 doctoral students, Cho found that a major theme in gaining membership to a discourse community through writing involved assistance from native speakers, often in the form of co-authoring. Sometimes co-authoring was found to be problematic because of the unequal power dynamic between native English speakers (NES) and non-native English speakers (NNES). That said, Cho's research participants generally found the process of co-authoring beneficial, and not just as a means of having a NES as a proofreader. Participants reportedly enjoyed having a co-author to

exchange ideas and share the workload, as well. Casanave (1995) highlights the importance of examining *situated writing*, which includes the writer's local context (factors that directly affect the writer). These local factors include interacting with people (professors and colleagues), interacting with the system of training (professor and student ideologies), and interacting with the writing tasks (genre) (Casanave, 1995). To better understand the concept of discourse community in the present study, I will look at some data from the current study. A Chinese (male) student who participated in the survey (not a focal student) responded to the question about his experiences interacting with NESs in academic settings. His response was:

> Since we talk about the stuff that I have already know, it's much easier to understand them. Also, I can explain to them more than listening their idea, because I am better at academic areas. (fall survey)

This student brings up the point that because they are talking about academic material in his field, it is easier to discuss the subject manner. In other words, the student felt more comfortable speaking and being understood within his discourse community. This is an important point as the discourse community plays an important role in the student's socialization process.

It should be noted that many of the studies refer to both discourse community and community of practice in their research framework, showing that the two can be used in concert with one another. Both concepts of community of practice and discourse community will be applicable to the present study, yet neither one is wholly suitable for what I will be researching. International graduate students may very well be a part of their respective greater academic discourse communities at the onset of their program (from their home university), but are still transitioning to an English-centered academic discourse community (in the US university). International graduate students are also assimilating to the norms of their program and becoming members of their community of practice (under the guidance of an advisor) through legitimate peripheral participation.

In addition to communities of practice and discourse communities, social networks are another facet of the student's social environment. Social networks refer to the friendships that the students form. Hendrickson et al. (2011) report that the friendships that international students develop have been found to be "one of the most important factors of acculturation, satisfaction, contentment, social support, and success for international students studying in foreign universities" (p. 282). Social networks may have the property of *density* and/or *multiplexity* (Milroy, 1980). The measurement of *density* reflects the extent to which members within the network know each other and interact, while *multiplexity* measures the number of different ways in which the focal point knows each member of his/her network (Milroy, 1980). For example, the relationship with a neighbor who is also a relative and a coworker would be considered a multiplex relationship. Bochner et al. (1977) conducted an early study about international undergraduate students and the social networks that they form. In their study of thirty international students from Japan, Korea, the Philippines, Taiwan, and Thailand, they had the participants identify their 5 closest friends, and then asked the participants which friend they would choose to accompany them in a variety of activities. The researchers found that three thematic networks appeared, each with a particular function, which they refer to as *the functional model:*

> *a)* A co-national network whose function is to affirm and express the culture of origin; *b)* a network with host nationals, whose function is the instrumental facilitation of academic and professional aspirations; and c) a multi-national network whose main function is recreational. (Bochner et al., 1977, p. 277)

It is called the functional model because each network serves a particular purpose. Bochner et al. (1977) found that the international students' friendship networks consisted of 43% co-nationals, 29% host culture, and 27% other culture. Five out of 30 students in their study did not have any U.S. friends. While the three types of social networks that Bochner et al. (1977) describe are useful, the researchers fall short of acknowledging the full complexity the student's

social environment. It is not until the 1980's and 1990's when research around communities of practice and discourse communities becomes prevalent, thereby providing a more nuanced approach at describing one's social environment. The fact that the researchers associate each network with an exact function results in undervaluing the role of networks in the lives of international students. The data presented in the current study will show that co-national networks serve a greater function than affirming and expressing the culture of origin. Rather, co-national networks serve multiple functions, ranging from emotional support to academic support.

Subsequent studies (see Hendrickson et al., 2011; Maundeni, 2001; Furnham & Alibhai, 1985; Collins, 2008; Rajapaksa & Dundes, 2002) also examined the types of social networks the international students join. Hendrickson et al. (2011) studied 86 international students at the University of Hawaii, using a social connectedness scale (Lee & Robbins, 1995), homesickness and contentment scale (Shin & Abell 1999), satisfaction with life scale (Pavot, Diener, & Suh, 1998), along with a friendship network grid (Hendrickson & Rosen, 2009). Hendrickson et al. (2011) conclude from their findings that host national friendships play an essential role in the "cross-cultural adaptation process" (p. 292), yet somewhat counteract their conclusion by noting that "it is quite possible that more satisfied, content, less homesick, and connected individuals are better at making host national friends" (p. 291). While the literature readily recommends that international students interface with and befriend host nationals (Trice, 2004; Lacina, 2002), studies regularly report that friendships between international students and host nationals are not the norm. Furnham and Alibhai (1985), in a study that took place in the U.K. reported that 56% of international students in their study did not have any host national friends. Maundeni (2001) found that some international students in their U.K. study reported feeling stressed from their network, because their network was a source of discrimination. Isolation from host nationals seems to be a common thread of the international student experience even though international students are commonly encouraged to mix with host nationals. Sawir et al. (2008)

found that out of 200 students that they interviewed, 130 (65%) stated that they experienced loneliness or isolation. Furthermore, a strong network, co-national or other, helped to mitigate the feeling of loneliness. 88% of the international students who experienced loneliness sought support from a friend when faced with feelings of loneliness (Sawir et al., 2008).

I was able to find only a few studies that explicitly investigated the link between social networks and academic literacy development, one of them being Ferenz (2005) in her study conducted in an EFL setting at a large Israeli university. Ferenz uses the term *writer's social network* to indicate the people with whom the writer talks about his/her writing, noting that:

> Acquisition of academic literacy, within an academic environment consisting of people, institutional settings, and learning materials (e.g. lectures, classes, readings) is said to be dependent upon the interactive relationships of students, teachers, advisors, and classmates, which make up the students' social environment. (Ferenz, 2005, p. 340)

Ferenz interviewed six graduate students and their advisors, showing that academically oriented writing social networks lead to better knowledge of genre and academic literacy, and non-academically oriented social networks lead to general literacy development. Crucially, Ferenz opens the door to exploring the connection between social network and academic literacy. This dissertation will look at the connection between social experiences and academic writing. For newly admitted International graduate students, social networks provide much more than just someone to confide in: networks are the source in which the individual learns about the host culture, how to fit in, and what the expectations are of their program.

An example from the data collected in the present study corroborates the theme of international students having difficulty connecting with host nationals. We return to Lucy, who spoke about the Taiwanese student association. In the same interview, I asked Lucy about her interactions with U.S. people communicating in English. I asked this question in order to get a

sense of whether or not there were barriers to communication. The following excerpt explains Lucy's interactions with native English speaking students.

> **Daniel**: Have you been able to make some U.S. friends as well?
>
> **Lucy**: Not really. I think we have very different cultural background, so all I can do with them is just basic talks. Because they talk a lot of the things that only Americans know when they're talking to each other, so it's hard for me to get involved in the conversation.
>
> **Daniel**: Can you give me an example?
>
> **Lucy**: I've went to several parties they held in their house or in school. Most of the time I am just there by myself and with my Korean friend, because we're all international students. And I know that Americans, they want us to join them, but sometimes I am uncertain what they are talking about. It's hard to get involved. But I try hard, and I know they are trying hard. Just I think we need some time. I think because now I'm not so familiar with them, so after, maybe after a few months later I will be more relaxed and I can say whatever I want to say. Now I'm kind of a little bit shy when I speak English in front of them.
>
> **Daniel**: So you're still in the transition period.
>
> **Lucy**: Yeah, it's quite a long transition. A quarter transition.

In this excerpt, Lucy mentioned that she was still shy about speaking English in front of U.S. people. She explained that it was hard for her to get into the conversation with U.S. people in social settings, for example at a party. She felt like she needed more time to adjust in order to get used to communicating in English, presumably because of both cultural and linguistic barriers that she needed to overcome. The good news is that she had access to interacting with U.S. people, which translated into more opportunities to speak. The question becomes, then, whether she was able to capitalize on those opportunities as a means of improving her English.

In sum, language learning, including second language writing development, occurs in a social environment with colleagues, friends, and professors, people who are native and non-native English speakers. Knowledge is passed on about grammar, genre, and other writing practices through mechanisms of feedback and dialogue. The student's social network, communities of practice, and discourse community create the student's social environment. Where the literature falls short is in acknowledging the direct link between the student's social environment and how the student develops as a writer. In the next section, I will review the literature on how second language writing development, including how writing has traditionally been measured and analyzed.

2.4 Second Language Writing in the Academy

In the academy, writing is held in high regard as a, if not the, quintessential skill needed to navigate a university program, be it undergraduate or graduate, study abroad or immersion, STEM field or humanities. Writing is the medium in which knowledge is demonstrated, documented, and passed on. This is especially true at the graduate level, where students are routinely expected to produce high quality work in the form of grant proposals, dissertation prospectuses, summaries, literature reviews, and more. Graduate students need to be versatile in a variety of genres, and pass through "transitional" or "rites of passage" genres (Casanave, 1998, p. 177), such as the dissertation prospectus. In the literature, genre is defined as:

> An economical way of acknowledging the interdependence of purpose, lines of argument, stylistic choices, and requirements arising from the situation and the audience. Genres are not only dynamic responses to circumstances; each is a dynamis—a potential fusion of elements that may be energized or actualized as a strategic response to a situation. In Form and Genre, Campbell and Jamieson defined genres as dynamic fusions of substantive, stylistic, and situational

> elements and as constellations that are strategic responses to the demands of the situation and the purposes of the rhetor. (Jamieson & Campbell, 1982)

Thus, all of such writing must be done using an *academic* tone, *academic* vocabulary, and grammatically complex sentence structures. Academic writing itself is a concept that is easy to recognize, but difficult to define. Leki (1995) recognizes that academic writing is a moving target, saying, "'good writing,' in fact, is shown to mean writing that meets particular requirements set for a particular readership at a particular time and place" (p.41). Because the absolute standard of academic writing is difficult to pin down, Leki conducted a study to find out which aspects of writing were important to readers with various backgrounds. In Leki's study, spelling, punctuation, word choice, and grammar were corrected so as to not affect rater judgment. There were 4 student essays, and the raters included 20 NES students, 29 teachers (ESL and English teachers). Leki (1995) concludes:

> When we as educators rely on writing assessments as part of the admissions or the graduate process in institutions or higher education, we tacitly assume, as do our institutions, that we have defined good writing and that we can, with confidence, recognize it. Assessments of these kinds invoke a **culturally defined and socially transmitted belief** in absolute standards of excellence. (Leki, 1995, p. 23, bold added)

Therefore, writing is not just words on a page that fit into a particular genre; rather these texts are *culturally defined and socially transmitted*. What exactly does it mean to write well? Leki (1995) writes that writing well is "an absolute category of performance apparently readily recognizable to the initiated, in this case, to the members of the academic discourse community" (p. 24). In this case, the experts in the academic discourse community are the ultimate arbiters for what counts as good writing. That said, good writing invariably differs depending on the field, the genre, and the reader.

However, academic writing is difficult to produce, especially for English language learners. L2 writers may be strong writers in their L1, yet struggle with academic writing in English. Angelova and Riazantseva (1999) suggest that the "underlying issue is not that students cannot write but rather that they think and write in ways different from the dominant discourses of U.S. academia" (494). Therefore, even if a student has the requisite knowledge to write about a particular topic, if he does not have adequate knowledge around genre, the text will likely be judged as unsuccessful. Swales (1990) discusses the issue that international students face when interfacing with academic genres in English:

> International students may find academic writing particularly challenging because genre conventions with regards to academic writing vary by language and educational context. Academic writing itself is a set of genres with fairly strict conventions and expectations that must be learned and practiced. (Swales 1990)

Simply put, genre must be both *learned* and *practiced*. While there might be an argument for encouraging students to maintain and build upon their writing competence in both their L1, with the hope that L1 genre competence will positive impact L2 genre development (Angelova & Riazantseva, 1999), that likely will not help students progress in the current state of the academy in the U.S. Canagarajah adds to the discussion by writing:

> To be academically literate in English, second language students have to acquire not only linguistic skills, but also the preferred values, discourse conventions and knowledge content of the academy. (Canagarajah, 1999, p. 147)

To participate and succeed in an academic discourse community, one must be able to produce written texts that follow the particular conventions of the accepted genres within that discourse community. Writing is particularly important for succeeding in graduate school; students need to be able to write acceptably in order to get through their coursework and advance to candidacy. Therefore, on top of performing in a variety of academic genres, students will inevitably encounter *gatekeeping* genres (Gosden, 2003; Cadman, 2002; Tardy, 2004), such as the

qualifying exam and the dissertation. In graduate school, papers tend to be longer, and students are expected to come up with original research projects[2]. The following section is dedicated to the literature around genre and writing features in second language writing.

2.5 Measuring Second Language Writing

We now turn to the literature on textual features and how to measure them in second language writing, which is an ongoing debate in the literature, and one that has serious implications. Ortega (2003) refers to this debate as "the quest for global indices of L2 proficiency" (p. 493). After all, the yardstick used for measurement will shape the findings, results, and recommendations of a particular study. First I will critically examine some widely used measurements in second language writing, and then I will discuss the measurements that will be used for the current study.

Errors, which have long been the yardstick to measure the degree of success of second language writers, will serve at the point of departure for the discussion on measuring writing. Ferris (2011) defines errors as "morphological, syntactic, and lexical forms that deviate from rule of the target language, violating the expectations of literate adult native speakers" (p. 3). If errors are rule deviations, then perhaps it could be deduced that fewer errors is equivalent to more native like acceptability. It turns out not to be so simple. An L2 writer who produces complex sentences may have an increased amount of errors compared to an L2 writer who produces less complex sentences. Or, it is possible that certain errors decrease in frequency while others increase. Error frequency, then, is not an indicator of the quality of writing. Also, articles and prepositions are late, if ever, fully acquired, so error frequency counts that include articles and prepositions may be misleading, especially for lower level writers. Which errors, then, are worthy of focus? Word choice errors, verb tense and verb form errors, and sentence

[2] Students in Computer Science and Statistics tended not to have substantial writing requirements for their classes.

structure errors (missing words, unnecessary words, and word order) may be more valuable for discerning L2 writing proficiency. These errors are considered to be global errors (Lane and Lange, 1999; Ferris, 2002), that is, errors that affect the reader's ability to understand the meaning of the sentence. Written texts with myriad global errors tend to be harder to comprehend. A reduction of global errors will likely render the student's writing more understandable; however, errors alone do not serve as an adequate measurement of writing.

Another well-used measurement in second language acquisition involves the use of T-units. T-units analyses were popularized in the 1970's by Scott & Tucker (1974), Gaies (1976), and Larsen-Freeman & Strom (1977), and have served to provide a cohesive way of operationalizing *Complexity Accuracy Fluency*, which will be discussed shortly. Larsen-Freeman (2006) defines a *T-unit* as the "minimal terminal unit or independent clause with whatever dependent clauses, phrase, and words attached to or embedded within it" (p.597). Larsen-Freeman operationalizes *grammatical complexity* as "average number of clauses per T-unit", *accuracy* as "the proportion of error-free T-units to T-units", and *fluency* as "average number of words per T-unit" (p.597). With grammatical complexity, therefore, complex sentences are valued and simple sentences are devalued. On the surface, this makes sense, as having a text full of simple sentences would not fit the academic writing ideal. As academic writing favors complexity, using Larsen-Freeman's grammatical complexity measurement would seem to be useful for measure writing gains. However, Biber et al. (2011) view clausal complexity as a more apt measurement of speaking rather than writing. Biber et al. (2011) argue against using T-units, as in the following excerpt:

> T-unit-based measures assume a single cline of phenomena: simple versus complex. The simple pole of this cline is uncontroversial: clauses with only a single verb phrase, no dependent clauses, and no clausal or nominal modifiers. The problem comes in defining the complex pole of the cline, because there are actually many different ways in which a clause can depart from the simple ideal.

Thus, compare the following two natural sentences, the first from a conversation and the second from a university textbook.

1. Well [since he got so upset], I just didn't think [we would want [to wait for [Tina to come back]]]

main verb: think

T-unit length: 20

number of dependent clauses per T-unit: 4

2. This may be part of the reason for the statistical link between schizophrenia and membership in the lower socioeconomic classes.

main verb: be

T-unit length: 20

number of dependent clauses per T-unit: 0 (Biber et al., 2011, p. 13-14)

Biber et al.'s (2011) argument that emerges from this pair of example sentences is that the structural properties of different sentences may be markedly different even though they share the same T-unit length. In other words, T-unit length masks rather than reveals important grammatical features of a sentence. If these sentences were measured on complexity based on T-unit length alone, I would conclude that they are equally complex (T-unit length of 20). If these sentences were measured on grammatical complexity based on T-units, sentence 1 would be considered to be more complex than sentence 2. Biber et al. (2011) considers the conclusion that sentence 1 is more complex than sentence 2 to be wrong, and therefore the measurement is flawed. Fluency, measured by number of words per T-unit (Larsen-Freeman, 2006), provides a rough gauge of proficiency level of the English language. Higher level English users produce longer T-units, and therefore T-unit length has been used as a measure of L2 writing development. Similar measurements, such as MLU (mean length of utterance), have been used as well. The following table shows the growth of MLU corresponding to language proficiency in the British National Corpus (Hawkins & Filipovic, 2012). The levels A2, B1, B2,

C1, and C2 correspond to the proficiency levels in the Common European Framework of Reference (CEFR).

Table 1: CEFR level and MLU (from Hawkins and Filipovic, 2012)

	Level	MLU
Basic user	A2	7.9
Independent user	B1	10.8
	B2	14.2
Proficient user	C1	17.3
	C2	19.0

The table above shows a clear relationship between the proficiency level of the user and the MLU. This measurement will be used in conjunction with other measurements in this study.

A feature of academic writing is certainly *complexity*, but from what was shown above, the operationalized definition of clausal, or grammatical, complexity (clauses per T-unit) has some drawbacks, if used on its own. In particular, a T-unit may have multiple clauses, but that says nothing about the length or quality of the clauses (Biber et al., 2011). A yardstick measuring clausal complexity favors subordination, yet subordination alone is not a marker of academic writing. What then would be a better measurement for writing development? Parkinson and Musgrave (2014) suggest measuring complexity at the phrasal level instead of the clausal level. In the Parkinson and Musgrave (2014) study, two groups of international students were compared. Group 1 consisted of 21 students in an English Academic program (EAP), who had a lower proficiency level of writing, and group 2 consisted of 16 MA TESOL students, who had a higher proficiency level of writing. Each group produced a text that was

written in an academic register. The EAP students wrote an argumentative essay, while the MA TESOL students wrote responses to questions about issues in TESOL. The researchers focused on noun modification in each group, in particular noun pre modification and noun post modification. In particular, nouns can have pre-modification in the form of attributive adjectives, participles, and with other nouns. Nouns can have post-modification in the form of relative clauses, prepositional phrases, -ed clauses, -ing clauses, appositives, and to-infinitive clauses. The possible components of a noun phrase include the following elements:

> Determiner + (premodification) + head noun + (postmodification and complementation) (Biber et al.., 1999)

Determiners are left out of the equation for what counts as a modifier for a noun phrase. Parkinson and Musgrave (2014) elaborate on what exactly counts as pre modification and post modification by giving explicit examples:

> "Premodifiers include adjectives (nuclear power), participles (living things) and nouns (safety measures). Postmodifiers include relative clauses (people who live near a nuclear facility), ing-clauses (countries using nuclear energy), ed-clauses (problems associated with coal and oil), to-infinitive clauses (material to build a nuclear weapon), prepositional phrases (the cost of electricity), noun-phrases in apposition (a boiling water reactor (BWR), and complement clauses (the fact that nuclear technology threatens global peace)" (p. 49).

The main finding is that group 1, the novice L2 writers, relied more heavily on pre-modification, specifically with attributive adjectives, while group 2, the advanced writers, utilized significantly more post-modification. The primary findings are shown in the following bar graph. Also shown in the graph below is the rate of pre and post noun modification in academic prose, which serves as the target for features of successful academic writing (see figure 2).

Figure 2: From Parkinson & Musgrave (2014)

The trends about how the writing of novice and advanced second language students compare to published academic prose are illuminating. Novice writers rely predominantly on attributive adjectives, as those are the least grammatically complex elements to add to a noun phrase. The advanced writers, meanwhile, have rates of pre and post modification that more closely resemble the rates of academic prose. The rates of pre and post modification in published academic prose provide insight into positive features of noun phrase complexity. Parkinson and Musgrave (2014) conclude that:

> There is evidence that this complexity is increasingly constructed in the noun phrase as writers develop along an academic path (Biber, Gray, & Poonpon, 2011; Lu, 2011). For university students therefore, the ability to pack meaning into the noun phrase, and to make their text nominally rather than clausally complex, becomes increasingly important. (p. 48)

If noun phrase complexity measures can discriminate between novice and advanced writers, as in the Parkinson and Musgrave (2014) study, the logical question is whether the measurement of noun phrase complexity can be used to measure progress or growth for a particular writer over time. There are many aspects of the noun phrase that can be measured. Biber and Gray (2011) discuss the five grammatical devices in noun phrases that are "especially important" in academic writing, which are: nominalizations, attributive adjectives, nouns as premodifiers, prepositional phrases as nominal postmodifiers, and appositive noun phrases, while Parkinson (2015) highlighted the importance of noun-noun collocations in L2 writers. Another measurement that has been used to show discrimination among proficiency levels is the mean number of *words before the main verb* (McNamara et al., 2009). Following the call from researchers (Biber et al., 2011; Parkinson & Musgrave, 2014; McNamara, 2009) to focus on noun phrase complexity, I have chosen several measurements that are indicative of noun phrase development. These measurements were obtained using Coh Metrix (Graesser et al., 2004), which is an online tool that provides a wide variety of measurements for textual analysis.

Specifically, the measurements that will be used in this study include modifiers per noun phrase, noun phrase density, and left embeddedness.

Thus far, complexity measures have been operationalized through analyzing elements at the clausal level and within the noun phrase level. We now turn to the topic of complexity at the lexical level. *Lexical complexity* measurements vary widely, so in this section, I will highlight measurements that are relevant to the current study. A well-used measure of vocabulary development is type-token ratio (Engber, 1995), which measures lexical variation. This measurement is calculated by number of unique words in a given text divided by total number of words in that text. Graesser et al. (2004) provide the following definition of type-token ratio:

> Each unique word in a text is a word *type*. Each instance of a particular word is a *token*. For example, if the word *dog* appears in the text seven times, its type value is 1, whereas its token value is 7. The type:token ratio is the number of unique words divided by the number of tokens of the words. When the type:token ratio is 1, each word occurs only once in the text; comprehension should be comparatively difficult because many unique words need to be encoded and integrated with the discourse context. A low type:token ratio indicates that words are repeated many times in the text, which should generally increase the ease and speed of text processing. (p. 198)

There are some shortcomings to this measurement: as Laufer (1994) points out although this measure successfully shows lexical variation, it should not be taken to mean the same thing as lexical richness as this measure does not detect lexical *sophistication*. Lexical sophistication is a ratio of number of advanced tokens (AWL and off-list words) to total number of lexical items (Laufer & Nation, 1995). A text may have more varied vocabulary, yet still have a lower level of sophistication.

In response to the limitations of type-token ratio, Laufer & Nation (1995) developed a more sophisticated instrument aimed to quantify *lexical richness* in L2 writing through their

proposed Lexical Frequency Profile (LFP), which “can show the extent to which writers are making the fullest use of their available vocabulary knowledge” (p.308). The LFP is expressed in four categories: words that fall in the top 1000 most frequent words, second 1000 most frequent words, words from the academic word list (AWL), and off-list words, where each category is a percentage calculated by the ratio of word types over total words in a composition, so the sum of the four word type categories adds up to 100%. In essence, an analysis of LFP will yield a writer’s proportion of words at different frequency levels. The AWL, developed by Coxhead (2000), includes 570 word families, and makes up about 10% of the words found on a large database of academic texts (Hyland & Tse, 2007). This list serves as a useful tool for researchers, practitioners, and students alike, as effectively using words on the academic word list contributes to a text fitting within the academic register. Academic vocabulary can be the most challenging category because these words are not explicitly addressed or defined by professors (Hyland & Tse 2007), although speakers of some languages may have an advantage as they can often rely on cognates to understand meaning. Hyland and Tse (2007) also point to the utility of the off-list percentage, as words that category are best representative of field specific jargon. In the present study, lexical complexity measurements will include the lexical profile, type-token ratio, and lexical sophistication.

2.6 Summary

The literature review section has explored the various ways that researchers have conceptualized social theories of second language writing. English language learning for international graduate students is *situated* (Lave & Wenger, 1991; Wenger, 1998; Casanave, 1995), occurs in local contexts (Casanave, 1995)), and happens in the mind, body, and surrounding world (Atkinson et al., 2007). Consequently, the students’ social environments will have ramifications on academic literacy (Ferenz, 2005). Also, international graduate students must overcome linguistic, social, and cultural difficulties as they transition to a new lifestyle in

the host country. In terms of writing, this chapter covered aspects of genre and L2 writing measurements, which includes grammatical, phrasal, and lexical complexity. These three complexity measurements, taken together, will help provide a means to describe the student's writing.

2.7 Research questions

The current study finds itself at the intersection of two different sets of literature: social and cultural adjustment and second language writing development. Most of the studies in the literature come from study abroad students and undergraduate students, and few deal with graduate students. Because the current study focuses on graduate students, this study will contribute to the overall body of knowledge in second language writing, as graduate students have distinct needs and must meet distinct expectations. In the realm of social and cultural adjustment, studies have identified many of the trouble spots that international students face, which may lead to stress and affect overall well-being. Where these studies fall short is linking these factors to language development, specifically academic writing. As such, the research questions that guide the current study are:

RQ 1: What types of social and academic networks do first year international graduate students develop?

RQ 2: Who is a part of the international graduate student's writing support network? How do international graduate students utilize this network?

RQ 3: Over the course of the first year, how much does academic writing improve for international graduate students? What does this improvement look like?

RQ 4: What is the relationship between social/academic networks, writing support networks, and writing development?

Research question 1 asks about the social environment of international graduate students, and will be explored in chapter 4. Research question 2 asks about the people in the student's social environment who specifically proved writing support to the student, corresponding to the topic in chapter 5. Research question 3 will look at the student's text throughout the year in the context of the student's social environment, and will be explored in chapter 6. Finally research question 4 brings together the first 3 research questions, and will be explored throughout the dissertation, but mostly in chapter 7. Through these overarching research questions, this dissertation will contribute to the Second Language Writing literature in several ways. First, the results from the study will create a more nuanced understanding of who our international graduate students are and how their development, socially and linguistically, unfolds over their first year of graduate school. Knowing the developmental path of these students could help inform how the university shapes its testing, curriculum, orientation, and resources provided to the students. This study includes 46 students from the first quarter ESL class at UC Davis. Special attention will be paid to four focal students, who have been chosen based on criteria that will be explained in chapter 3. While these focal students certainly do not represent all international graduate students, they will illuminate a range of diverse experiences that are found within the international graduate student community. Using four focal students allows for an in depth view of the developmental path, both socially and linguistically.

Chapter 3: Methodology

3.1 Introduction

Research on international students has repeatedly acknowledged the importance of co-national, host national, and multi-national friendship networks for various aspects of the student's experience (Bochner et al., 1977; Furnham & Alibhai, 1985; Maundeni, 2001; Hendrickson et al., 2011), including mitigating loneliness and isolation (Sawir et al., 2008), acculturation (Trice, 2004), and academic success (Glass & Westmont, 2014; Abell, 2002). The literature has shown that there is a link between the social environment of the student and learning outcomes (Myles & Cheng, 2003; Ferenz, 2005). However, the methods used to conduct the research in the field of Second Language Acquisition are varied. In evaluating the impact of the social environment on language development, researchers have used case studies (Seloni, 2012), interviews (Sawir et al., 2008; Ferenz, 2005; Myles & Cheng, 2003), questionnaires (Hendrickson et al., 2011; Furnham & Alibhai, 1985), classroom observations (Seloni, 2012), and shadowing (Montgomery & McDowell, 2009). While researchers may be asking similar questions within the same field, the way in which the data were collected, and where the data come from, will affect the interpretation of the findings and conclusions. The methodological choices made by researchers in the field, as well as the methodological choice made in this dissertation, will be considered in this chapter. This chapter will also cover background information about the site, the participants, and the researcher.

3.2 Site Selection: The lay of the land

The University of California, Davis was chosen as the site for this study for several reasons, including its convenience and my experience working with students at this site. The university is also held in high regard as a public institution, ranking as the best school in world for veterinary medicine (UC Davis website), best school in the nation for agriculture (UC Davis website), and 10th best nationally for overall public university (UC Davis website). UC Davis

has a total enrollment of approximately 35,186, of which 28,384 are undergraduate students (Best Colleges, U.S. News), and its international student population currently, at the time of writing this dissertation, stands at 15% (www.timeshighereducation.com). The UC Davis website describes Davis as follows:

> The city of Davis is the quintessential college town. Davis is safe, environmentally friendly and children of graduate students attend one of the best school districts in California. The location is ideal – the campus is next door to the diverse metropolitan state capitol of Sacramento, as well as being close to the beautiful Sierra Nevada mountains, Lake Tahoe, the Napa Valley wine country and the San Francisco Bay Area. The campus offers limitless recreational opportunities, including a state-of-the-art recreational facility, performing arts center, miles of bicycle trails, an arts and crafts center, and much more. (gradstudies.ucdavis.edu)

Historically, the university has its roots in agriculture and farming, and originally served as an extension of UC Berkeley. UC Davis became a general campus in 1959, while maintaining its strength in agricultural programs. The campus now boasts 104 undergraduate majors and 99 graduate programs, the majority of which are interdisciplinary (UC Davis website). The majority of the graduate programs, and correspondingly the majority of graduate students, is in STEM fields (Science, Technology, Engineering, and Math). This is especially true for international students, who drastically favor STEM fields, with a small percentage of international students enrolling in Social Sciences, and even fewer in the Humanities.

The university website highlights its “global focus”, stating that, “We welcome international students, offering many services to help students achieve, including language programs for undergraduate and graduate students, and classes that connect you to UC Davis’ culture”. In terms of community, the university website goes on to say,

> "Make your choice from more than 800 student clubs including academic groups, 70 fraternities and sororities, student government, and ethnic and cultural organizations… We've got 23 intercollegiate athletics teams (14 for women, 9 for men); 27 intramural teams and 39 sport club teams."

Information about the campus and the city provide important context about the students' environment. In the next section, the specific class from which the students were recruited will be described.

3.2.1 Linguistics 25: English for International/ESL Graduate Students

An international student at UC Davis largely does not have an opportunity to take English classes on site before their program begins. For the vast majority of the international graduate students who take an ESL course on site, the first course is Linguistics 25: English for International/ESL Graduate Students. Students who are placed or directed to Linguistics 25 (hereafter "LIN 25") either scored less than 90 on TOEFL iBT[3] or received a "no pass" score on the English placement exam (see Moglen 2015). The course description for LIN 25, from the UC Davis course catalog, reads as follows:

> Lecture/discussion—4 hours. Prerequisite: admission by placement examination or consent of coordinator; open to international and ESL graduate students and limited status international undergraduates (Education Abroad Program participants). Multi-skills ESL course designed to help international/ESL students improve their English language skills for successful academic study. Emphasis on writing, speaking, listening, reading, and academic culture. (P/NP grading only.) (UC Davis Catalog)

[3] The TOEFL iBT (Test of English as a Foreign Language) has four sections (Speaking, Writing, Listening, and Reading). Each section is worth 30 points, so the test has a maximum score of 120.

LIN 25 classes are taught by a variety of instructors, including both graduate students and experienced lecturers. The content of the class remains consistent throughout the different sections, perhaps with slight differences in terms of emphasis on certain content and expected stylistic differences among the instructors. All of the sections use the same book, Writing Clearly, written by UC Davis faculty, Janet Lane and Ellen Lange. To give an example of what the course content and goals are, the following is a sample course description of a particular section. For a complete copy of a sample Linguistics 25 syllabus, see appendix A.

> LIN 25 is a multi-skills course designed to help international graduate students improve their writing, speaking, vocabulary, grammar and listening skills in English as needed for successful academic work at UC Davis. Specifically, students will work on: Writing clearly and accurately on a variety of academic topics, giving organized and clear oral presentations, expanding academic vocabulary and understanding of idioms and expressions, summarizing and paraphrasing; avoiding plagiarism, improving grammar as needed for fluent and professional-level writing and speaking, increasing listening comprehension, and increasing ability to participate effectively in group work and class discussions (From LIN 25 syllabus).

As is related in the above description, LIN 25 is a multi-skills class that covers a range of topics. Importantly, LIN 25, as the first quarter class, has to cover essential material to help prepare students for their challenging graduate programs. Students in the LIN 25 classes represent students with the lowest level of English out of the incoming graduate students. LIN 25 is a class that is unique from field specific classes in that all of the students are second language learners of English, and the aim of the class is to improve language levels and to become more comfortable in the academic environment. During some of the interviews, students spoke about how they appreciate LIN 25 as a comfortable and "safe" space to push their boundaries and speak English, while being able to make mistakes in a low stakes setting. Conversely, many

students see their field specific classes as more anxiety producing and higher stakes places, where making mistakes may result in judgments by peers or professors. As a result, many students spoke about being able to speak comfortably in LIN 25, yet being paralyzed by anxiety when speaking in field specific classes, and therefore often foregoing opportunities to speak.

With regard to the LIN 25 curriculum topics around writing, the bulk of the material involves clausal structures, specifically noun clauses, relative clauses, and adverbial clauses. Students are taught how to form and use these clausal structures, and are encouraged to use them in their writing. There are also several lessons on academic vocabulary, which usually come in the form of homework assignments. Other writing related topics include how to write a summary, how to paraphrase, how to cite appropriately, and how to avoid plagiarism. How to construct complex noun phrases, meanwhile, is not explicitly a part of the LIN 25 curriculum even though researchers agree that noun phrase complexity is an essential component to academic prose (Biber et al., 2011; Parkinson & Musgrave, 2014).

3.2.2 Participant Selection: Description of Participants' backgrounds

All of the research participants in the current study were recruited from the seven sections of LIN 25 that were offered in fall 2014. Each section had a maximum of 20 students, so the pool from which I was recruiting consisted of approximately 140 students. In the first week of classes, I arranged a time to come in at the end of class to make my announcement about my research project. A copy of the recruitment script can be found in Appendix B. In the recruitment script, I carefully followed IRB protocol, assuring the students that participation in the study was completely voluntary, and would have no impact on their grade in the class. I also explained that there was no monetary compensation being offered. I chose to not offer compensation not only because I did not have access to research funds, although this was true, but rather because I wanted students to participate in my project if and only if they wanted to. This is an important point: all of the students who participated in this project did so out of their

own interest. In the announcement, I described what participation would entail. In order to minimize the amount of time that students would need to put into the study as a participant, I decided to collect written texts that they produced for their classes, both from LIN 25 and their field specific classes. They would not need to produce any extra texts for the study. I will explain more about this methodological decision in the section below about student texts. After I made my announcement and answered any questions, I distributed a voluntary paper survey and asked students to fill it out and indicate whether they would be interested in participating or not. A copy of the preliminary paper survey can be found in Appendix C. Once I visited all seven sections, I contacted the students who expressed interest in participating. I explained over email more about the study and what to expect as a participant. From there, I carried out data collection, which involved 3 surveys, 3 interviews, and 3 rounds of collecting written text over the course of the 2014-2015 academic year. In total, 113 students participated in initial intake survey. Not including the initial questionnaire, 53 students participated in at least one survey, one interview, or by contributing at least one text. 14 students were much more involved, by participating in at least one survey, one interview, and contributing at least one written text. Of those 14 students, 4 participated fully in the study by completing all 3 surveys, participating in all 3 interviews, and contributing written text for all 3 quarters. These four focal students receive the most attention in this dissertation. The other students will help provide context and further examples of the phenomena that will be explored in this study. In the next section, I will describe in greater detail the focal students and the students who will help provide a greater context for this study.

All of the students in the study are international students, but even the concept of international students must be further explained. By international students, I'm referring to students that meet the following criteria: 1) students who do not speak English as a native language and 2) students who have never before earned a degree in an English medium school. Furthermore, international students in the present study meet these additional criteria: 3)

students who scored less than 110 on the TOEFL iBt and/or 4) who received a no pass grade on the English placement exam. As a result, the students in this study are narrowed down to those who have been flagged as needing additional English language support, and therefore, are of concern due to their language level. These criteria largely overlap, with few exceptions, with students in the fall quarter ESL class, LIN 25.

To provide some context about the students, I will start with some demographic and background information about the 113 students who took the initial intake survey. These results are representative of students in LIN 25, as only a handful of students chose not to take this initial survey. 57 of these student were female, while 56 were male. 73 out of the 113 LIN 25 students (64.6%) come from China, while the second most represented country was Taiwan, with 8 students. Following that came Brazil with 7 students, Chile with 5, and Korea with 4. There were 3 students from Iran in the population, 2 from Thailand, another 2 from Peru, and 1 student from each of the following countries: Vietnam, Japan, Uruguay, Costa Rica, Poland, Austria, Ecuador, and Kazakhstan. One of the LIN 25 sections had a demographic of 18 students from China, 1 student from Taiwan, and 1 student from Thailand. Chinese students overwhelmingly make up the majority of international students on campus, as the demographics of LIN 25 corroborate. Of the LIN students, 65 students were pursuing a terminal Masters degree, while 48 were pursuing a Ph.D. The average length of English study was 10.0 years, with a standard deviation of 4.14. English study experience ranged from 0 years to 21 years. The most well represented graduate program was Statistics, with 21 students (18.6% of LIN 25 students), followed by Electrical and Computer Engineering, which has ten students. All except ten students (103 out of 113) were in STEM fields, leaving the remaining 10 students (8.8%) in either social science or humanities graduate programs. Since 91.2% of LIN 25 students are in STEM fields, it is important to pay particular attention to the types of writing genres that STEM field students will encounter. This will be discussed more in Chapter 6.

Table 2: TOEFL Scores for all Research Participants

	N	Minimum	Maximum	Mean	Std. Deviation
TOEFL Score - Reading	46	19	30	26.93	2.112
TOEFL Score - Listening	46	18	30	24.83	2.791
TOEFL Score - Writing	46	19	29	24.02	2.427
TOEFL Score - Speaking	46	17	27	21.02	2.371

46 students in LIN 25 took the fall 2014 survey. The average total TOEFL score of the students was 96.7. The average TOEFL subset scores were as follows: the average reading score was 26.93, the average listening score was 24.83, the average writing score was 24.02, and the average speaking score was 21.02. It is important to note that all of the data from the survey were self-reported, including TOEFL scores. See table 2 for the TOEFL scores for the research participants in the study. Below is the comparison of the TOEFL iBT scores of the focal students and the average TOEFL scores of all the research participants.

Table 3: TOEFL iBT scores of focal students compared to participant average

	Reading	Listening	Writing	Speaking	Total
Luiza	26	27	22	22	97
Camila	19	24	19	19	81
Q	26	25	27	23	101
Kira	24	25	25	19	93
Average score of all survey respondents	26.9	24.8	24.0	21.0	96.7

The average scores show something that is common throughout much of the LIN 25 population: writing and speaking scores are lower than reading and listening scores. This is likely a reflection of how students are taught English, but this also points to a deeper truth that the skills of writing and speaking (productive language skills) requires more cognitive energy than the skills of listening and reading (receptive language skills). 34 out of the 46 students (73.9%) had spent less than 6 months outside of their home country, 8 students had spent 6 months to 1 year abroad, and 4 students had spent more than 1 year abroad. The fact that the vast majority of the students who participated in the survey had spent less than six months abroad provides valuable contextual information about the students' life experiences; for most of the students, coming to Davis was their first time living abroad for an extended period of time. In the next section, I will profile the four focal students, Luiza, Camila, Q, and Kira, as well as some of the other students who will show up throughout this dissertation.

3.2.3 Luiza

> "*Everything here is super friendly, super nice, and people from my department are exceptionally friendly and they are exceptionally active, so they are doing happy hours every week, parties every week, outdoors, sports, so I think this city is awesome. I like it, I couldn't be more happy*." (Luiza, fall quarter interview)

Luiza is a female student from Brazil who came to UC Davis to pursue a Ph.D. in Land, Air, and Water Resources. Luiza scored slightly higher on TOEFL speaking (22), and slightly lower on TOEFL writing (22) compared to the LIN 25 average. Luiza had spent many years abroad before coming to Davis, including a stint in Canada and another stint in England. She ultimately decided to come to Davis because of the weather, the location, and the strength of the graduate program. She had been in the United States before, but just as a traveller. Because Luiza has had several experiences abroad, and because of her outgoing personality, she stood out from the rest of the interviewees in that she felt confident in her ability to thrive in her social

environment. In her first quarter, Luiza participated in department happy hours, parties and other social gatherings, as well as intramural sports teams. Luiza mentioned that she was different from the other Brazilian students at UC Davis. Most of them would spend time with other co-nationals, while she had U.S. friends and participated in social activities organized by U.S people. Luiza exuded confidence in her knowledge of her field and in her ability to persuade; however, in terms of her writing, she perceived her biggest weakness to be grammar. She remarked that she struggled with grammar even in her L1.

3.2.4 Camila

> *I don't have time to do more things than go to school, classes, and my life at home, so I spend I think half of my time with [my son], and during this time I speak Spanish. I think this is really bad for my English improvement and I feel that because I know other people in my same condition, and I feel worse than them because I am not practicing English*. (fall interview with Camila)

Camila, from Chile, is a Ph.D. student in Food Science department, and her focus of study is on olive oil. She is married to a Chilean man, and at the time of the start of the study, they had a 10 month old child. Camila first moved to Berkeley with her husband in 2012, where her husband was in a Ph.D. program. Camila did not have many opportunities to speak or interact in English in Berkeley, so her English did not improve much. She was admitted to UC Davis, and started her program in fall 2014. Although her husband was still in school, they decided to move together to Davis in order to keep their family intact. In the first interview (fall quarter, 2014), Camila talked about how she spent half of her time taking care of her son, where Spanish was the sole language of communication, and the other half of her time she spent focused on her studies. Clearly, having a young child impacted her availability to have social connections, which she talked about in the interviews. She was, however, able to connect with another student, an U.S. female student in a related department who also had a small child. They were

able to connect easily, and Camila found in this friend a place to socialize in English, while meeting her needs of taking care of her child.

In the academic environment, Camila talked about being afraid to speak in class because of what she perceived as her poor English skills. She was the most talkative in LIN 25 because the class was with other English language learners, but in her field specific classes she would get too nervous to speak. Speaking English was quite difficult for her, and for that reason she said that speaking was her biggest weakness. She always spoke Spanish with her son and husband. In the interviews, Camila expressed a desire to speak in English with her husband, but since they were constantly making decisions about taking care of their child, it was easier to converse in Spanish. Because she had a tight schedule, she would arrive to class on time, leaving little time for interaction with other students before class. She seemed determined to find more opportunities to speak. Camila primarily worked alone, but would have her husband, who is an advanced English user, review her papers before she turned them in. She would only use his help for written assignments for food science classes, not LIN 25, because feedback from the LIN 25 instructor on her English would help her development. When she wrote, she said that it took her a while to formulate sentences and paragraphs, but with enough time, she could complete her writing tasks. More about Camila's social environment and writing development will be explored throughout this dissertation.

3.2.5 Q

> *I cannot do Western culture thing here in front of Korean men. I should keep Korean culture rule in front of them, so it makes a kind of barrier for me. Right now I think the Korean one, and the Western one - I love them - but right now the easier one is Korean one, but most favorite one is Western one, so if I can make more Western friends it could be quite better for me*. (Q, fall quarter interview)

Q is a Korean male who was pursuing a Masters degree in Veterinary Medicine. On the initial survey, Q indicated that he has spent approximately 1 year abroad before coming to Davis. He has studied English for 15 years. Before Q came to the United States for the graduate program, he worked for the government of Korea in the international airport. His job was to make sure that people were not transporting wild animal without proper permission. Because of his work at the airport, Q had to interact with people in English. As a result, he feels comfortable communicating in English. He mentioned experiencing loneliness due to living within a different culture and being away from his friends and family in Korea. Q did not complete many field specific writing tasks in his first quarter, so the majority of his writing samples from fall come from the LIN 25 class. In the winter and spring quarters, Q wrote three research papers.

3.2.6 Kira

> *Most of my friends are from my country. They are Chinese. But, I have some international friends from the cohort of my major, of my department*.
>
> (fall interview with Kira)

Kira is a female Chinese student who started as a Masters student in Nutrition, but was able to switch to the PhD track. By the time that she arrived at UC Davis, she had spent less than 6 months away from her home country. Her TOEFL speaking score was 19, which is below average compared to her LIN 25 classmates. In the interviews, she was soft spoken, but it was unclear if she was soft spoken because she was always that way, or if it was because she was being interviewed in English by a researcher. Kira favored a social environment with co-nationals, and had very few interactions with host nationals over the year. She was involved in a variety of writing tasks throughout her first year at UC Davis, ranging from summaries (in LIN 25) and practice grant applications and in class writing exams (in field specific classes).

3.2.7 Peripheral participants

The “other” research participants will play a crucial role throughout the dissertation. The following students were not selected as focal students for various reasons, but the primary reason was that they did not participate fully in the study by participating in all 3 surveys, interviews, and by submitting 3 rounds of written texts.

Two of the students, Henry and Gary, were in Masters programs in computer science and statistics, respectively. I was fascinated by their social and academic experiences, mainly because they were both Chinese students in programs with large Chinese populations, meaning that they were able to operate using Chinese throughout many of their social environments. The fact that the Chinese student population is by far the largest out of all the represented countries, and the fact that statistics and computer science have especially high numbers of Chinese students, made the interviews of these participants particularly rich. As a researcher, I was able to get a glimpse of the inner world of students who were a part of the Chinese community. Strikingly, one of the participants Gary confided in me how happy he was to have a conversation with a U.S. person, by which he meant the interview itself, because he did not have many opportunities to interact with U.S. people in his daily life. He lived with other Chinese graduate students in Statistics, they studied together, and even some of his professors were Chinese. The campus has reached a level of internationality where students, like Gary, could operate in Chinese in many social and academic situations, which presents many interesting linguistic questions. However, Gary and Henry were excluded as focal students because all of their homework assignments were problem sets with very little writing.

Table 4: Other Research Participants

	Country of Origin	Graduate Program	TOEFL writing	TOEFL speaking	Time abroad

Dana	Thailand	Agricultural and Resource Economics	22	22	6 months to 1 year
Hang	China	Transportation Technology and Policy	21	20	Less than 6 months
Lucy	Tawain	Veterinary Medicine	27	23	Less than 6 months
Gary	China	Statistics	19	27	Less than 6 months
Henry	China	Computer Science	25	19	More than 2 years

Quotes from interviews with Lucy, Henry, Hang, Dana, and Henry will be interspersed throughout the dissertation.

3.3 Researcher role

Qualitative research, by its very nature, must not ignore the role that the researcher plays in gathering the data. As such, this section will be dedicated to exploring how my own identities and background may affect the data that is collected. Certain personality traits, such as friendliness and approachability may very well impact how many students and which ones were willing to participate in the study. Especially in the interview portion, my disposition, demeanor, and interview style certainly impacted not only the type of information that was elicited, but also the quantity and quality of the information. Because background and identity are so important in qualitative research, I want to comment on how my upbringing has informed my work. I have done due diligence to ensure that bias, while nearly impossible to remove, has been minimized in this study.

3.3.1 Family Background of Researcher

I was raised in a middle class family in the foothills of Northern California, in a predominantly white community with schools that had very little diversity. Both of my parents were third generation U.S. citizens, with ancestral roots tying them to Polish and Russian. Both of my parents were monolingual English speakers, although my father spoke some French and occasionally spoke of his 18 month stint abroad in Paris. As a result of the town I grew up in, I did not have much exposure to international people except for the rare instance of a high school exchange student from another country. There was one student, however, from Colombia who caught my attention. His name was also Daniel, and I remember when he appeared in a couple of my classes, and as a fellow member of the tennis team. Since we had overlapping schedules, I was able to befriend him and be a part of his U.S. experience. I witnessed Daniel at the beginning of his stay, struggling to find the words to make even basic sentences. Sure enough, by the end of the year, his English, although accented, was fluent and spoken with ease. I took that experience with me as I continued with my studies. It was not until I moved to Berkeley as an undergraduate that I realized the richness of living in a multicultural, diverse city. The cultural diversity of my dormitory floor alone invigorated me, and shed light on my rather isolated upbringing.

In my last semester at UC Berkeley, I had the opportunity to study abroad at Carlos III University in Madrid. The transition for me, at the age of 21 with very limited international experience, was challenging to say the least. Whatever level of Spanish I thought I had achieved was quickly put into perspective as I initially struggled to comprehend and communicate with the local people. However, socially, I felt comfortable, especially since my network consisted of classmates who were in my study abroad program, and my conversation partner, a local student at the university who wanted to learn English. Not surprisingly, it was through interacting with him that I felt I learned the most Spanish. Most of the time spent with

U.S. classmates, regrettably, consisted of conversations in our common language, English. I took four classes through the exchange program, all of which were language courses (ranging from colloquial Spanish to business Spanish), and additionally, a two-hour per week 'special topics' class with local students. In the special topics class, I remember sitting in the room with 60 or so students and struggling to follow the professor's thread of thinking. I could not muster the courage to speak up in class or ask a question for fear that I would make a mistake, not to mention struggling with the difficulty of finding the right cue to enter the conversation. I did not readily seek help, except from the classmates I knew, since breaking the barrier and talking to local students seemed too hard to surmount. In this period, I had a strong co-national network, except for my language exchange partner. Still, during the semester abroad my spoken Spanish improved immensely, although my written Spanish remained stagnant.

As an international student in Madrid, I was placed in a homestay with an older Spanish woman. I had my own room in a small apartment on the 13th floor of a large apartment building. None of my colleagues lived within walking distance of my building, so I felt socially isolated. My host viewed my presence more as a business exchange rather than a cultural exchange, and she had little interest in interacting with me. For example, on a nightly basis, she would place my dinner on the table and then position the television in front of me as she left the room. The few interactions I had with her were frustrating as our political beliefs diverged greatly. Feeling physically isolated and somewhat unwelcome in her home caused me much distress and sadness. The complexity of my own experience as an international student has driven many of the questions behind the current research project.

3.3.2 Education, Teaching and Research

Seeking out further experiences abroad led me to South Korea, where I spent a year teaching English to elementary and junior high school students. Without any training, I was given a full slate of classes, each full of wonder-filled schoolchildren. I learned how to teach by

doing, giving 12 unique classes per week, each one requiring preparation and grading. The workload of teaching 30 hours/week proved to be time consuming and tiring, but I learned the skill of improvisation. I mostly followed the pace of the book, which consisted of 2 pages per day, and depending on the level, usually 5-7 vocabulary words and perhaps a small reading passage. The younger students had songs and games to accompany the lessons. As with all my new international experiences, I felt like the one doing most of the learning. In Korea, my passion to teach, to be in the classroom, and to work with students grew. Although these eager-eyed children had distinct differences from the university aged students I work with now, the seeds of my teaching unequivocally started in Korea.

Returning home from Korea, I connected the dots of studying linguistics as an undergraduate and teaching English abroad in Korea - I applied and was accepted to the linguistics graduate program at UC Davis. As a graduate student in Linguistics, I find myself fascinated with the language development of international graduate students. I entered the program as a MA TESOL student, learning about communicative language teaching and simultaneously getting hands-on experience teaching LIN 96, a conversation-centered ESL class mostly for graduate students. It was helpful for me to draw on my own experiences as we delved into through linguistic theory.

Then, at the onset of my second year in the program, I co-taught LIN 25, the first quarter graduate level ESL class with a classmate of mine, and later, in the fall of 2012, I again taught the class, this time on my own. Unlike teaching English as a foreign language to children in Korea, I was now teaching English as an additional language to adults who were in their twenties and thirties. These students needed to know how to operate using academic English, and I was the instructor enlisted to transmit this knowledge. Throughout the experience of teaching LIN 25, and working with new international graduate students from a wide range of disciplines, I pondered what their experience was like not only outside of class, but also throughout their respective programs. LIN 25 provided a safe space for students to make

mistakes, yet managed to maintain a formal classroom environment. Since all of the students were international and were sharing the same experience of starting a new graduate program in Davis, they were able to relate to each other easily. Indeed, many of them remarked that one of the positive aspects of the class was meeting other international students across disciplines. As a result, I concluded that the importance of LIN 25 goes beyond the curriculum of academic writing and speaking. The community building that occurred in the LIN 25 class played a substantive role in the academic experience of the students. Still, what I saw in my class was a small glimpse of their overall experience. What resources outside of LIN 25 did these International graduate students have? What were their experiences in their field specific classes? These questions, and more, have propelled the current study.

As detailed in this section, I position myself as a student, teacher, and researcher who has experienced spending time abroad in both the capacity of a teacher and student, and with experience teaching students similar to those detailed in this study. My wide-ranging experiences in the field of second language acquisition have served me well in developing the design of the current study.

3.4 Data Collection

The central questions in this dissertation revolve around the types of friendships that international graduate students form and their development as scholarly writers in the academy. This section will describe the methods which were used to conduct this study and collect the data therein. Because of the nature of the study, examining language learning in a social environment and describing writing development, both qualitative and quantitative measures will be implemented. The current study has employed surveys, interviews, and collections of text to serve as data points for each students, Additionally the data were collected at three time points, end of the fall quarter (2014), end of the winter quarter (2015), and end of the spring quarter (2015). The only exception was the initial survey which was conducted at the beginning of the

fall 2014 quarter, which served as a mechanism for requesting consent to participate. This section will detail how each piece of data was collected, its purpose, and how it fits in with the research.

3.4.1 Surveys

Surveys are a common implemented instrument for data collection in studies that investigate the social experiences of international students (Sawir et al., 2008; Hendrickson et al., 2011; Furnham & Alibhai; 1985). Surveys allow the researcher to reach a large number of participants and result in conveniently analyzable data that can be either quantitative or qualitative. For the current study, a total of four surveys were distributed across nine months, the initial survey (time point 0), the fall 2014 quarter survey (time point 3 months), the winter 2015 quarter survey (time point 6 months), and the spring 2015 quarter survey (time point 9 months). The initial survey was distributed on paper at the end of each of the seven LIN 25 classes, and the other surveys were created using GoogleDocs, and were circulated electronically by email. Survey questions were piloted in a preliminary study (Moglen, 2017). Then the questions were altered, as needed, for the sake of clarity. Finally, before each survey was distributed, the questions were peer reviewed by an international colleague, who provided insightful feedback for how to further clarify questions. A copy of the survey questions can be found in Appendix C.

The initial survey served to both gather preliminary demographic data as well as recruit students to participate in the yearlong study. The initial survey was designed to be short, and was distributed on paper so I could collect signatures of consent to participate in the study. A copy of the initial survey and subsequent surveys can be found in the appendix section (Appendix C). The survey at the end of each quarter was only distributed to those students who had indicated an interest in participating. As would be expected there was an attrition rate throughout the year. Out of the approximately 140 students enrolled across the seven sections

of the ESL class, 111 students filled out the initial survey, 46 responded to the survey in the fall, 38 filled out the survey in the winter, and 26 responded to the survey in the spring.

The surveys over the three quarters varied slightly, but had many overlapping questions. The purpose of the overlapping questions was to provide a diachronic perspective over the course of the year in order to see what had changed in the lives of the students. In particular, each of the surveys asked about the student's academic network, social network, and language use with the goal of documenting whether students show change over time in the makeup of their networks and the frequency of English use in their social environment. Some of the questions from the fall survey included:

1. TOEFL iBT Scores (including Reading, Listening, Writing, and Speaking)
2. How much time have you spent abroad (outside of your home country)?
3. Think of 6 people who you spend the most time with in social settings. How many of these people are from your home country? How many of these people are from the US? How many of these people are from a different country (not your home country, not US)?
4. What percentage of the time do you use English in social settings?
5. In your social life, what have been your experiences interacting with U.S. people (or people from outside of your country)?
6. Think of 6 people who you spend the most time with in academic settings. How many of these people are from your home country? How many of these people are from the US? How many of these people are from a different country (not your home country, not US)?
7. What percentage of the time do you use English in academic settings?
8. In your academic life, what have been your experiences interacting with U.S. students (or students from outside of your country)?
9. Do you feel confident in your writing ability to succeed in your program?

10. Describe the most important writing task you completed this quarter, you can comment on the class, topic, purpose, length, etc.
11. What has been your experience interacting with your professors this quarter?

The closed questions (TOEFL scores, time spent abroad, etc) are useful for quantitative measures, and the open questions (asking about experiences) are useful to gather rich qualitative data. The surveys were distributed before each round of interviews so I could use survey responses to ask precise and individualized questions. On the surveys, there were also questions that asked about experiences with academic writing.

- How do your writing skills now compare to your writing skills at the end of the Fall Quarter?
- Any further comments about your English language skills now compared to fall Quarter?
- What kinds of writing assignments have you completed this quarter?

The questions about writing proved to be helpful for find trends among all of the LIN 25 students, as well as seeing how the focal students fit in amongst the LIN 25 population. Finally, there were survey questions, like the one below, that asked about aspects of the student's social experiences. This question used a scale with the following options: Strongly disagree, Disagree, Neither disagree or agree, Agree, and Strongly agree.

- For each of the following statements, choose the option that corresponds with your experience.

[I feel anxious when I talk to native English speakers.]

[I feel like there is a cultural barrier when I interact with U.S. people.]

[I would like to have more interactions with native English speakers.]

[I mostly communicate with people from my country in my daily life.]

[I understand most of what my professors say in class.]

[I feel like my vocabulary is limited when I write.]

[I am concerned that my English isn't good enough to succeed in my program]

[I think my English has improved a lot since I arrived at Davis]

[I have a lot of opportunities to speak in English in my daily life.]

[I wish there were more resources for learning English at UC Davis.]

These questions were useful for the interviews because if a student strongly disagreed or strongly agreed with one of the statements, I could then ask them to elaborate in the interview. In sum, the survey questions were a productive way to collect a variety of data on a number of topics throughout the year.

3.4.2 Interviews

Interview data are commonly used in research studies involving international students and second language writing (Ferenz, 2005; Myles & Cheng, 2003; Maudeni, 2001; Sawir et al., 2008), and serve to provide a rich, qualitative perspective to the overall phenomenon that is being documented. Interviews allow the research participants to share openly and freely with fewer restrictions on time about their individual experiences. While much of the responses are elicited through questioning, it can be of particular interest to record what the interviewees say when unprompted. This can arise if the interviewees are allowed to speak uninterruptedly. Also, I noticed that the conversation would often continue once the recorder was turned off. If the conversation became rich post-interview, I would either turn the recorder back on or promptly make interview reflections in order to capture the content of the dialogue.

For the current study, interviews were conducted at three time intervals: end of the fall, winter, and spring quarters (month 3, month 6, and month 9). These intervals were chosen to correspond with the survey and written text data collection. Also, spreading out the interview over the course of the academic year served to show how the students changed or remained similar diachronically. Students were told that interviews would last 30-40 minutes, but the

interviews ranged in length from 20 minutes to as long as 1 hour 12 minutes. The interviews were *semi-structured*, where "the researcher provides some structure based on her research interests and interview guide but works flexibly with the guide and allows room for the respondent's more spontaneous descriptions and narratives" (Brinkmann, 2014, p. 1008). I chose to conduct semi-structured interviews because I wanted to create the space for students to talk about what was important to them. Each of the interviews was conducted in the Linguistics library in the Linguistics Department on the UC Davis campus. Interviews were recorded and subsequently transcribed. The interview schedules can be found in Appendix D. Below are some sample questions from the fall 2014 interview:

Introductory questions

1. Can you tell me about how you came to study at UC Davis?

2. What were you doing before coming to UC Davis?

Regarding social and academic networks:

3. In your academic department, who do you interact with the most?

4. In which ways do your colleagues, and other people in your academic environment, provide academic support (or not)?

5. Outside of your academic department, which people do you interact with the most?

6. In which ways do these people provide support (social, cultural)?

Regarding academic writing and writing support network:

7. Describe an important writing task that you completed this quarter.

8. What were some of the struggles that you encountered in writing this paper?

9. Did you talk to anyone about this paper? If so who?

10. Did you seek help from someone? If so, who?

11. Did you find talking to this person helpful?

12. Did you make any changes to your paper as a direct result of talking to this person?

13. What do you think are the strengths of this paper? What are the weaknesses of this paper?

The questions for each interview had some similarities and some differences. The similarities served as a way for me to document changes over time (i.e. questions about social adjustment and writing). I also brought in the student's survey responses in order to ask probing questions, when appropriate and necessary. Through probing, students were given the opportunity to expand on their survey responses. Finally, I brought the student's writing to the interviews so that I could ask precise questions about particular pieces of writing. For the spring quarter interviews, I heeded the suggestion to be flexible in the interview schedule (Creswell, 2007; Turner, 2010), as I wanted to let the students speak more openly about their experiences over the course of the year. As such, I created broad interview topics, and then created questions specific to each student individually. That is, I considered the student's past interviews, surveys, and texts to create a more personalized interview schedule. After each interview, I took a few minutes to take reflection notes. I wrote down what stood out and what felt important. Having these memos to refer back to during the writing of this dissertation proved to be extremely useful.

The interviews created a set of data points, from which the surveys and textual data could be cross-checked. For example, if a student said she received help on a particular paper, then I could take that into account as I read and coded that particular text. Another useful aspect of the interview was connecting the interviews to the surveys. If I noticed an intriguing pattern or response on the survey, I could take extra time in the interview to ask about that. Triangulating the data in this way provided a much fuller account, rather than trying to guess what a particular response meant on the survey. Also, in the interview, I was able to go line by

line with certain sections of their writing, and talk about the types of sentence structure, the types of errors, and vocabulary choices, which proved to be helpful in the data analysis stage.

Helping the students feel comfortable was a priority of mine, as I felt that they would talk more openly about their experiences if they felt comfortable in the interview space. Several of the interviewees thanked me after the interview. They told me that they found the questions to be interesting and they appreciated having the space to share their experiences. Because all of the interviews were conducted by the same researcher, I believe the interviewees felt more comfortable in the interview process as the year went on (and as their time spent in the United States increased). Since I was a fellow graduate student, I hoped the interviewees could see me, the interviewer, as a peer, rather than an authority figure. I believe my background as an ESL instructor helped the students feel comfortable sharing their experiences with English learning. I structured the interview starting with questions that were easier to answer, and therefore less invasive. For example, I started the fall 2014 interview by asking about their story of how they came to UC Davis (see above). As the interview progressed, I asked about their social environment and their experiences with academic writing. It was of paramount importance for the students to feel comfortable since they would likely not be as open to share their experience otherwise.

The interviews were by no means a simple task for some of the interviewees. Some of the interviewees, especially in the fall 2014 interview, were shy, gave short answers, or completely misinterpreted the questions. One student for example, when asked what how he felt when he first came to Davis (trying to elicit feelings like scared, anxious, excited, or happy), replied by saying that the weather was really hot. It is not clear whether this was a cultural difference, i.e. perhaps it is not appropriate to start by asking about feelings but rather something more mundane like the weather. Or perhaps, the question itself was too nuanced. After all, the weather is quite hot in Davis in the summer months, so that could have been a part of the student's first impressions of Davis. Also, what was striking to me was that a couple of

the interviewees commented on the fact that they were pleased to be a part of this study because it gave them an opportunity to converse with a native English speaker. This alone shows that these students are a part of a greater phenomenon within the international student community, that is, having few meaningful interactions with NESs.

With regards to the coding process, I coded the interviews using axial coding (Merriam 2009), which is the process of coding "that comes from interpretation and reflection on meaning" (Richards, 2005, p.94). I went through the interviews several times, looking for themes and patterns, using the qualitative coding platform called Dedoose. I started out by coding for instances of when the student talked about a community of practice (Lave & Wenger, 2001), a discourse community (Swales, 1990), or a social network (Bochner et al., 1977; Hendrickson et al., 2011). I also coded for whether the social interaction was with a co-national, local, or international person. As I went through the interview data, I noticed instances of the student sharing an experience that exhibited anxiety, confidence, struggle/difficulty with English, or cultural barriers, so those elements were coded for, as well. Through the iterative process of coding, key themes that were relevant to the research questions were illuminated. The coding schema and definitions of codes can be found in Appendix E.

3.4.3 Texts

The third set of data comes from student texts. Texts are an essential piece of the puzzle that show the features and structures of a student's writing, and how those develop or change over time. Collecting texts also allowed for closer examination of the types of academic genres that students engage in. Students were instructed to email me all of their writing at the end of each quarter (end of fall, winter and spring quarters). While other study designs administer their own writing tasks (Winfield & Barnes-Felfeli, 1982; Knoch et al., 2015), I chose to collect texts that the students submitted to their classes. There are plusses and minuses for each kind of study design, which I will now discuss. The benefit of administering the writing task

is that the writing task will be the same for all students. As such, the students can be compared as the writing task is fixed across the group. This also means that the type of writing (genre) will be constant. However there are downsides to using prompts and administered writing tasks. For one, the writing that students do under these sterile, more restrictive conditions are certainly not representative of the type of writing that the students produce in their classes. Writing produced for a study is low stakes, while writing produced for a class is higher stakes. Students who sign up for a study, for example, may not necessarily be interested in doing the best they can. Also, prompts tend to be general and not field specific (topics about cultural differences, for example), which may not be representative of academic writing. Additionally, these types of writing tasks tend to be timed, so that must also come into play as some students struggle with timed writing activities. The texts collected in the current study were written by students for their academic classes. The benefit of this method is that because the assignments were graded, the students are more likely to put a greater amount of effort into the assignment. Also, presumably the student had enough time to contemplate, write, review, and submit each task without short time constraints. This is valuable because it removes some of the time pressure that often accompanies test-like writing. The texts that students write for classes are authentic texts that prove to be, in general, more representative of the student's academic writing level. The downside to collecting these already written texts is that there is less certainty to which extent the student wrote the text, or whether the student solicited support with the writing assignments. The source of support is the focus of chapter 5, as there is evidence that students are getting help, as they should. Finally, another consequence of collecting writing assignments for classes is that the texts are written across a variety of academic genres. On the surface, this may seem problematic, but actually may not be. It is a reality that students will write across several genres, so this will be an important aspect that this study will analyze. In sum, the current study has chosen to collect texts from students that were submitted to classes for a

grade. By doing so, the study is looking at real, authentically written texts written by international graduate students.

3.5 Data Analysis

The different sources of data (surveys, interviews, and texts) were initially analyzed individually, and then brought together, by which I mean that the meaning of each data point has been considered independently and within the context of the entire data set. Different aspects of the data come together in various ways, and paint the picture for the following data chapters: Chapter 4: The Construction of the Social Environment, Chapter 5: Writing Support Networks, and Chapter 6: Writing Development. In chapter 4, emphasis will be placed on the survey data and the interview data. In chapter 5, most of the data will come from the interviews, and some will come from the surveys and texts. In chapter 6, most of the data will come from the texts, while some of the survey and interview data will inform the discussion, as well.

In order to validate the data analysis process, I relied on two undergraduate research assistants to assist in the coding process. One of the research assistants, a sophomore Spanish linguistics major, assisted me in coding the interviews, and the other research assistant, a sophomore linguistics major, assisted me in coding for writing complexity measurements. I met with both research assistants several times to acquaint them with my project and the data. Because they were both new to research methods, I simplified the coding tasks as best I could. First, I showed them some examples of coded excerpts and explained how I arrived at those codes. Then I provided each of them with written instructions including the definitions of codes. After that, I gave each of them ten excerpts to code on their own. I then checked how they coded the excerpts, and we justified the coding choices we made. We resolved all of the discrepancies with the practice excerpts. Then, I gave each research assistant more excerpts to code on their own, and I independently coded the same excerpts. For the complexity measurements, we achieved a .81 agreement, after independently coding 37 excerpts. We were

easily able to resolve the discrepancies. With the interview codes, we ended up reviewing and discussing the coding decisions together. Because the interview coding process was more subjective, it proved to be helpful to work on the coding process together.

3.5.1 Chapter 4: The Construction of the Social Environment

In the international student literature, the theme of social and cultural adjustment permeates many of the studies (Ward & Kennedy, 1993; Andrade, 2006; Mori, 2000; Lacina, 2002; Lee, Koeske, & Sales, 2004). Social and cultural adjustment, or lack thereof, will have impacts on the student's development of their English language skills, sense of support and acceptance, and overall success in the student's program. The current study acknowledges all of this to be true, and at the same time, notes that the literature has not gone far enough to understand the social adjustment of international graduate students. In order to gain a deeper perspective on the impacts of the social environment of the student, I have employed surveys and interviews as modes of inquiry. Given the complexity of the social environment, I realized that it would be prudent to take a mixed methods approach by collecting both quantitative and qualitative data points. Several of the survey questions were designed to answer the primary research question that guides chapter 4, which is: What types of social and academic networks do first year international graduate students develop? The survey questions that were relevant to chapter 4 included questions about the nationality of people in their social and academic networks. I posed this question in a similar way as previous studies (Bochner et al., 1977; Hendrickson et al., 2011). First, I asked the student to think about 6 people with whom they had the most amount of interaction with in social settings, defined as spaces where the student was interacting with others off campus, at home, on the weekend, downtown, etc. Then I asked how many of those people were from their own country, from the United States, and from other countries. I reminded students taking the survey that the total number of associates should add up to six. I then asked students to estimate how frequently they used English in social settings.

The same set of questions were posed for students with regards to their experiences in academic settings, defined as spaces where the student was interacting with others in class, in department buildings, on campus, etc. The surveys were then put into SPSS, where I could conduct analyses about frequencies and cross-tabulations.

In addition to the surveys, which provided quantitative data about the students' social environments, I conducted interviews with a subset of these international graduate students to obtain rich, qualitative information about their social environments. In the interviews, I asked open ended questions about their networks in order to give them the opportunity to share openly about their social environment. I then transcribed and coded the interviews using the qualitative software, Dedoose. In order to illuminate trends about the social environment, I created codes for social network, discourse community, and community of practice, as well as codes for when the student spoke about interacting with a co-national, U.S. person, or other international person. A copy of the codes and the definition of the codes used in the study can be found in Appendix E. By looking at the intersection of these codes, I was able to better understand the patterns of the social environment.

3.5.2 Chapter 5: Writing Support on and off campus

The question that drives chapter 5 is twofold. Who is a part of the international graduate student's writing support network? How is this network utilized? In order to examine the network of individuals that provide support for the students in the study, I first turned to the survey responses. In particular, the survey asked students about who they sought writing support from, how frequently they sought support, and how helpful the support was. The choices on the survey were professor, friend, colleague, writing tutor, and family member. Some of the relevant survey questions are below:

- Did you talk to any of the following people about this writing task? If so, how frequently?

[never] [1-2 times] [3-4 times] [5 or more times]

[Professor] [Colleague] [Friend] [Writing Tutor] [Family Member]

- If you talked to someone about your writing, how helpful was this interaction?

[I didn't talk to this person] [not helpful] [somewhat helpful] [helpful] [very helpful]

[Professor] [Colleague] [Friend] [Writing Tutor] [Family Member]

- How comfortable do you feel talking to this person about your writing?

[I didn't talk to this person] [not comfortable] [somewhat comfortable] [comfortable] [very comfortable]

[Professor] [Colleague] [Friend] [Writing Tutor] [Family Member]

- What has been your experience interacting with your professors this quarter?

Once I collected data related to writing support networks, I put the survey data into SPSS in order to get descriptive statistics about who the students went to for support, and how frequently they sought support. From those questions, which were posed throughout the year, the network of support began to reveal itself. I then used the survey responses to inform interview questions to further learn about the quality of the support. Also, the descriptive statistics for the entire group of survey respondents provided a larger context through which the focal students could be examined.

I also asked the focal students in the interviews about instances of receiving writing support in order to better understand the nature of the support. After I finished the interviews, I transcribed them and uploaded them into Dedoose. As I began the coding process, I broadly coded for instances of when students talked about receiving writing support. When a student mentioned receiving support from a colleague or professor, I would mark the section appropriately. Furthermore, I was interested in the whether or not the the student found the

interaction or feedback helpful. The instances where students sought, or expected, support, but did not receive support (i.e. lack of feedback from a professor, or a colleague who was unavailable) were illuminating, as well. From the survey and interview data, specifically around writing support, findings will be presented about the students' writing support networks.

3.5.3 Chapter 6: Describing student writing over time

The research question that guides Chapter 6 is: Over the course of the first year, how much does academic writing improve for international graduate students? What does this improvement look like? In order to disentangle the many elements to these questions (What exactly is academic writing? What does improvement mean? How can Improvement be measured?), I decided to focus on two main aspects of the students' texts. First I considered the academic genres in which the students wrote, taking into account that different genres will have different conventions and constraints (Swales, 1990; Canagarajah, 1999). Secondly, based on the recommendation of L2 writing scholars, I decided to examine complexity, specifically grammatical complexity, noun phrase complexity, and lexical complexity. The grammatical complexity measurements that are used in this study include clauses per sentence, words per clause, and words per sentence. These measurements were based on complexity accuracy fluency measurements (Larsen-Freeman, 2006), but because of reasons stated in the literature review, T-units were not used. Instead I chose to code for finite clauses, that is, clauses with finite verbs. This decision made it easier for my assistant researcher and me to achieve a high enough agreement. Also, by staying consistent with this measurement across the writing tasks, the results could be appropriately compared. In terms of noun phrase complexity, I surveyed several researchers (Biber et al., 2011; Mazgutova & Kormos, 2015; Parkinson & Musgrave, 2014, McNamara et al., 2009), and decided upon three measurements. The measurements were obtained by putting texts into the automated online software, Coh Metrix, which provides over 100 measurements, and I subsequently chose the ones that were related to noun phrase

complexity. In particular, I will be using mean number of modifiers per noun phrase, noun phrase density, and left embeddedness measures. Modifiers per noun phrase is self evident, measuring how many modifiers each noun phrase has on average. Noun phrase density is a measurement of the ratio of noun phrases to other types of phrases in a given text. Finally left embeddedness measures the mean number of words before the main verb, which has been used as an indirect measure of noun phrase complexity (McNamara et al., 2009).

Finally, in order to obtain a deeper understanding of the lexical choices that the students made, I also took *lexical complexity* into consideration (Laufer & Nation, 1995; Laufer, 1994; Graesser et al., 2004; Knoch et al., 2015). In order to quantify the vocabulary and word frequency within the texts, I used the Vocabulary Profiler, developed by Cobb (2002) and Heatley, Nation, and Coxhead (2002). This program allows researchers to input text, which then outputs several useful vocabulary measures. The three lexical complexity measurements that will be used in the current study include the Lexical Profile, type-token ratio, and lexical sophistication. The Lexical Profile includes the frequency of most common 1000 words (K1 words), frequency of most common 1000-2000 words (K2 words), words from the academic word list (AWL words), and off-list words. Type-token ratio is the ratio of the number of word types to total number of words in a given text, and lexical sophistication is the ratio of AWL and off-list words to total number of lexical items. Through an exploration of genre and complexity measures, the textual qualities will be discussed in chapter 6.

3.6 Connection to Data Chapters

The methods chapter has served to describe the choices that the researcher has made in designing and carrying out this dissertation study. The research questions have guided the methodological choices, and the methodological choices have shaped the type of data present in the study. This study uses surveys, interviews, and student texts to answer questions about

the students social and academic experiences, as well as their writing development. Data will be presented and explored in the next three chapters.

Chapter 4: The Construction of the Social Environment

4.1 Introduction: In a New Social Environment

International graduate students share the common experience of leaving their home country for an extended period of time in pursuit of higher education. These students are crossing borders for academic purposes, and in doing so, they leave behind familial and social ties, as well as cultural familiarity. With regards to this process of migration, Grinberg and Grinberg (1983) write, “one ceases to belong to the world one left behind, and does not yet belong to the world in which one has nearly arrived” (p. 23). An international student, then, stands in a liminal space as he/she transitions into the new environment. An abundance of literature has focused on the impact of the loss of social and familial ties that manifests as feelings of homesickness (Poyrazli & Lopez, 2007; Hendrickson et al., 2011; Sandhu & Asrabadi, 1994; Sherry et al., 2010). In addition to the feelings of homesickness, defined as “a longing and desire for familiar environments” (Poyrazli & Lopez, 2007, p.264), students find themselves in new linguistic, academic, social, and cultural environments, oftentimes with very little time to adjust. Sawir et al. (2008) refer to this experience of adjustment as a “relational deficit” (p. 149), where students, in the time of transition, may find themselves dealing with social isolation coupled with a lack of much needed social support. International students face a host of issues, including “a foreign language, study in a new setting, finances, accommodations, and day-to-day living problems, and they must negotiate an unfamiliar set of institutional rules” (Sawir et al., 2008, p. 149). What has been shown to serve the wellbeing of the students during this transition is the presence of a social support network (Bochner et al., 1977; Hendrickson et al., 2011; Andrade, 2006). While some researchers argue for benefit of social ties with host nationals (Myles & Cheng, 2003; Trice, 2004), this chapter aims to show that the majority of international graduate students in the present study seek out co-national communities, and

those co-national communities provide much needed support that is both linguistically and culturally accessible.

While this is true of all international students, their experience has been changing due to the sheer number of international graduate students. While before these communities were smaller and harder to connect with, nowadays these large communities of speakers of languages other than English are flourishing on campuses nationwide, including the site of the present study. Large preexisting communities put students in a language learning predicament: it is socially easier to join communities with other students who share a common language and cultural background, but joining these communities may result in fewer opportunities to speak in English and interact with domestic students. The literature has mixed suggestions about the benefits of joining a co-national community (Montgomery & McDowell, 2009) versus the benefits of have host national friendships (Trice, 2004). Joining a co-national community is perhaps the path of least resistance, and one that may lead to meaningful relationships and academic success, although it is commonly marked by fewer opportunities to speak in English and fewer English related *affordances* (defined earlier as "a particular property of the environment that is relevant…to an active, perceiving organism in that environment" [van Lier, 2000, p. 252]). On the other hand, not joining a co-national community, or not having access to one, involves forging a new path and deviating from the norm, and may lead to more opportunities to speak in English.

The goal of this chapter is to describe the various types of communities that international graduate students find themselves in, as well as the factors that are at play in making those decisions at the personal, community, and institutional levels. These communities that the students join will have rippling effects throughout their program, including affecting their L1/L2 language use, their opportunities to speak, and the linguistic affordances that are available to them. The social environment will form the basis for the student's writing support network, which will influence the student writer as she gains membership into her respective academic

discourse community. Since community formation happens pre-program and in early stages of the program, it will be valuable to gain a better understanding of how that formation happens so the university can encourage these communities to make connections with new students. With this deeper understanding on how communities are formed and the impacts of these communities, we will have a better grasp of the international student experience on campus. First, this chapter will look at preliminary data from the pilot study, as well as data on how frequently international students are using English. This will be followed by a discussion on why international students tend to avoid social interactions with NESs and favor social interactions with co-nationals. Then, I will discuss some underlying social theories of learning, and how the university is an excellent example of a social environment. Finally, data about the focal students will be presented to show in-depth examples of the social environment of international graduate students.

4.2 Pilot study and preliminary data

As a precursor to the current study, I collected departmental information from the Office of Graduate Studies Website (gradstudies.ucdavis.edu), which provides counts of international students in each graduate program. Based on this publicly accessible data, as of fall 2014, the year in which the data for the current study was collected, international students constituted a majority in eight graduate programs, including in the following departments: Masters of Laws (98%), Statistics (75%), Electrical and Computer Engineering (67%), Biostatistics (59%), Economics (58%), Food Science (58%), Agricultural & Resource Economics (52%), and Computer Science (51%). Notably, STEM (Science, Technology, Engineering, Math) fields account for all but one of the disciplines on the list. The following table displays the graduate programs that have an international student population of 40% or higher with departments that had higher than 10 students for fall 2014. The first line of the table shows the percentage of international graduate student campus wide, which is 25% for fall 2014. The total enrollment of international

graduate students in fall 2015 increased to 26%. The total student enrollment between 2014 and 2015 increased by only 23 students overall, yet the number of international students increased by 87, reflecting a decade long trend of both an increase of international students and an increase in the overall percentage of international students at this campus.

Table 5: Fall 2014 International Graduate Student Enrollment (UC Davis website)

Program	Non-Resident International Count	Total Enrollment Headcount	International Student (Percentage)
All Graduate Programs	1225	4979	25%
Master of Laws	54	55	98%
Statistics	86	115	75%
Electrical & Computer Engineering	126	188	67%
Biostatistics	19	32	59%
Economics	48	83	58%
Food Science	30	52	58%
Agricultural & Resource Economics	60	116	52%
Computer Science	91	178	51%
Horticulture & Agronomy	49	100	49%
Communication	11	23	48%

Biological Systems Engineering	19	42	45%
Materials Science & Engineering	26	58	45%
Atmospheric Science	15	35	43%

Nearly all of the programs in the table above are in STEM fields, which reflects the academic disciplines of the students who participated in the current study.

Also, as a part of the preliminary data collection, I conducted a survey at the end of the fall quarter in 2013 that targeted students in LIN 25, asking about language use and social networks. Gass and Mackey (2013) encourage the use of a pilot study, such as this preliminary survey, which serves as "an important means of assessing the feasibility and usefulness of the data collection methods and making any necessary revisions before they are used with research participants" (p. 43). Of the fifteen people who took the survey, thirteen were from China, one was from Chile, and one was from Japan. Ten were enrolled in Masters programs, while five were enrolled in PhD programs. Four reported that they had studied English for 5-6 years, and eleven reported having studied English for 7 or more years. In the survey, I asked the participants to describe the 3 people that they interact with the most in Davis. In total, 32 out of 45 (71.1%) were co-nationals, and only 12 (26.7%) were host nationals. Only one student reported having a friend that was from a different country (neither a co-national nor a host national). There were not enough people in any of the language groups to make any statistical generalizations; however, there was a prominent pattern in the Chinese group. In the Chinese group, 6 marked their three closest friends as co-nationals, and the other 7 respondents had two co-nationals and one host national listed as their three closest friends. What this shows, at least within the confines of the group of students who responded to the survey, is that the international graduate students from China indeed gravitated towards predominantly co-national networks, at least at the beginning of their program. As a consequence, the Chinese graduate

students in this survey used English in social (non-academic) settings rarely, with three reporting using English 0-19% of the time and 7 reporting using English 20-39% of the time. Twelve out of the thirteen respondents from China described their social network as consisting of mostly co-nationals, and none of the respondents described a network of consisting of mostly host nationals. In this preliminary survey, I also asked whether or not they felt ready in terms of their English level to succeed in their respective programs, where 40% said no, and 60% said yes. The preliminary data from the survey informed the research questions and design of the current study.

4.3 How much English are these students actually using?

The question of how frequently students are using English is difficult to capture empirically, so the current study relies on self-reporting data. On each of the three surveys, there were questions about how frequently students were using English in social settings and academic settings. Social settings were defined as spaces where the student was interacting with others off campus, at home, on the weekend, downtown, etc., and academic settings were defined as spaces where the student was interacting with others in class, in department buildings, on campus, etc. Also, students were asked about their social and academic networks. In order to get an idea of who is a part of their networks, I asked survey respondents to think about the six people that they interact the most with. Then, I asked, how many of those people are from their country, how many were from the United States, and how many were from other countries (not their home country, not the U.S.). By putting together the responses from these two questions (how frequently students are using English and who is in their networks, both in social settings and academic settings), we are able to get a deeper glimpse into their social environment. Results from this chapter will help shape the discussion in chapter 5, as well as the analysis in chapter 6.

Now I will turn to some of the findings. The first set of tables show survey responses to questions in the fall quarter of 2014. The fall quarter is the critical period where students arrive, begin to settle in, construct and form their social environment, and embark on their academic journey in a new university setting. The type of social and academic networks established early can have ricocheting effects on the student, including the amount of access the student has for academic support and emotional support. Table 6 displays the frequency of English use in social settings in the fall quarter.

Table 6: What percentage of the time do you communicate in English in social settings?

Percent of time using English in social settings	**Fall Percentage**	**Winter Percentage**	**Spring percentage**
0%-19%	43.4%	24.3%	16.0%
20%-39%	23.9%	48.4%	52.0%
40%-59%	15.2%	18.9%	16.0%
60%-79%	13.0%	5.4%	8.0%
80%-100%	4.3%	2.7%	4.0%

As seen in the above table, only 4.3% of the students reported using English 80-100% of the time in social settings in the fall quarter. Of these two students, one reported having just one co-national in his social network, while having 3 host nationals and 2 international people. The other student who self reported using English almost always in social settings reported having also just 1 co-national in her social network, while having 4 host nationals and 1 other international person. In response to the open ended question about her experiences interacting with native speakers, she responded, "**chatting all the time** and having some interesting

conversation on parties", signaling that she is both in close contact with these NESs and she has been accepted into the group (going to parties). A student like this, who has social ties with host nationals will have more opportunities to speak and will presumably have greater access to help addressing language specific questions. Also of note from the table above is the fact that 20 students reported using English 0-19% of the time in social settings. These students are emblematic of having social networks that are largely, if not exclusively, co-national. One of these students remarked on the survey,

> "**I barely had a chance to talk with American people in my social life**. I had talked to a American when I was waiting in line in a party. I think we had a good time, and he also said that he think my accent is great. I'm really happy about this!" (fall survey)

This student had very limited interactions with NESs. Interestingly, a salient memory for this student was talking with a U.S. person in line, waiting to gain entry to a party. This student (Chinese, female) felt good about having a NES compliment her accent, but I do not know much more about the duration or content of this conversation, let alone whether this conversation was an anomaly. This particular student, consistent with her response, noted that the 6 closest people that she was in contact with were all co-nationals. As such, she is a good example of a student whose network is exclusively co-national. Other students in this group (reporting 0-19% communication in English) had more to add about their experiences of using English with U.S. people. One student, a male from China, who also has a strong co-national network, responded, "They [U.S. students] are nice. But my English is a barrier to build a close relation". This is not an uncommon feeling in the international student community; English is seen as a barrier. Whether or not this is true or just a belief, the impact is real; these students are less likely to have interactions with NESs due to fear, anxiety, and/or stress (Chapdelaine & Alexitch, 2004). However, as this chapter will show, little interaction with NESs may not pose as big of a problem as some literature may suggest (Hendrickson et al., 2011). There were seven students who

reported falling in the middle range of using English in social settings (40-59% of the time). Their responses illuminate the experience of students who have interactions with co-nationals, but also students who are engaging with host nationals (or other international students using English). One of the respondents, a Chinese male who has in his social network, 4 co-nationals, 0 host nationals, and 2 internationals, provided the following perspective, "Different culture background, so I try to learn their culture in order to improve the understanding of each other. **People think in different ways**." In this quote, he recognizes that he is in a different culture and that he needs to learn the local culture. He expresses that he is trying to learn the culture, even though he recognizes that "people think in different ways".

I asked the survey respondents to compartmentalize their daily life in social settings and academic settings in order to see how often they were using English in either setting. We would expect that students are using English more frequently in academic settings, as the university is primarily taught in English. Remarkably, there are students who are using English infrequently even in academic settings. The following table displays the findings for the question of language use in academic settings.

Table 7: What percentage of the time do you communicate in English in academic settings?

Percent of time using English in academic settings	Fall Percent	Winter Percentage	Spring percentage
0%-19%	6.5%	16.2%	4.0%
20%-39%	26.1%	27.0%	24.0%
40%-59%	15.2%	10.8%	16.0%
60%-79%	15.2%	21.6%	20.0%

80%-100%	37.0%	24.3%	36.0%

Three students (6.5%) reported using English rarely (0-19%) in academic settings. If this is indeed the case, this figure is quite astonishing (note: these students are not in foreign languages or literature). Of these three students, all three also reported using English 0-19% of the time in social settings. Speaking English so infrequently in academic settings would suggest that they are not talking much in class, and speaking in their L1 all other times. One of the peripheral students, Gary, talked about the demographics of one of his statistics classes:

> There are many Chinese students, maybe 38 Chinese students and overall maybe 40 students, so **there are a lot of Chinese students in my class**. (Gary, fall quarter interview)

In the interview, Gary also spoke about living with co-nationals, so he rarely spoke English in his daily life. He even hinted at communicating with co-national teaching assistants in Chinese. The following is an excerpt from the winter quarter interview:

> **Gary**: I think almost I use, speak Chinese every day. But sometimes before I want to ask question from my professor or TA, I speak English. But the situation is not quite frequently. Seldom. It's seldom.
>
> **Daniel**: Are your professors or TA's Chinese?
>
> **Gary**: No. Most of them are American and some are Indian. And some Chinese but even if they are Chinese people they also speak English. I speak English with them. Although they speak Chinese to me.
>
> **Daniel**: Oh, do they?
>
> **Gary**: No. No. **On campus they won't**.

Gary implies that when they are on campus, they will speak in English, but that may not be the case when they are off campus[4]. Students, like Gary, used English so rarely are immersed in a co-national community. Unfortunately, none of the students who operated in English 0-19% of the time in social and academic settings elaborated on their experience on the fall survey beyond one of them saying "very little". One student (Chinese, M) who reported using English 20-39% of the time in academic settings remarked:

> "Even though most people who I interacted with are not from my home country, **we can all speak Chinese and understand each other without using English**. The only person who I had to talk to in English is my TA. However, most of the time I am a listener and I do not have much time to speak." (fall survey)

The above quote provides a good example of someone who has a co-national network, although the associates may not be from his country. (As noted in Chapter 2,because they share a common language, they are considered co-nationals for the purposes of this study.) This student remarked that the only person that he communicates with in English is his teaching assistant.

Meanwhile, 17 students (32.1%) reported using English 80-100% in academic settings. While this is markedly higher than the number of students who reported using English the same amount in social settings, it still shows that the majority (well over 50%) of international graduate students are using their L1 even in academic settings in the fall quarter. Students oftentimes find it harder to use English in social settings because there are many more factors at play (nuances, jokes, social conventions, etc.), while in a more restricted setting, such as an

[4] There were stories about a graduate level statistics class that was conducted in Mandarin. If this were true, it would raise many interesting questions about the role of English in U.S. universities. While this question is outside of the research scope of the current project, it would be a fascinating question to explore further.

academic class, the student may have a good grasp on what the topic is, and can follow along and contribute to the discussion accordingly.

4.4 The University as a Social Environment

The university setting is social in nature, where knowledge is shared through interpersonal communication in the classroom, during office hours, in the hallways, in the cafeteria, etc. While there may be some examples of the solitary scholar in the campus environment who conducts research, reads, writes, and generally works alone, this is not the norm. Even students who live in relative isolation still move through the social environment of the university. International students are involved in a variety of social interactions throughout any given day, and the extent to which those social interactions play a role in their language learning will be the focus of this section. In these social situations, knowledge is shared and social practices are taught and learned (Lave & Wenger, 1991; Wenger, 1998). Some of these groups are well defined and labeled (Department of Statistics, or International Club, for example), and others may not have any attached labels (colleagues meeting to work on homework, for example). It is both the defined and undefined groups that create the rich learning environment on the university campus. In order to explore the intricacies of the relationship between (language) learning and interaction, three central, underlying concepts have been widely used in the literature *discourse community* (Swales, 1990; Flowerdew, 2000), *community of practice* (Lave & Wenger, 1991; Montgomery & McDowell, 2009), and *network* (Bochner et al., 1977; Hendrickson et al., 2011; Ferenz, 2005). These concepts are both distinct and overlapping, as was explained in chapter 2; however, as these concepts suggest, it is through the lens of learning through *social interaction* with which we must proceed.

The importance of looking at the communities in which the international students participate cannot be overstated. After all, language learning, and learning in general, including at the university level happens in a social context, and is inherently social in nature. What that

means is that while students engage with textbooks and articles and can learn independently, there is also the necessity of the dialogic component. Graduate students are expected to give presentations, ask questions, engage in conversations, discussions, and arguments, all of which occur in a multidirectional manner. Information may be learned independently, but is reinforced and tested through interactions with other people. Even writing tasks, which would seem on the surface to be an independent type of assignment, are written with a particular audience in mind, may be written in multiple drafts, and generally receive written feedback from at least the professor, but also often from peers. As such, the channel through which information is shared and integrated is inherently interpersonal.

While discourse communities (Swales, 1990; Spack, 1988; Flowerdew, 2000), communities of practice (Wenger, 1998; Wenger, 2002; Lave & Wenger; 2001), and social networks (Milroy, 1980; Ferenz, 2005; Bochner et al., 1977; Hendrickson et al., 2011) capture various aspects of the social-educational environment that students find themselves in, these concepts are still disparate even though they seem to be theoretically overlapping and related. What is the underlying feature that ties these abstract groups together? Historically, a primary consideration for second language acquisition has been comprehensible linguistic input (Krashen, 1989; Krashen, 1992); that is, input that is one step beyond the learner's current competence level. However, input alone does not encapsulate what these communities provide and offer to international students. Rather, these communities provide opportunities and access to resources, help, emotional support, and academic support; in other words, *affordances*. These communities, then, act as the backdrop, the environment, or *learning ecology* (van Lier, 2000; Kramsch, 2003; Kramsch & Steffensen, 2008) for what the students have access to.

4.5 Difficulty when interacting with NESs

International students tend to have few, if any, NES friendships, with some studies, such as Bochner et al. (1985) reporting that NESs made up just 17% of the friendship networks of

international students. Social interaction and friendships with NESs, while not common, are reportedly desired among international students (Church, 1982; Hayes & Lin, 1994), and there have been studies that have shown some positive indicators for those students who had host national friends, including higher levels of satisfaction (Church, 1982) and improved communication competence (Ward & Kennedy, 1993). Zimmermann (1995) writes, "the most important factor in international students' adjustment to U.S. culture was frequency of interaction with American students" (p. 329). Furthermore, Maundeni (2001) showed that lack of interaction with host nationals proved to be a hindrance to the process of cultural adjustment. However, the Zimmermann and Maundeni studies beg the question of what the ultimate goals are for international students. Increasingly, the goals of the international students are less of 'acclimating' or 'integrating' into U.S. culture (however that is defined), and more towards finding a place in the local setting that meets their needs of friendship and support (including emotional, social, and academic support).

There is no shortage of literature documenting the theme of how difficult it is for international students to interact with NESs (Andrade, 2006; Yeh & Inose, 2003; Myles & Cheng, 2003). Studies on international students commonly report that students feel stress and anxiety (Chapdelaine & Alexitch, 2004), discrimination (Poyrazli & Lopez, 2007; Smith & Khawaja, 2011; Lee & Rice, 2007; Chen, 1999), and a lack of confidence in their speaking skills (Andrade, 2006; Zhang & Mi, 2010; Sawir, 2005), all of which may create a barrier in communicating with NESs. These barriers to interaction with NESs provide context for this chapter on social and cultural adjustment, as the barriers listed above impact the types of social interactions that the students choose to have.

A network that is comprised of a majority of native English speakers was quite rare amongst students in both the preliminary study and in the current study. The reasons behind this are manifold. Firstly, students in this study were those who scored poorly on TOEFL and/or scored poorly on the English placement exam; as such, these are students who exhibit a

relatively low level of English at the onset of their program. These students start out with a linguistic disadvantage, as many have difficulty expressing themselves clearly in English. Indeed, many of them mention their limited ability to express themselves as a barrier to connecting with U.S. people. The literature corroborates these experiences (Andrade, 2006; Sherry, Thomas, & Chui, 2010). Another factor that may play a role as to which type of network a student has access to is the percentage of international graduate students in their department. As previously discussed, 13 graduate programs have an enrollment of 40% or more of international students, leading to a higher accessibility to foreign students and co-nationals over domestic students. Additionally, the overall percentage of international students at this campus also is a factor that shapes the network choices, and options, that international students have. A student who shares a linguistic and cultural background with a strong co-national community on campus will have a higher likelihood of joining that community. Students who have difficulties expressing themselves in English, and who have access to a co-national community will tend towards joining co-national networks. A pertinent example from the current study involves a student named Henry, who is an international graduate student from China in the Computer Science department. Henry is in his thirties, and has lived in the United States for more than two years after completing a Masters program on the east coast and working for some tech companies. Henry describes his department as international, with approximately one third of the students of Chinese origin. In the fall interview, we were discussing who he interacts with in his department, and he started to explain the phenomenon of segregation in his department.

> **Henry**: I think the biggest reason why Chinese people want to talk with Chinese people, Indian people want to talk with Indian people, because some culture and shared background. Indian and American share same language but have a different background, so Indian still wants to talk to Indian. Language is one issue

> and culture is another issue, sometimes culture plays more important role in work communication. (Henry, fall quarter interview)

In order to distinguish the effect of culture and language, Henry offers the example of Indian graduate students in his department, who are native English speakers, but who still, in his observation, tend to congregate with other Indian students. Even though they speak English well, they are finding solace and comfort with co-nationals. I do not have enough data on Indian graduate students from this data set to know exactly why this is happening, or if this is happening at all, but Henry raises several important issues here with regards to culture and language. For one, as is shown in the next excerpt, he makes the distinction of topic: he can communicate easily and without mistakes when talking to colleagues about work or academic related topics, but in an informal setting, going to a restaurant for example, where the topics are more cultural bound, Henry has difficulties with communication. In particular, he mentions football as an example, a sport that is not widespread in China. The conversation continued on about language and culture:

> **Henry**: Because there are so many Chinese here, we talk with each other in Chinese but the average level of our English should be good. it's not difficult for us to talk with you guys in English. If you speak a lot faster maybe it's difficult for me to catch up. During my time in Pittsburg, I don't think it's difficult for us for me and my colleagues to talk to each other because the topic is work. We can talk very fluently and make no mistake, but if we go to restaurant, sit down, and have lunch together, maybe that's different, you talk about football, I don't understand that, it's cultural differences.

In this excerpt, Henry discusses how when the conversation is around a shared discourse, such as a work related topic, he has less trouble communicating with a U.S. colleague compared to when the conversation is social in nature, which will inevitably have cultural topics intertwined in the conversation.

Another student, Hang (female, Chinese), who is getting her Masters in Transportation Studies, is soft spoken and has quiet demeanor. In the fall quarter interview with her, she talked about how coming to the US for school was a big change for her. Her English was considered to be good, or at least passable, in China, but here in the US she began to struggle and even question whether her English would be good enough to succeed in her program. In the following excerpt, from the fall quarter interview, Hang spoke about her lack of opportunities to communicate in English.

> **Hang**: Because when I was in China everyone said, your English it's fine. When you go there, it's an English speaking environment. Your English would be improved automatically, or day by day or it's something like that. But when I came, **I find there's not much opportunities or chances I can practice my English** or make improvement. And by now **I find my English is far from what I need to finish my academic achievement**. So I have to learn from, how to say, learn again? Or—Put more heart, effort on it. (Hang, fall quarter interview)

Hang had the expectation of improving her English when she moved to Davis, but her expectation was, at the point of the interview, unfulfilled. She also mentioned how her English level was still below what she needed to succeed in her program. In another exchange, Hang talks about her self-perception of having poor English skills, specifically speaking and listening, and the resultant interactions that she has had with NESs.

> **Daniel**: When you interact with U.S. people, what's your experience? How do you feel?
>
> **Hang**: Smiling, smiling, smiling. I don't talk much.
>
> **Daniel**: Are you shy, or just kind of not confident?
>
> **Hang**: Both. The biggest problem is my speaking skills is not good. So I can't express myself clearly. And also the listening part is also the problem.

Daniel: So what do you do when you're having a conversation and you don't understand something?

Hang: Sometimes I ask. Sometimes I guess. Sometimes I just smile. Smile, smile, smile. Yeah.

In this exchange, Hang highlights the fact that she is at a point with her English that rather than asking for help, she will just smile. Smiling indicates that the conversation, at least from her end, slowed or halted. This example shows that Hang's lack of confidence and difficulty in expressing herself, coupled with trouble with listening, impede her ability to interact meaningfully with NESs. Specifically, because of Hang's language difficulties, her ability to interact with NESs is impeded. Sawir (2005) writes:

> "Of all the social and academic issues and problems facing international students that are cited in recent studies – differences in learning style, culture shock, homesickness, social difficulties – the problem they themselves most often refer to is difficulties with English" (p. 569).

In sum, there are a variety of reason as to why international students avoid or have trouble with connecting to NESs. As a result, international students tend to seek co-national friendships. It is not the goal of this chapter to evaluate which network is better and which one is worse. Rather, the aim is to describe the networks that are available, and to observe which ones the students end up in. Then, we can begin to understand why students are joining particular networks, and how those networks provide systems of social and academic support.

4.6 Social Interaction: The tendency towards co-nationalization

Since the 1970s, researchers have considered the role of social networks, also referred to as friendship patterns (Bochner et al., 1977; Bochner et al., 1985; Furnham & Alibhai, 1985) or friendship networks (Hendrickson et al., 2011), in the lives of international students. In this section, I will detail the different types of social networks that arise for international students, as

well as the implications for the kinds of opportunities that the student will have to practice and learn English. International students may find themselves in any of the following networks: co-national network, mixed network, NES network. There may also be the case of social isolation, where a student may not have any close friendships. These network patterns have been categorized in previous studies using varying terminology. In Bochner et al. (1985), the researchers referred to network types of monocultural, bicultural, or multi-cultural, while Hendrickson et al. (2011) talk about students having friendships with co-nationals, host nationals, or multi-nationals. Early research (Bochner et al., 1977) proposed a functional model of friendship networks, where each type of network serves a particular function,

> "a co-national network whose function is to affirm and express the culture of origin, a network of host nationals, whose function is instrumental facilitation of academic and professional aspirations, and a multi-national network whose main function is recreational" (p. 277).

While Bochner et al.'s functional model seems to be a sensible approach, data from the current study will show that the functions of each network proposed above do not encapsulate the entirety of what a social network can offer.

> "Through establishing and participating in ethnic communities, international students are able to better maintain their cultural identities and reproduce aspects of their native cultural environments. The network of ties established within an ethnic community can be utilized by international students as a means of coping with and resolving problems that emerge during the course of their studies, thereby facilitating the adjustment process. Such a net- work would also serve to buffer students from the effects of problems associated with a lack of assimilation of American culture and an inability to effectively interact with Americans." (Al-Sharideh & Goe, 1998, p. 700)

As a precursor to the current study, Moglen (2016) examined social network patterns in international graduate students at UC Davis. Students generally fit into the categories stated above, that is, co-national networks, mixed networks (referred to as multi-cultural above), and NES networks. NES networks may provide the greatest amount of exposure to English-language interaction. Students in these networks generally find their way in through a shared or common interest, or through a program with a higher percentage of NESs. It has been shown to be rare for students to have NES friendship networks. For example, 17% of the students in Bochner et al.'s (1985) study had host national friends. The Bochner et al. study asked students to categorize their three closest associates, while the current study asked students to categorize their six closest associates. In the current study, the fall quarter survey asked students to think about the 6 people who they interact with the most in social settings. Social settings were defined as were defined as outside of class, during social activities, and during the weekend. The tables below show the results from the fall quarter survey.

Table 8: Frequency of host-nationals, co-nationals, and multi-nationals in students' social networks (note: each cell shows the number of students who have n number of associates in each particular group)

Number of associates in network	Host National	Multi-national	Co-national
0 associates	16	15	2
1 associate	14	15	5
2 associates	7	7	4
3 associates	5	2	7
4 associates	3	3	8

5 associates	0	1	9
6 associates	0	0	11

The table above shows the distribution of host nationals, multi-nationals, and co-nationals in social networks from 46 survey respondents. Notably, 16 people (34.8%) reported having no host-nationals in their social network, defined here by the 6 people with whom the student spends the most time with, while 11 of the students (23.9%) reported having 6 co-nationals in their social network. Out of all of the people in the social networks of the students in the study, the majority was co-nationals 64.6%, followed by multi-nationals (19.0%), and finally host nationals (16.4%). The rate of host nationals in social networks in the current study (16.4%) is quite similar to the rate of host nationals in the friendship networks in Bochner et al.'s (1977) study, where they reported a host national friendship rate of 17.0%.

An innovation in the current study was that I asked specifically about the students' academic network. Academic settings were defined as in class, in the academic department/building, during academic related activities (such as study groups, conferences, and meetings). I asked students on the fall quarter survey about the 6 people that they interact with the most in academic settings. This question differs from much of the literature that focuses on social (friendship) networks. There are studies (Ferenz, 2005) that examine students' writing support network, which will be the topic of chapter 5, but there are not many studies that inquire about who comprises a student's academic network. The next table shows the academic network of the students in the study by categorizing the people in the network as host nationals, multi-nationals, and co-nationals.

Table 9: Frequency of host-nationals, co-nationals, and multi-nationals in students' academic networks

Number of associates	Host National	Multinational	Co-national
0 associates	7	9	11
1 associate	7	14	11
2 associates	10	10	4
3 associates	9	5	9
4 associates	3	5	4
5 associates	6	2	3
6 associates	4	0	4

In academic networks, host nationals comprise 40.0% of the networks, followed by co-nationals (33.7%), and finally multi-nationals (26.3%)[5]. Given that the international graduate student rate for the UC Davis campus hovers around 25%, it is telling that 60% of the students' academic networks are either co-nationals or multi-nationals. This suggests that the academic networks of international students tend to have the property of *density* (Milroy, 1980; Milroy & Milroy, 1992), meaning that the people within the student's network know each other. 10 of the students surveyed (21.7%) had 5 or 6 host nationals in their academic network, while 7 (15.2%) had 5 or 6 co-nationals in their academic networks. Also, 10 of the students (21.7%) had at least 4 co-nationals in both their social and academic networks. If a student has a social network and an academic network that consist of the same people, that student's network would be considered to have the property of *multiplexity* (Milroy, 1980; Milroy & Milroy, 1992), meaning that people

[5] These percentages were calculated by adding up all of the associates for each category and dividing those numbers by the total number of associates.

within the network have multiple roles (i.e. classmate and roommate). Milroy & Margrain (1980) posit that networks that are dense tend to have multiplexity and visa versa. We will examine an example of a student in the current study with a dense and multiplex network later in this section.

There are a few important factors to note at this point that will affect the makeup of a student's network. Students who come from a minority language group have fewer, if any, opportunities to join a community of people with a shared language and culture. In the pilot study, I interviewed a student from Indonesia, who spoke English as a 6th language. In the interview she told me how there were very few Indonesian speakers on campus, so most of her contacts were either host nationals or multi-nationals. Conversely, students who are from a well represented country will have greater access to co-nationals. Students from China, Taiwan, Chile, and Brazil, for example, will have access to more co-nationals on campus.

It is true that as the university admits more and more international students, the campus becomes more international; however, it may sound counterintuitive, but there is evidence that as this change occurs, it is also leading to more linguistic segregation. The level of English that the International students have, particularly on the lower end of the spectrum, coupled with more access to co-national communities, shepherds students towards co-national communities. So while the campus is becoming more worldly and diverse, the on-the-ground impact may be that there is more separation between international students and domestic students.

4.7 Focal Students

The previous discussion highlighted relevant literature and provided data about the larger LIN 25 population, serving to frame the discussion on the focal students. We now turn to the focal students in the study with the goal of identifying each student's linguistic affordances by analyzing their social (ecological) environment. The data for this section come from the

survey responses and the interviews that I conducted with the focal students throughout the year.

4.7.1 Luiza

Luiza (Brazil, female) is Ph.D. student in Land, Air, and Water Resources (LAWR). Before coming to UC Davis, she studied abroad in Eastern Canada. While in Canada, Luiza struggled with having to write in Portuguese, French, and English, so she ultimately decided to pursue education in a university where English is the primary language. She considered a couple of different universities in the United States, but settled on UC Davis because of the location, weather, and the quality of the program. Luiza reported using English about 50% of the time in both social and academic settings. Luiza mentioned that her first impressions of Davis were quite positive, saying:

> Everything here is super friendly, super nice, and people from my department are exceptionally friendly and they are exceptionally active so they are doing every week happy hours, every week parties, every week outdoors, sports, so I think this city is awesome, I like it, I couldn't be more happy. (Luiza, fall quarter interview)

From this quote, we can begin to see colleagues in Luiza's department offering social support and friendship. She feels included and welcomed into the department, which is exhibited by their inviting her to various outside activities. Luiza spoke as if she had a sense of belonging, something that many international students do not feel (Mori, 2000). Luiza's social network and academic network, as exhibited in the above quote, are overlapping and dense, which may be a contributor to her feeling of belonging. Dense networks have been shown to negatively correlate with feelings of loneliness; as Sawir et al. (2008) write, "the variable that correlates most significantly with loneliness is density. Dense networks enhance the sense of belonging

and reduce loneliness" (p. 153). Below is a table that shows Luiza's social and academic networks during her first year of graduate school.

Table 10: Social and Academic network of Luiza

	Social Network			Academic Network		
	Fall	Winter	Spring	Fall	Winter	Spring
Co-nationals	2	3	3	3	0	2
Host Nationals	3	3	3	1	6	3
Multinationals	1	0	0	2	0	1
English use (percent of time)	60-79%	50-59%	40-49%	80-100%	80-89%	70-79%

Luiza maintains a consistent ratio of co-nationals, host nationals, and multinationals in her social network, and is using English approximately half of the time in social settings. In academic settings, Luiza is using English the majority of the time. Her academic network seems to fluctuate with the quarter, which reflects that Luiza was interacting with different people in academic settings throughout the year. The most host nationals that she had in her academic network was in the winter quarter, when she listed her 6 closest associates as host nationals. In the interviews, Luiza exhibited a gregarious personality, and she seemed to make friends easily, including co-national, host national, and other international people. In the fall quarter interview, Luiza spoke about the community of Brazilians that she belongs to.

> **Luiza**: I am with a good Brazilian community. We made a Facebook group for everybody that came here so I have a lot of Brazilian friends. And I am living with a Brazilian girl so we speak a lot of Portuguese, but from those people I think I am the most one who have American friends. I do homework with them, I have happy hour with them, I play sports with them. For example, on Sunday we

went bicycling to lake Berryessa because they had that brewery there, so we went to a festival, and we spoke English the whole day.

There are a couple of salient points about this excerpt. For one, Luiza mentioned a community of Brazilians in Davis that she is a part of. This community provides affordances of social and emotional support. The online Facebook group provides a space for mutual engagement, as well as a way to connect and make plans. Luiza also mentioned how at home, she lived with another Brazilian student, who was a part of the Brazilian community. Together, at home, they spoke in Portuguese almost exclusively. Having a Portuguese-speaking roommate allowed Luiza to relax and enjoy time at home while operating in her L1 without worry of breaking any cultural rules. Also, she separated herself from other Brazilian co-nationals because she had host national friendships. She talked about a number of activities that they do together, including homework, attending happy hours, playing sports, and taking weekend trips together.

Although Luiza had little trouble making meaningful connections, she also spoke to having emotional difficulty about starting a new life in Davis. Her sadness was not around the people her social environment per se, but rather due to starting over in a new setting. In the following excerpt, Luiza discusses some of the challenges that she faces as she embarks on a new beginning.

Luiza: I have been a little bit depressed here because I think that it's kind of hard for me as it is my fourth experience abroad. So I already know how it is. I'm kind of tired of moving and starting over and starting over. I'm always starting over, so I felt tired of this and at the same time I'm kind of old. I'm at the age that people usually settle and I'm doing everything opposite of settling. So I kind of feel this feeling of low mood and I'm not going to much parties or happy hours that I could go, but mostly because I'm sleeping most of the time because I feel tired.

The feeling of depression and sadness in international students is well documented (Hechanova-Alampay et al., 2002; Dao, Lee, & Chang, 2007), and stem from a variety of

reasons. In Luiza's case, she felt "tired" from moving to a new country again and having to "start over". Just because Luiza had a vibrant network did not mean that she would not feel depressed; however, having a vibrant network to turn to for emotional support has been show to help buffer feelings of depression and sadness (Sawir et al., 2008). In the winter quarter interview, it appeared as if Luiza had settled into a routine and a lifestyle that worked for her. In this next excerpt, Luiza spoke about her work-life balance.

> **Luiza**: No I think the courses aren't really challenging, I think the courses are like Brazil, I'm not saying I'm getting A's, I'm getting a lot of B's, but I'm also having a great life. I go to the pool, I wake up late, I hang out with friends, you know, I study only two days before the exams, you know, so not really stressful. I mean the exams are stressful because I'm always cramming. Two days before the exam I start studying and I'm like ahhhhh, and it's very stressful, but nothing that I should complain, it's my fault that I left to the last minute.

In sum, Luiza's ecological environment includes mostly co-nationals and host nationals, with few multinational associates. The social links that she made in her academic department have led to ample social affordances, such as spending time with her colleagues for happy hour, going on weekend trips, joining intramural sports teams, and attending frequent house parties. These activities provide consistent and ongoing opportunities for Luiza to communicate in English in social settings, while building bonds with classmates. These bonds will serve as a valuable resource when Luiza needs to reach out for assistance on writing and other academic tasks.

4.7.2 Camila

Camila (Chile, Female) is a Ph.D. student in the department of Food Science. Before starting her program at UC Davis, she was living in Berkeley with her husband, who is also Chilean. Camila has a background in agriculture, and has chosen to focus her studies on olive oil. She sees herself as having a career in research, so UC Davis was a good fit for her, as the

university is an R1 institution. In the interviews, Camila talked about how time for meaningful social interaction was limited due to the fact that she had a young child. The following excerpt from the fall quarter interview shows how her time is divided between her life as a student and her life as a parent.

> **Camila**: I don't spend too much time with nobody. It's not sad, it's because I have a child. It sounds terrible, but I don't have time to do more things than go to school, classes, and my life at home so I spend I think the half of my time with [my child] and during this time I speak Spanish. I think this is really bad for my English improvement and I feel that because I know other people in my same condition and I feel worse than them because I am not practicing English.

As a full time mother and a full time student, Camila does not have the time to find, build and maintain social connections. In the table below, Camila's social and academic networks are displayed. Camila has a drastically different experience in social settings compared to academic settings. In social settings, Camila is predominantly speaking Spanish, while in academic settings, she is primarily using English.

Table 11: Social and Academic network of Camila

	Social Network			Academic Network		
	Fall	Winter	Spring	Fall	Winter	Spring
Co-nationals	3	4	2	0	0	1
Host Nationals	1	2	2	4	3	2
Multinationals	2	0	2	2	2	3
English use (percent of time)	0-19%	30-39%	30-39%	80-100%	80-89%	80-89%

The main pattern in the table above is that Camila has co-nationals present in her social network, yet co-nationals are mostly absent in her academic network. This is likely due to a

strong Chilean community in Davis, and likely a department that has fewer Chileans, and fewer Spanish speakers. In the fall quarter survey, Camila listed having 3 co-nationals, 1 host national, and 2 internationals in her social network. The one U.S. person that she listed is a woman who helps take care of her son. In the fall quarter survey, Camila elaborated on why it is hard for her to interact with U.S. people.

> I like to share with American people, however sometimes it is a little stressful for me because I don't feel confident with my English yet. Sometimes it is easier to speak in English with foreign people, because they are in the same situation as me. (Camila, fall survey)

In her case, her lack of confidence directly translates into stress, which likely reinforces her lack of confidence. Camila notes that it is easier for her to speak English with other foreigners because the stakes are lower, or how she puts it, they are in a similar situation. Camila's nervousness impeded her ability to communicate effectively in class, especially with teachers. In this next interview excerpt, Camila talks about how even though she was nervous, she knew she had to participate.

> **Camila**: I think that I felt more nervous with teachers than with classmates. With teachers, it's super hard for me. It's like, I don't like that nobody teachers talk with me. When they ask me something, it's like okay, I can't think in English. Or in class, I really want to participate in class because I know it is super important and I think I only participated once. In my English class, I always participate, I'm the most participating person, but in my normal class I say I must participate once. I can do that, I was really focus in the whole, and when I decided to participate I was like, super nervous. I knew that I will say something so I was like okay, but I do that but once I think it's almost all the same.

Here Camila is exhibiting *legitimate peripheral participation*. By participating in class, even though it required courage and focus, Camila realized that if she could do it once, she would be

able to do it again. Also, she had plenty of practice participating in her English class, so in a way, her English class gave her the affordance of practice so that she could participate in her field specific class. This important move marked a step in her journey of becoming a part of her academic discourse community.

Camila spoke about one U.S. classmate, in particular, who was also a parent of a young child. As a result of their shared experience, they were able to become friends and work with each other on a class project.

> **Camila**: We are two moms in my class. The other mom is American. The first class, she started to talk with me because I think for her it was also nice not to feel we are alone in this situation, and we made our first big project together. It was nice make first work with American, because other international [students] work together. I was unique that work with American, but I think it was more circumstance. The situation was like that. We can make a mom group because I think that she feel that it's easier because I can understand her time. It was really good because we didn't meet a lot. In general we work alone, and we met to put everything together. It was really good. It was difficult because we met it was difficult to follow her because they were super fast sometimes. I didn't understand anything. Sometimes I understood and I thought that maybe I have better ideas. It was super difficult to explain my idea, my point of view, but I think we worked really well actually.

Interestingly, the reason why Camila had almost no time for social activities (her son) was the reason behind her being able to make a connection with an U.S. classmate. Camila still expressed experiencing difficulty, especially with face-to-face interactions with her colleague. Also challenging was the fact that she had ideas that she wanted to express, but could not.

In the spring quarter interview, Camila told me about the end of the year party that she attended with her colleagues, something that she would not normally do, or if done, she

wouldn't normally participate in. She expressed frustration with being so limited by her knowledge of English - she was not the same person that she could be in Spanish, and that was hard. Instead she often remained quiet and passive even though she sees herself as a funny active person in Spanish. So in this particular instance, she let go and spoke and made mistakes and had a good time. That seemed like a type of breakthrough for her.

> **Camila**: When the last quarter was finished, we went to a bar with my classmates, and okay, I decided I must go to this meeting. Nobody invited me to this meeting. I was super sad in this first moment. I was super confident in my English. Then my friend told me that we had a meeting to celebrate that we finished our quarter, and they were thinking that we must organize something like that, but it's normal that nobody invites me because normally I don't go to this kind of situation. So it's not like the people don't like me, but okay, even if nobody invite me I will go. It was an invitation open for everyone, but I don't have Facebook so it maybe this is some problem. Maybe they put there, like everyone go. It was like a personal invitation and so the first moment was like no, I must go to that because I decided that I must have one opportunity to be normal, don't feel shy, try to express myself in a social situation. I went, and it was super fun, and I speak all the night. It was the first time that they say they were super focused on that like my task today is talk and it doesn't matter, and try to be normal. Because in general I absolutely more funny in Spanish, much more. It's like I try to be something like between. I feel boring in English, so it's like, today I can do a little with myself, and it was fun!

In this experience, Camila mentioned how she ultimately decided to go to the end of the year social event, and decided to not feel shy. Instead, she wanted to be “normal" and to try to express herself. Even though she feels like she is “boring” in English, she decided to participate in the social situation, and was ultimately successful. Camila showed examples throughout the

year of participating in both academic and social settings that were important acts of learning. By participating, she created a new way of interacting with her environment, which led to enriching social and academic experiences.

4.7.3 Q

Q (Korean, male) is a Masters student in the department of Veterinary Medicine. He had met the director of his program 4 years before, and thought that the program would be a good match for him. He was deciding between a few programs, but ultimately chose UC Davis because it has the top rated program. Q arrived in Davis just before his program started. Although he did not know anyone in Davis when he arrived, he had two friends from Korea who were studying in the Bay Area. Q's social network consisted of mostly co-nationals, while his academic network did not have any co-nationals, as seen in the table below.

Table 12: Social and Academic network of Q

	Social Network			Academic Network		
	Fall	Winter	Spring	Fall	Winter	Spring
Co-nationals	4	4	4	0	0	0
Host Nationals	1	2	1	4	4	3
Multinationals	0	0	1	2	2	3
English use (percent of time)	40-59%	30-39%	30-39%	80-100%	90-100%	90-100%

Throughout the year, Q used English approximately half of the time in social settings in the fall, and less than 50% of the time in the social settings in the winter and spring. His social network remained approximately the same ratio throughout the year. His academic network has a mix of international students from other countries and host nationals. He is using English exclusively in academic settings. I asked Q about his academic department in the fall interview, as seen in the following excerpt.

Q: we have a lot of common things, we are all veterinarian students, and also we work animal science and we have some experience and we share same viewpoint to do something. So, it makes more easier to be friendly with each other, I think.

Daniel: Do you find that you are interacting with and spending time with people from Korea, other international students, or U.S. people? Or is there a balance?

Q: Usually I spend most of the time with my classmates in my Masters program so they are a mixture of United States people and international students. We are quite social so I think. Especially, country does not make any kind of difference with each other. **We share the same viewpoint, and the same job, so it makes it easier to talk a lot, or share something**. That's the thing I think.

Q mentions how he and his classmates are able to get along because they share the same academic background. Because they share the same academic discourse community, they are able to converse easily with each other. Q talked about how it is much easier for him to meet other Korean co-nationals, but it is difficult to connect with U.S. people. With co-nationals, it is as simple as asking if they are Korean.

Q: Meeting Koreans is quite simple, are you Korean? I'm Korean, so yeah we can talk about how we come to the US and how Davis is quite simple and we share a lot of common thing, cultural thing, food, or anything. So, it is easy to be friendly but one thing that I would like to avoid that kind of situation. It could make some damage for my English skills or improvement, so I generally want to broaden my pools for Koreans here. I wish to make more English friend, but it is strange to make American friend. I think it is quite difficult because graduate students we are all a small group, only 4 or 10 students enrolled in the program. I can say we are exclusive or quite close, but it is quite difficult to make friend at

[student cafeteria]. Could you be my friend? I think it is quite difficult for myself especially culturally. I cannot even watch [tv].

Q raises an important point that co-nationals can be easy to find, and because of their shared background and experience, they are easy to approach. For Q, it was as simple as asking if someone was from Korea, and that could lead to the affordance of friendship. U.S. people, meanwhile, were much harder to approach. Q could not imagine approaching an U.S. person without some reason to. For that reason, Q is able to make friends with the U.S. students in his program. He also shared an example from the gym, where he would go to work out by punching the punching bag. In this scenario, Q is able to approach and talk with whoever else is there because they are both doing the same activity.

Q: For example, when I go to [the campus gym] or exercise, sometimes I communicate with a student because I like punching sandbag and box. So, we can share some important information so the most important thing is we should have a common topic we can talk so.

In this case, Q is able to talk and share information with whoever is there, but this social interaction does not necessarily lead into a friendship. Q thought that making friends in California was different than making friends in Korea, which he describes in the following excerpt.

Q: In Korea, the social barriers is quite high, here it is easy to be friendly, but difficult to be truly friendly with Californian. But their initial barrier is quite low I think. In South Korea, it's hard to be social at initial point, but if you pass through that, it is quite easy to be friendly because we drink a lot and talk a lot. In California, it takes time to share more things with each other. One thing that I got great culture shock in California is we generally spend our time in the weekends with our friends, drink alcohol, and talk a lot. That is common, but here, they spend time with their family or in their houses, so it's different. I have no alcohol

> friend here, I have some, but not that many [compared to] South Korea. It's easy to go over the initial barrier, it's steep and high but easy if they are all Korean, but even here, I see Koreans, but I wish to improve my English, so I keep distance from them. And if we don't have a common thing, it is difficult even with Korean at the time, like with 22 year old students, it is hard. If I become a TA, it might be different.

Q's experience is that people are generally friendly in Davis, so it is not particularly hard to be friendly with other people, including host nationals; however, having a deeper connection is difficult and the barrier seems to be higher than in Korea. Q sums up what he thinks are the benefits of a co-national social network in the following quote:

> **Q**: My personal life I wish to be relaxed, so in that situation it is easy to speak Korean, because Korean makes me feel relaxed. I think so, because I need to use my brain to speak English, and for the academic part.

Simply put, it is cognitively easier to speak in one's L1. Overall, Q kept a social network that consisted of mostly co-nationals, and an English speaking academic network with host nationals and students from other countries. Q expressed an interest in having more host nationals in his friend group, but felt unsure about how to connect deeply with them, in part due to what he perceived as cultural differences.

4.7.4 Kira

Kira (female) is a Chinese Ph.D student in the department of Nutrition. Kira started out in the Master's program, but was able to switch to the Ph.D. track by the end of the fall quarter. She chose UC Davis because it has a reputation as having a strong Nutrition program. Kira's social network consisted of mostly co-nationals, some multinationals, and no host nationals, as seen in the table below.

Table 13: Social and Academic network of Kira

	Social Network			Academic Network		
	Fall	Winter	Spring	Fall	Winter	Spring
Co-nationals	4	4	3	1	2	1
Host Nationals	0	0	0	3	0	0
Multinationals	2	2	3	2	4	5
English use (percent of time)	60-79%	30-39%	50-59%	80-100%	70-79%	90-100%

Kira reported using English the least in the winter quarter (30-39%), and the most in the fall quarter (60-79%). In academic settings, Kira using English most of the time, yet still had few host national associates in her academic network. Likely part of the reason why Kira had such few host national associates in her networks was because she did not have many opportunities to interact with local students. Kira mentioned in the interviews that she struggled with her interactions with NESs mostly because of cultural reasons, and she does not have many opportunities for interaction:

> **Kira**: So I try to start a conversation with people. But actually I don't have opportunities to speak to people. Maybe in lab, and I have. But I don't have a lot of American friends.

Kira says it is easier to interact with NESs one-on-one versus in group setting because she is able to guide and participate in the conversation better. Kira also acknowledges that there are cultural barriers to having meaning interactions with host nationals. In particular she gives an example of a time when she was playing a word game, but could not understand the cultural references, as in the following exchange:

> **Kira**: I think, yes, that's true. There definitely has some barriers between us because you know, we grew up in different environment and different culture so we do not have a lot of common topic to talk. We played a game during the

party. It's a lot of papers and then there are words or a sentence on the papers, and each of us will have seven papers. And one person would be the judge and she will pick a question. And there's a blank on the question and each of us will choose one from our own papers and to fill out this blank and see which one is the most funny. So yeah, a lot of words and a lot of phrases. I don't know. So, I just picked one. Although I don't know. I don't understand, but we still have fun. But yes, I think there are still some barriers.

In this example, Kira acknowledged how she felt that there was a cultural barrier when she was playing a game at a party. Because it was a word game, and one that made specific cultural references, Kira could not understand much about what was happening. In this next example, Kira furthers describes experiencing a cultural barrier when interacting with host nationals.

Kira: I think the cultural barrier will never disappear, you know? But I think that, I'm in this culture right now and I can learn about this culture. And **I can force myself to get used to that**. But I think that will never disappear. So if I want to join the conversation, it is kind of hard because they grow up here and I just imagine that if I'm in China and they are the international student in China they cannot join our conversation. For example, the movie that we were watching or the music that we were listening are totally different. So, I don't think it can be revised. It can be improved a lot, but, how I say. So if there is a like party with a lot of Americans but just a few of us are international student, I think it'll be very difficult to join them because of the culture barrier. But if I was talking with an American like privately, we will choose the topic that we both know, we're both familiar with. So, this kind of thing, this kind of problem will disappear.

Daniel: I see. So maybe communicating one-on-one is easier.

Kira: Yeah.

In social settings, Kira is highly aware of the cultural barrier that exists between her and host nationals. In the excerpt above, she takes a resigned stance, saying that she can "force" herself to adjust to the new culture. This suggests that "integrating", or even learning about the host culture would be a huge undertaking for Kira. She sees the benefits of learning more about the culture, as it would lead to more meaningful interactions with host nationals in social setting, but the bar may be to high to overcome. Instead, Kira realizes that a one-on-one interaction would be easier for her understand and to connect with a host national. In the winter quarter interview, Kira reflects on how her English has improved from the fall quarter.

> **Kira**: For the first quarter, if you are listening to someone speaking English for one or two hours, you will feel really sleepy because I was not familiar with that. But, now that that seems not happen again. **So, I mean I can focus. I can concentrate now, and just as I'm like listening to my own language**. I think I improved a lot because I have a chance to talk with my lab mates every day. And I know some students here, they are only taking classes so they don't have a lot of opportunities to talk with other people. So, I'm lucky I have a chance to talk with my PI, my lab mates, and my other friends. So, yeah, I think my English speaking is approved a lot.

Talking daily with her lab mates, who are primarily international students from other countries, provided her with the affordance of speaking in English, and on a topic that she could contribute to. Saying that she can listen to English like she is listening to Chinese suggests that she is getting used to being in an English dominant setting, like her lab. Kira's social environment consisted of very few host nationals, largely because of her perceived cultural barrier. Instead she surrounded herself with co-nationals and multinationals, who comprise most of her social and academic networks.

4.8 Conclusion

This chapter serves to provide a broad framework through which we can begin to discuss, analyze, and comment on the social experiences of international graduate students. We have examined which communities of practice, discourse communities, and networks international graduate students are involved in, as well as how those communities overlap. What ties these concepts together is that they are all instantiations of the student's ecological environment (van Lier, 2000, Kramsch & Steffensen, 2008), and as such, each aspect of the social environment provides certain affordances. Concretely, these affordances for the student show up as social, emotional, and linguistic support, among others. By categorizing the different social relationships that the students hold and the corresponding affordances that accompany those social relationships, we can better understand the decisions that students are making to meet their social and academic goals.

This chapter paid particular attention to the concept of networks (Milroy, 1980; Bochner et al., 1977; Hendrickson, 2011). An innovation in this study was that I asked students on the survey to describe the people in both their social network and their academic network with respect to their nationality. As a general trend amongst the focal students, they spoke English more in academic settings than in social settings, which mirrored the trend in the larger population of LIN 25 students, although there were students in the study who reported using English very little even in academic settings. Also, the general trend was that students had difficulty interacting with host nationals, and tended to minimize interactions with NESs. There were several reasons why the students in the study indicated having trouble socializing with NESs. For one, students spoke about their language difficulties. Because some of the students felt like they could not express themselves clearly, they felt nervous or shy around host nationals. Also, some students, like Q and Kira, felt like there were cultural barriers to having fulfilling interactions with host nationals, as if a culture specific conversations were to occur, they

felt like they could not understand the nuances. Contrastingly, there were instances of students, like Q, feeling more comfortable interacting with host nationals if the topic was within a shared academic discourse. In this case, the international student would have more of an equal footing in the conversation because of the shared knowledge. Another interesting example of one of the focal students successfully having meaning interactions with a host national was with Camila. She was able to befriend a U.S. student because they both had children. Unlike recommendations from certain studies in the literature that suggest students ought to "integrate" or befriend host nationals (Trice, 2004), data from the current study suggest that students can have co-national networks, and have their social and academic needs met.

Students in the study tended to have social networks that consisted of co-nationals. There were several reasons why international graduate students favored co-national friendships. Students reported that there was a lower cultural, and linguistic, barrier to befriending co-nationals. Q, for example, said it was as easy as asking if someone was Korean. Luiza, too, who had both co-national and host national associates, talked about the Brazilian Facebook group, where they were able to make plans with each other and stay in contact. Lucy, who was mentioned in chapter 2, provided an informative example about the Taiwanese Student Association, which was able to provide a wide range of affordances, including offering help with insurance information, banking information, and even information on how to ride a bicycle. Students also reported feeling more relaxed around co-nationals, which is an important aspect of a social network. Finally, I would argue that co-national associates provide affordances that other associates, or the university for that matter, could not provide. Mainly, co-nationals can uniquely offer insights from their personal experiences about aspects of the local culture, and can share those experiences in a linguistically and culturally accessible way. By looking at the student's ecological environment, and the affordances therein, this chapter provides a context for the following chapter, which will focus on the students' writing support network.

Chapter 5: Writing Support

5.1 Introduction: Sources of Writing Support

Chapter 4 discussed the construction of the social environment of international graduate students, examining four cases in detail: Luiza, Camila, and Q, and Kira. Identifiable and pertinent aspects of the social environment include discourse communities (Swales, 1990; Spack, 1988; Flowerdew, 2000), communities of practice (Wenger, 1998; Wenger, 2002; Lave & Wenger; 2001), and social networks (Milroy, 1980; Ferenz, 2005; Bochner et al., 1977; Hendrickson et al., 2011). These elements of the social environment provide a variety of affordances (van Lier, 2000) for international students, primarily with regards to social, emotional, and academic support. Chapter 5 focuses on the parts of the student's social environment which offer support around academic writing. Much of the literature around L2 writing support of college level English learners revolves around the interfaces between students and the writing center (Ewert, 2009; Williams, 2002). Through the use of tutors (Thonus, 1993; Weigle & Nelson, 2004) and L2 conferencing (Powers, 1993; Powers & Nelson, 1995), the writing center can provide tailored writing support for students. However, there are several limitations that writing centers have. For one, students who end up seeking support at the writing center are sometimes sent there by "panicked" instructors" (Thonus, 1993), who expect the writing centers to "effect a miracle" (p. 14). Students then implicitly learn that their professor is not available for writing support, and they must seek support elsewhere. Undergraduate tutors see both domestic and international students, and may be underprepared to address NNES writing needs (Weigle & Nelson, 2004; Cogie, Strain, & Lorinskas, 1999). The support that these international students receive from peer tutors may be "culturally inappropriate" (Weigle & Nelson, 2004), as expectations around the tutor/tutee relationship may conflict. Also, much of the literature on writing centers as a source of support has focused on serving the needs of undergraduate writers. Consequently, there is a lack of literature that

examines sources of writing support for L2 graduate writers of English. Writing support through writing centers is just one source of support; however, in the current study, international graduate student writers are generally not going to writing tutors for support, but rather to colleagues, friends, and professor. As such, the body of literature on tutoring does not provide much elucidation on first year international graduate student writers.

There are many studies that explore the relationship between the graduate student and advisor (Chang & Kanno, 2010; Wang & Li, 2011; Krase, 2007). Krase (2007) conducted a case study of looking at the expectation gap between an international Masters student and her advisor. The student, who was from Korea, expected that her advisor would work closely with her to help her develop and shape her thesis, while her advisor saw the advisee as a collaborator and strove to create an informal environment. The difference in expectations came from the advisee perceiving the relationship to be *hierarchical*, whereas the advisor saw the relationship as *egalitarian* (Krase, 2007; Wang & Li, 2011). This divergence in expectations led to a dysfunctional relationship. The advisor did not respond to several drafts of the advisee's work, leaving the advisee to proclaim, "Maybe the communication between us was not enough. Other than my study, we didn't really talk about personal stuff, you know. I mean, life" (Krase, 2007, p. 66). The advisee felt that she had been, perhaps, too passive by not asking for what she needed, while the advisor attempted to give more control to her advisee. In the Chang & Kanno (2010) study, students received guidance on their dissertations; however, they note that "much of what students must learn, if they are to become full-fledged members of academia, is learned through their engagement with various members of the community" (p. 673). The literature on the relationship between advisors and International advisees illuminate much about how students perceive their advisors and visa versa. However, these studies focus on international graduate students who are working closely with their advisors, as in, those students who are further along in their programs. First year students generally are not working one-on-one with advisors, and some do not yet have an advisor.

Therefore, where the literature falls short is with acknowledging where most of the writing support is actually coming from. I found that writing support largely comes from peers, specifically, friends and colleagues. One of the few studies that focuses on the relationship between social environments and L2 literacy comes from Ferenz (2005). In this study, Ferenz examined the social and academic networks of graduate level English learners in an EFL setting in Israel. Ferenz uses the term *writer's social network* to indicate the people with whom the writer talks about his/her writing, noting that "acquisition of academic literacy, within an academic environment consisting of people, institutional settings, and learning materials (e.g. lectures, classes, readings) is said to be dependent upon the interactive relationships of students, teachers, advisors, and classmates, which make up the students' social environment" (p.340). Ferenz interviewed six graduate students and their advisors, finding that academically oriented writing social networks lead to better knowledge of genre and academic literacy, and non-academically oriented social networks lead to general literacy development. Through this study, Ferenz opens the door to exploring the connection between social network and academic literacy. Certainly, support, or the access to support, relies partly on the students' academic and social network, as in, who is in the student's social environment (see more about social environments in chapter 4). Also included at the end of this chapter is a stark example of one of the focal students who felt unsupported with a writing assignment in the spring quarter. This case will provide a valuable counter example to show the result of not having writing support.

The goal of this chapter is to use survey and interview data to show who international graduate students are relying on for writing support, the frequency with which they seek support, and the perceived usefulness of the support. Since the texts collected from the students were authentic texts (texts produced for their classes rather than writing tasks produced for a study), the students received assistance on some of their writing tasks. The support came from friends, family, peers, colleagues, tutors, professors, in short, their social environment. This study views support as a valuable and necessary measure to crafting a successful piece of writing. Whether

the assignment is a short summary or a lengthy research article, students and scholars regularly (and ought to) seek out assistance as a part of their writing process. No doctoral student, myself included, is expected to complete a dissertation without support or counsel. The advantages of support are even built into the academic discourse communities through peer reviewed scholarly journals. All published articles have received some form of feedback from other experts in the field. What this means for international students is that finding where to get help and asking for help is a most important skill and tool that is necessary to succeed in graduate school.

5.2 Who do the students turn to for writing support?

The literature seems to suggest that undergraduate students seek writing support from peer tutors and writing centers (Williams, 2002; Williams & Severino, 2004; Weigle & Nelson, 2004) while doctoral students generally receive writing support from thesis advisors (Chang & Kanno, 2010; Krase, 2007). What we will see from the data presented in this study is that first year multilingual graduate students primarily seek writing support from colleagues and friends, followed by professors, and lastly by writing tutors and family members. As a central part of the data collection for this study, I conducted three surveys over the course of the 2014-2015 academic year (at the end of the fall, winter, and spring quarters). All of the participants for the survey were recruited from the Linguistics 25 class. More information about LIN 25, which is the ESL class that serves first year international graduate students, can be found in Chapter 3. The surveys, which can be found in Appendix C, had questions about the students' social environments, language use, and experiences with academic writing in English.

First, I will turn to a set of questions that was addressed on the fall survey. These questions included who the students were going to for writing support, and how frequently the students received support. Only 2 students out of the 45 surveyed in the fall did not report

seeking any support on any of their writing assignments during the fall 2014 quarter. The table below shows the counts for how many of the students sought out help and from whom.

Table 14: Frequency of Receiving Writing Support

	Professor	**Colleague**	**Friend**	**Writing Tutor**	**Family member**
Never	18	15	14	31	37
1-2 times	21	20	20	7	5
3-5 times	5	8	6	5	1
6 or more times	1	2	4	1	2

This table shows that family members were sought out the least, followed by writing tutors, while professors, colleagues and friends were sought out the most. In fact, 37 students (82.2%) never reached out to a family member for help with a writing assignment, and 31 students (68.9%) never reached out to a writing tutor for help. Meanwhile, 60% of the students reached out to a professor at least once, 66.7% of the students reached out to a colleague at least once, and 68.9% of the students reached out to a friend at least once. Although this is a small sample size, the trend is clear that international students seek support from colleagues and friends the most. In other words, the students relied on writing support primarily from their peer group. In fact, 10 students reported seeking help from a colleague or a friend 3 or more times throughout the quarter, meaning that they were likely seeking help for nearly every, if not every, written assignment. Furthermore, only five students surveyed (10.9%) did not seek support from either a colleague or a friend during the fall quarter. There are a few possible explanations as to why these 5 students did not seek support from their peers. Perhaps the explanation could be that those students did not have many writing assignments, or had low stakes assignments, or perhaps those students did not have as much access to friends and colleagues. For those who

met with professors, colleagues, and friends, there are further topics to be explored, such as, the nature of the interaction, the quality of the interaction, and whether or not there a positive outcome as a result of the interaction. These aspects of receiving support will be discussed in the subsequent section of this chapter.

A pattern in the interviews around help was that the international graduate students would sometimes ask NES peers to help review their papers and check for grammar. Dana, a Thai student studying agricultural economics, shares her account of asking for help from a U.S. colleague to review her grammar. In the interview, Dana talks about how she is the only Thai student in her department, and just over half of the students are Chinese. She has two close Chinese friends, but because no one in her department shares her language background, she must operate in English. Because she does not share the Chinese language with her colleagues, she is operating in English all the time in academic settings, which better positions her to interact with the U.S. people using English. This excerpt comes from the fall 2014 quarter interview that I conducted with Dana.

> **Dana**: About grammar, I think, that's a problem, but the professor is fair. He told me that I have a good analysis but I need to first rewrite because he feel distracted when read my paper, so I went to my classmates, the Americans, and they correct the grammar for me.
>
> **Daniel**: Did your professor say that you have some grammar problem, or grammar issues here? But your professor didn't tell you where?
>
> **Dana**: He did for some, but not all, and then I go to my colleague.
>
> **Daniel**: Then you went to your colleague and your colleague gave you some feedback?
>
> **Dana**: She said like you have to change the tense here.
>
> **Daniel**: And when your colleague gave you feedback, did it make sense? Did you understand why?

Dana: I understand, I just didn't realize when I did it at first.

Although the professor pointed out some grammar issues, the professor left the task up to the student to figure out where she went awry. Fortunately, Dana had access to a NES peer to help solve the grammar issues. The type of feedback that she received was explicit, “change the tense here”, and Dana is able to show uptake, “I understand, I just didn’t realize when I did it at first”. As a result, she is able to apply the writing support that she received, in the form of feedback, productively to her writing. Ideally, she also learned along the way how to correct the grammar errors that she was prone to make. Students who have access to supportive peer networks will reap the benefits in terms of having access to writing support.

5.3 How supportive were the interactions?

The previous section focused on who the students turned to for academic writing support and how frequently support was received. We saw that students primarily turn to their local environment (Casanave, 1998) for writing support, which includes peers and professors. Now, I will turn to the question of the quality of the interaction. The fall quarter survey asked how helpful the person was when the student was receiving support from these various people. The table below displays the results from this question.

Table 15: If you talked to someone about your writing, how helpful was this interaction?

	Professor	**Colleague**	**Friend**	**Writing Tutor**	**Family member**
No interaction	17	10	11	20	26
Not helpful	1	3	7	5	13
Somewhat helpful	3	12	8	4	3
Helpful	11	13	13	4	0
Very helpful	10	4	4	9	1

This table shows that professors were rated the highest in terms of how helpful they were for the students, with 21 out of 24 students (87.5%) rating the help as helpful or very helpful. 13 out of 22 (59.1%) students found a writing tutor to be helpful or very helpful. 17 out of 32 students (53.1%) found a colleague to be helpful or very helpful, while 17 out of 32 students (53.1%) found a friend to be helpful or very helpful. Only 1 student out of 17 found a family member to be helpful or very helpful. Family members were rated the lowest in terms of being helpful, with 13 out of 17 students rating the assistance from a family member to be not helpful. It is not surprising that professors were rated as the most helpful as they are generally the person assigning the writing task, so help from a professor ought to be directly transferable into performing better on the writing assignment. Writing tutors were also rated as very helpful. Even though they are removed from assigning the writing task, they generally have writing expertise that can be pertinent to the student's goals. Friends and colleagues were rated mostly between somewhat helpful and helpful. Family members were rated as the least helpful, likely because they are removed from the student's work and so unable to help with ideas, and because they may not have sufficient English language skills to help with grammar or editing. The one student who reported help from a family member as very helpful is also one of the 2 who reported receiving help from a family member more than 5 times during the quarter. This student happens to be one of the focal students in the study, Camila, from Chile. She is married to a co-national who has a high level of English, so Camila relied on her husband heavily throughout the year to check her writing before she turned it in. I will go into detail about how Camila leveraged writing support from her husband in the subsequent section.

It should be noted that there is a slight discrepancy between what the students reported in the two tables above. In table 15, more students reported not getting help from the various sources than in table 14. This discrepancy is probably because of the way the question was asked. In the first question, I asked if the student talked to a particular person about their writing,

and if so, how frequently. In the second question I asked if they talked to a particular person about their writing, how helpful the interaction was. The second question may have been interpreted to mean how helpful it was if they received academic support in a more general sense (not specifically just about writing). This would explain why more students offered a rating on the usefulness of support from a family member even though many reported on the first question not seeking out a family member for support with writing. In addition to asking how helpful the interaction of receiving help was with each person, I asked how comfortable the student felt talking to this person. A professor, for example, who may be providing quality feedback or direction would be less effective if the student did not feel comfortable in his presence. The questions in this section will help frame the discussion about the focal students in the study, which will be examined later in this chapter.

Table 16: How comfortable do you feel talking to this person about your writing?

	Professor	**Colleague**	**Friend**	**Writing Tutor**	**Family member**
Not comfortable	3	2	1	1	4
Somewhat comfortable	8	13	6	8	7
Comfortable	10	14	16	7	4
Very Comfortable	7	6	10	6	3

In the table above, we see that students felt the most comfortable talking to a friend about writing with 78.8% reporting feeling comfortable or very comfortable. Interestingly, students felt the least comfortable talking to a family member about writing, 61.1% felt either somewhat comfortable or not comfortable at all. As a note to this table, the count is not shown for students who reported no interaction with these various people.

These three tables that show the students' responses for how often they receive help, how helpful the interaction was, and how comfortable they felt during the interaction combine to give a clear picture about the importance of the social and academic networks that the students form. For one, students are going to their colleagues and friends most often, they are generally receiving guidance that they deem to be helpful, and students feel the most comfortable talking to the friends about their writing. Put together, these responses provide evidence that a strong social network will provide more opportunities for the students to access help with their writing, which leads to academic literacy (Ferenz, 2005) and entryway in the academic discourse community (Angelova & Riazantseva, 1999). On the spring survey, I asked students about who they went to for support over the course of the year. 25 students responded to this survey. Of those 25 students, 12 had gone to a friend for help over the course of the year, and of those 12, 8 had relied on friends as their primary source of help with writing. 6 students responded that they did not use any help from any of the sources during the year (the list of resources included, friend, colleague, professor, advisor, on campus tutor, internet, grammar checking program). While it is possible that these students, indeed, did not receive any help from any of these sources, including people and programs, these responses conflict with the survey results from the fall 2014 quarter. What their responses show, however, is the likelihood that they did not seek out much support over the year.

Also on the fall quarter survey I asked an open ended question about the students' experiences with their professors. Specifically, I asked, "What has been your experience interacting with your professors this quarter?" As responses ranged widely, I will provide some representative responses below. Some students struggled to communicate effectively in English with their advisors. For example, a Chinese (male) student in Applied Mathematics wrote about his interactions with an advisor by saying, "I talked with my initial advisor in my department. He is a Chinese professor. If I cannot express clearly, I can use Mandarin." International students who have a co-national advisor would have the advantage of being able

to communicate in their L1 if they cannot express themselves in English. While it would be fascinating to analyze international students with co-national advisors, there are not enough data points to draw any conclusions; however, this would make for an intriguing study. Another male Chinese student responded, “I try to express my opinion, sometimes it worked, sometimes the professor did not get the point.” This was a theme in the responses; students struggled with their ability to express themselves clearly with their advisors. Other students had good experiences with their professors, like this student from Chile who said, “Very good. Easy to reach them, and also they understand my background (English as a second language).” This student appreciated the fact that his professor was also an English language learner (although from a different country). Another student from Taiwan also reported a positive experience with professors, “I thought I had a very good experiences in interacting with professors here. They do something to help me instead of blaming me.” Perhaps this student is touching on a past experience of having professors blame students. The experiences that the focal students had with their professors around receiving, or not receiving, writing support will be discussed later in this chapter.

In the fall quarter survey, students were asked to rate themselves on a scale of 1-4 (1 means not at all confident, 2 means somewhat confident, 3 means confident, 4 means very confident) for the following question, “Do you feel confident in your writing ability to succeed in your program?”. One student responded “not confident at all”, 20 students said “somewhat confident”, 20 students said “confident”, and 5 students said that they were “really confident”. Notably, around half (47%) of the students felt somewhat confident or not confident at all (although only one person reported being not confident at all) at the end of the fall quarter. This shows that for many of the students, more writing instruction and writing support are much needed. On the spring quarter survey, I asked how confident the students felt that they were in writing academically in English. The counts for the fall quarter and the spring quarter responses to these questions are shown in the table below.

Table 17: Confidence with writing (note: 3 students took the spring survey who did not take the fall survey)

	Fall Quarter: Ability to succeed in program based on writing ability (N=46)	Spring Quarter: Ability to write academically (N=25)
Not Confident	2.17%	28.0%
Somewhat Confident	43.38%	56.0%
Confident	43.38%	16.0%
Very Confident	10.87%	0%

7 out of the 25 students in the spring quarter did not feel confident in their writing abilities. 14 out of 25 (56.0%) felt somewhat confident, and just 4 students (16.0%) felt confident, while 0 students felt very confident. At the end of the year, the majority of students (84.0%) felt not confident or somewhat confident in their academic writing ability. Perhaps this is because at this point in the data collection, the students had experienced a whole academic year of graduate school. These students had seen what was expected of them, and they perhaps had struggled enough to know that what lies ahead will not be easy. Also, as students progressed in their programs, they likely encountered more challenging and higher stakes writing assignments. A Taiwanese graduate student in Biostatistics, who claimed to not get any help over the year and responded “not confident” about his ability to write academically in English, elaborated on the spring survey by saying,

> “E-mail and reports are my two main purposes to write in English. However, people usually won't correct my grammar as long as they understand what I mean. Therefore, I usually didn't know when do I make mistakes.”

Even though this student did not receive much, if any, writing support, he recognized that his English is problematic, and what would be helpful for him would be to have people who can

read his writing and provide feedback. If people would help point out some of his errors, he would be more aware of the types of errors that he is committing.

The survey data have provided background information about where LIN 25 students go to for writing support. We have seen that they generally seek support from colleagues and friends, as well as professors. Responses from the surveys suggest that writing support from professors was generally found to be helpful, more so than support from colleagues and friends. Few students sought support from writing tutors and family members. In the next section, survey and interview data from the focal students will be presented.

5.4 Focal Students

This chapter thus far has served to provide contextual background information about the writing support networks of students in LIN 25. We will now turn to data about the four focal students, Luiza, Camila, Q, and Kira. Interview and survey data for these students will provide a rich account of the type of writing support that these students received during their first year of graduate school, and will indicate the student's writing support network. For each focal student, I will start with a brief description of their social environment. Then I will provide survey data to show how the focal students compare to other LIN 25 students. Finally, I will provide data that show instances of the focal students receiving writing support. The quality and frequency of the writing support that these focal students have received will create the context for describing their writing output, which is the topic of chapter 6.

5.4.1 Luiza

Luiza is a Ph.D. student in the Land, Air, and Water Resources department. In chapter 4, data were presented showing Luiza as an outgoing and confident person who was not afraid to make friends with host nationals. As a result, Luiza has a robust network of friends, which includes both co-nationals and host nationals. She has an active social life, attending weekly social gatherings, playing on sports teams, and going on weekend trips. Many of these peers

are both colleagues from her department, as well as friends. She is also a part of a Brazilian community that consists of Brazilian students from different departments. In the fall survey, Luiza reported that she had received writing support from a professor for help 1-2 times, and a colleague for help 1-2 times, but never from a friend, writing tutor, or family member. She felt comfortable speaking with both her professor and colleague about about her writing tasks. Given the opportunity to elaborate, Luiza responded,

> My department has a lot of open and friendly professors. We are always interacting and going to happy hours together. But, about my english, or writing I just interacted with my LIN 25 instructor. (Luiza, fall 2014 survey)

From this quote, we can glean that Luiza's professors were similar to the advisor in Krase (2007), who favored an *egalitarian* approach to the relationship between professor and student. As a result of having friendly professors, Luiza felt comfortable approaching them as needed. She found the writing support from her professor, specifically her LIN 25 instructor, to be helpful, and the support from her colleague to be somewhat helpful.

First, I present a couple of excerpts from Luiza where she was not receiving writing support or had negative experiences when trying to get help. This excerpt is from the interview I conducted with Luiza at the end of the fall quarter. In this excerpt, Luiza talks about how she receives help in two different classes, and the outcomes are very different.

> **Daniel**: And do they help like if you have a problem with homework or some assignments do feel comfortable asking them?
>
> **Luiza**: Last quarter I had a class that I had two best friends right away and then we did everything together. The other class I could have had as good of help but I didn't and then I struggled because I did everything alone. But I think if I had asked for example, Andrew, another American, as new as me, he would have helped me. But no, I left just to the end for help a Chinese girl and I felt her a little bit competitive, like I don't want to help you too much, you know.

Daniel: So you had very different experiences in your two classes?

Luiza: Yeah very different experiences. I mean because I think the first one of class the two friends said let's sit together. It was very spontaneous the other class they were quiet and I didn't do this "let's sit together" so I did almost everything by myself.

In the first class, Luiza was able to make friends and leverage those friends as sources of help, which worked out well in her favor. However, in the other class she took, she struggled because she had to do everything alone. She had the opportunity to befriend a U.S. person, but for whatever reason decided against it. She ended up working some of the time with another student, a female Chinese student, but she felt that the help that she got was tarnished by a sense of competition. It also seems like these friendships in the first class, and lack of friendships in the second class, were due to what happened at the onset of the class. Luiza says that it happened "spontaneously" that she and the students decided to sit together, but in the other class, where students were more quiet, those connections (and subsequent opportunities for help) were unavailable.

In one of Luiza's classes, about the global carbon cycle, Luiza had the experience of feeling "abandoned" because the professor did not provide written feedback on her papers. The lack of feedback left Luiza feeling as if the professor did not genuinely care about the students. For this particular writing task, Luiza wrote a summary of presentation that she saw on campus. Included in the paper was a response to the presentation, where she could give her personal opinion about the topic. Luiza sensed that her professor would not read her paper closely since everyone seemed to get an 'A' on these summaries, and there was not any written feedback. Over her years of studying the environment and the ways in which humans are negatively impacting the environment, Luiza has taken what she calls a "pessimistic" stance about the future of our environment. In her paper, she wrote:

> I am reaching a such a **depressive** situation that I am starting to agree with Noam Chomsky who states (Dietz and O'Neill, 2013) that "humans seem to be intent on confirming the argument of biologist Ernst Mayr (Cell Press, 2012) that higher intelligence may be a lethal mutation". Or with the theory that humans are actually not mammals, yet they are a virus, a disease, a cancer of this planet (Figure 1). **Which leads me to the sad perspective that at least the majority of the population must die. What I am trying to do now is: find reasons to keep going. I am accepting help!** (Luiza, winter 2015 quarter writing, bold added).

There are a couple of salient aspects of this excerpt from her written response to a presentation that she saw. For one, Luiza uses the word "depressive", which is perhaps too personal for an academic response, even one that includes her opinion. In the last three sentences, it is as if she is calling out for help. It sounds like she is try to draw a response or feedback of some sort from her professor, who, as is seen in the following excerpt, does not give her any substantive feedback. The following is an excerpt from the winter quarter interview with Luiza that corresponds to her experience of not receiving written feedback on this particular piece of writing.

> **Daniel**: For the winter quarter did you get feedback from your professor or did you discuss this assignment?
>
> **Luiza**: No. I had no feedback with this assignment. This professor didn't give feedback for anyone.
>
> **Daniel**: You just got a grade?
>
> **Luiza**: Yeah I just got 'A'. Everybody got 'A' in this class. There was no feedback. This class was a kind of disappointment. He said he read it. He addressed some questions during the class, but not specific, because I didn't ask any questions, just I did this. I mean I'm in this field for ten years now, so I don't

> have questions, I just think everyone is going to die at some point as I said, so that's what I said all the time. So I didn't make any questions, so he addressed some questions that people did in their summary, but I felt very **abandoned** with no feedback.

This excerpt was marked with the codes for 'not receiving support' and 'interaction with professor'. When Luiza says that "everyone is going to die at some point" in the interview, she is referring to her pessimistic stance about the dire state that the planet is in, as is seen in the writing excerpt from above. Luiza felt frustrated with the material in the class because she had already known much of it. In addition, the professor did not provide support in the way of written feedback, which left her feeling "abandoned". Her polarized stance served as an attempt to get her professor's attention, but the attempt was unsuccessful. Even in class, where the professor provided some nonspecific verbal feedback, Luiza did not feel seen or supported. If a professor does not give feedback, then he or she is sending a message to the students. Not getting feedback created a disharmonious view for her about the class, and she lost interest. She got the 'A' just like everyone else in the class, and she moved on. Luiza summed up her year by saying the following:

> I am confident to write in general, I think I am a very clear person and I am proud of my ability of organize thoughts and expose it in a exciting and concise and understandable way, i.e., I believe I am a charismatic leader. However, I totally need to improve my grammar, as one of my professors just advised me. (Luiza, spring 2015 survey)

She has an awareness around her grammar difficulties, but that does not take away from her confidence. Luiza reported feeling confident in her academic writing in English on the spring 2015 survey. Excerpts from Luiza's writing will be analyzed in chapter 6. In the spring quarter interview, Luiza revealed to me that she had been accused of plagiarism on one of her papers, and was subsequently sent to the Student Judicial Affairs office. Being accused of plagiarism

severely impacted her level of confidence in writing, as well as her identity as a graduate student. I will discuss this experience of hers at the end of this chapter.

5.4.2 Camila

> *I'm still speaking a lot in Spanish. I know that I am thinking a lot in Spanish, but when I try to write, sometimes I think I am thinking in English when I'm writing but when I cannot find the word or the way to do that, I start to think in Spanish. And, I think it's something like that. I have moments that I am thinking in English, and I have moments that I am thinking in Spanish, but also when I'm thinking in English, it's my English level. When I think in English it's like I'm thinking in Span-English, you know. When [my husband] correct me, he said, always the adjective is before, and you always put the adjective at the end, and I know that. When I write I do that, when I speak I do that too.* (Camila, winter quarter interview)

Camila is a Chilean Ph.D. student in the Food Science department, studying olive oil. Camila has a co-national (Chilean) husband, who is an advanced level speaker of English. Because of his high skill level, along with his proximity and accessibility, her husband provided thorough and continuous writing support for Camila throughout her first year of graduate school. Camila reported on the fall quarter survey seeking support from her husband more than 5 times throughout the quarter, and she felt very comfortable approaching him for support. In this excerpt from the interview I conducted with her at the end of the fall quarter, Camila talks about how her husband is helping her with her writing projects.

> **Daniel**: What kind of feedback does [your husband] give you?
>
> **Camila**: When I am ready because he has a lot of work too. But when I am completely ready I work with him. We sit together, and he says, okay what do you want to say this part? And he corrects me.

Daniel: So, it sounds like he helps you with grammar, vocabulary, and clarity. Like, what do you want to say here?

Camila: But in this second work, he really corrected me less than the first one. But when we do that, we do that in Spanish. I mean, I explain him what I want to say in Spanish.

As this was Camila's first quarter at UC Davis, it was tremendously helpful that she had the built in writing support in the form of her husband. Camila had access to constant and reliable support to the extent of having someone ask what she is trying to say almost line by line throughout her written assignment. This support proved to be crucial for Camila's success in her first year. Her husband was invaluable as a part of Camila's writing support network. Having a spouse, or someone who is always available, for writing support is something that has been understudied in the L2 writing literature.

Because her language level was low at the onset of her program, she relied on her husband as a crutch, but her confidence in her own writing improved throughout the year. In the winter 2015 quarter, Camila expressed that she felt more "independent", as she was able to write mostly on her own. She weened herself from relying solely on her husband for writing support, although she still sought his counsel for some writing tasks throughout the quarter.

Camila: Because before that, for me, it was almost impossible to write something like write and give something without checking this with the internet or [my husband]. But now I can do that, but not really for complicated things. I don't know, like, in class, can you comment on 'lalala'? It was super stressful. Now it's a little stressful, but less. And now I think I am asking less help from [my husband]. For example, in the first quarter, I asked that he review every email that I sent. Now I didn't ask for that, just when it's hard, or something really important. Now, I just asked once during this quarter for this paper that I must

submit. During the first quarter it was for everything. **So I feel more independent now.**

This feeling of independence demonstrates a huge breakthrough for Camila in her process of becoming a member of her academic discourse community. While she needed care and support for nearly every writing task in the fall 2014 quarter, by the winter 2015 quarter, Camila is able to use herself as a resource rather than relying solely on her husband. That said, having her husband present and available for writing support was instrumental for her to gain her independence. This transition from relying on another person for support to relying more on herself shows confidence and certainty. Camila took Linguistics 25 in fall 2015, as well as the subsequent class in the series, called Linguistics 26 in the winter 2015 quarter, which also focuses on academic writing. In this next excerpt, Camila talks about receiving writing support from her writing instructor.

Daniel: How did [your writing instructor] help you with your writing?

Camila: She was really helpful. I think that a lot of different assignments that she give to us, like one assignment that we must write in class. And after that, we talked with her about that, and she tell me which was my most important weakness.

Daniel: Your weakness in terms of grammar?

Camila: I think more grammar, and was more personalized because it's difficult to make a personalized class, but because **she met with us, I think twice during the whole quarter, this was super helpful**.

From this excerpt we can glean that Camila benefitted from the personalized, one-on-one writing support from her writing instructor. These individualized writing conferences allow for more directed and targeted support, especially with regards to grammar. Unlike an underprepared writing center tutor (Cogie, Strain, & Lorinskas, 1999; Weigle & Nelson; 2004), her writing instructor, as a TESOL professional, was able to provide targeted support with

writing that met Camila's needs. In turn, Camila was able to learn about her weaknesses and receive support around how to improve.

Camila also received writing support in the form of peer review. In one of her classes, the professor had students review each other's proposals as a part of a class assignment. This next excerpt shows Camila talking about the peer review process.

> **Camila**: The evaluation of this proposal was make this proposal first and evaluate another two proposal for another student. So, like, make a peer review. So two classmates peer review mine, and one of them correct some grammar mistake of mine. When I talk with the professor, he didn't talk about my grammar or whatever. He was focused more on the idea that improve my skill as a researcher. He said, you never can say like maybe this will be or not may be. Or, this can be a really big issue - this *is* a big issue. You must be super confident, that was more knowing my English, more.
>
> **Daniel**: Style
>
> **Camila**: Style, yes.

Interestingly, one of her classmates, when reviewing her proposal, focused on her grammar. However, her professor was less interested in her grammar and more interested in her style of writing. In this exchange, Camila, learned that she needed to use stronger worded language in her paper in order to sound more confident.

In sum, Camila's writing support network consists of primarily her husband, along with some colleagues and some professors. Her husband provided the greatest amount of writing support, which comforted Camila because she knew she could rely on him. She also received support from her writing instructor in the form of two one-on-one meetings in the winter quarter. For another assignment, her classmates gave her feedback in the form of peer review, and her professor gave her feedback on her style and content. Overall, the writing support that Camila

received throughout the year allowed her to get closer to becoming a member of her academic discourse community.

5.4.3 Q

Q is a Korean Masters student studying veterinary medicine. Q's network consists of co-nationals, and other international students, largely because his department has a large international student population. On the fall 2014 survey, Q indicated that he received writing support from a professor, a colleague, and a friend. His LIN 25 writing instructor provided support on several occasions throughout the quarter. Q felt comfortable working with his writing instructor, and he found the support to be "very helpful". In the fall 2014 quarter interview with Q, I asked him to talk about the writing support that he received from his LIN 25 instructor. We started talking about a series of drafts that he wrote for the class. The prompt for this particular writing assignment was to describe a chart or a graph from the student's field. Q chose to write about the risk factors associated with Avian Influenza. This writing assignment was designed to have students practice using academic language to describe a graph, which will serve as a useful skill for students in their field specific classes. I noticed that Q had made a decision in his second draft to split up a paragraph into two paragraphs, which prompted my question below.

> **Daniel**: I was wondering how did you decide to split the paragraph into two paragraphs? Was that from feedback that you received?
>
> **Q**: Nearly 99% of it was feedback.
>
> **Daniel**: So [your LIN 25 instructor] said you should break it into 2 paragraphs?
>
> **Q**: Yeah. And focus on this part, and do more to improve this part, and need to be well organized this part, so that kind of comments. And also she fixed some minimal grammar - article, she usually focus on how to improve, make it more organized. The bigger part, she fixed, gave some feedback for that one, she

usually focus on minimal grammar more because she narrow down to make improved paper before so.

Through receiving extensive feedback from his writing instructor, Q was able to improve upon his first draft. His writing instructor did not just comment on grammar, but rather gave specific comments about how to improve each section. This guidance and support from an ESL professional allowed Q to create a draft of writing that fit more in alignment with his instructor's notion of the academic writing genre. For this particular assignment, Q wrote three drafts. The goals of the drafting process were to create a dialogue between the instructor and the student around academic writing and to give the student the opportunity to craft a piece of writing within the academic genre with scaffolding. The conversation continued with a question about what Q accomplished in each of his three drafts.

Daniel: So there were three drafts, the first draft, the second one, and this third one. What was your thinking process going from first draft to second draft to third draft. What did you accomplish in the first draft. What did you accomplish in the second draft?

Q: It's the way to approach your writing because at the beginning of the first draft. **Writing is just expressing the mind**. I didn't consider the audience or people who read this, the first draft, but after I got feedback from audience she told me how the audience feels after reading this part, and writing improved more, so I can catch something and improve more and more how can I share this same feeling. Or, this same meaning for the writing, so that's the thing. Audience feels more convenience or confidence reading this kind of organized paper, so that's the thing I accomplished after I got feedback from her.

Q says that in his first draft he is "just expressing the mind", which means that he is trying to get his ideas on the paper. At least in this particular assignment, Q was not considering the role of

the audience until the third draft. The fact that he is talking about audience in the interview shows that Q is gaining genre awareness. The conversation continued:

> **Daniel**: Did you um find [your writing instructor's] feedback helpful?
>
> **Q**: Yeah, sure. The peer review is quite important because I could understand what the audience feels, so it's important for delivery. **And also I could convince myself this sentence or this kind of framework for writing is truly helpful for someone or not so that's the way to convince or understand audience minds and how could organize**, it was truly helpful for me.
>
> **Daniel**: Do you think you consider audience more?
>
> **Q**: Yeah. And in this quarter I also take peer reviewing or scientific paper how to write a scientific paper type of class. It was helpful because I was the audience and also sometimes become writer and audience. **After that kind of procedure I could just see what audience feels and kind of approach to the audience understandings.** So, yeah, I could understand the whole framework for writing.

In this excerpt, Q talks about an exercise in a class where he was the audience. Reading in this manner, seeing himself as the audience, built upon his knowledge about how to write for an academic audience as he could experience the audience's point of view.

In terms of receiving help from classmates, Q said that it depended on the assignment. If the assignment was difficult, then his U.S. classmates would not have enough time to help. Otherwise, they would help from time to time.

> **Q**: Usually classmates help a little bit but not that much because it was a difficult assignment for American students, so they didn't have time for that. And also they must prepare their own project, so we all busy so it is hard to help each other. But sometimes they help me to proofread some part. Not that much fall quarter. But I didn't ask help from them because we all busy so writing down very fast, then submit. It's hard to get help from them.

From this excerpt, we can glean that Q had classmates who were available to help; however, Q felt unwilling to ask for support at times knowing how busy his classmates were. Still, Q managed to have some of his classmates help proofread some of his written assignments. The interaction between domestic students and international students is not always uni-directional (domestic students helping international students). Q recognizes that international students need help with grammar, writing, and English in general, but also notes that international students, too, have skills and knowledge to share, as in the following exchange.

> **Q**: Especially because international students are not so good at writing English, so many U.S. students classmates helps a lot. But the other point - I think it could be prejudice for Asian students - but Asian students are good at math and stats, so I can help that part. So we help each other and just fill our work deficit, kind of negative ones. So the harmony is quite good for each other.

In the quote, Q shows how a type of symbiotic relationship had developed between international students and U.S. students in his department. This quote also highlights that international students, who are sometimes seen as having a language deficit, often bring other valuable skills to the table, skills that benefit other students. In addition, Q has a good working relationship with his advisor (also called Principal Investigator, or PI). Although Q did not meet individually with his PI much, he took a class from her, so they saw each other regularly. Seeing each other regularly made Q feel more comfortable interacting with her when he needed to.

> **Daniel**: You went to your professor once or twice last quarter?
>
> **Q**: Yeah we talked about my topic for my project and also this quarter same thing, but next quarter I'll do more because I'll increase the unit of the class. A little bit focused on my project, so it will be more than fall quarter, but right now it's not that much. Just once or twice in a month, but one of the funny things is the lecture of this class, this quarter, was my PI. So, it's quite easy to meet her

and talk a little bit for a short time. I do not need to have specific time to talk because we already knew each other, every three days a week.

Over the year, Q's writing support network consisted of friends, colleagues, and professors. Q received the most writing support from his writing instructor from LIN 25. His writing instructor gave him detailed feedback on each section, as well as feedback about audience. Q found this feedback to be very helpfully, and subsequently was able to incorporate the feedback into his second and third drafts. Q's ability to talk about audience showed a burgeoning awareness the genre of academic writing.

5.4.4 Kira

> *I struggled. I struggled a lot. A lot because I came here just for like half a year and I am doing the research at the same time as I am taking a class. So I think I don't have that much time to know the precise expression about my research. I just know the idea in general and I did part of my job, but as I'm writing I struggle a lot. So I asked my lab mates a lot because—but she's not a English speaker as well. She's an international student. She's Italian.* (Kira, winter quarter interview)

Kira is a Ph.D. student from China in the department of Nutrition. Her social environment consists of mostly co-nationals, and lacks host national associates. In the fall quarter interview, she expressed a shyness around interacting with NESs using English, which reinforced her tendency to interact with co-national peers. In this excerpt, from the fall 2014 interview, Kira talks about how she received support from a Chinese friend.

> **Kira**: Yes, ask for help, but I usually ask for help from my Chinese friend. Yes. One of my Chinese friend, he goes to a same class as, with me every day. So yeah, we sit together and we can discuss together. **As long as you have a Chinese friend you, you will ask him or her because there is no language barriers.**

Kira's last comment almost rings true like an adage, and for her is the formula for success. By having a co-national as a friend, colleague, and helper, she is able to get linguistically accessible help, and she can do so in a way that does not involve cultural or linguistic barriers. Also in this same interview, just minutes before the excerpt above, Kira expanded on what the help looks like when she is received help from co-nationals.

> **Kira**: Actually, I have another two Chinese friends with me, so sometimes I ask them. They didn't know either, although they have spent their like four to five years in the U.S. But they didn't know the answer, so we may check our phones, the dictionary. And some of the words, although they check the dictionary the meanings are not the same. They may change or they may have some deep meanings we don't know.

In this case, even if the co-national friends do not immediately know the answer, they have a system of working together to solve the problem, in this case, finding the meaning of some words in English. Also, in the above quote, Kira mentions that her co-national friends has lived in the US for several years, so she feels as if they have a stronger grasp about English, especially with respects to U.S. culture. In academic settings, Kira did not receive much support from her professors, with the exception of her advisor (PI). In the winter 2015 quarter, Kira talked about a writing assignment that her PI, and a fellow colleague, helped revise.

> **Kira**: I can't give it to anyone to revise it or not. But last quarter my PI asked me to attend a symposium in my department, so for that symposium I needed to write an abstract. And I wrote it first, and then my lab mate, she revised for me for the first time and then my PI revised it for me again. **Yeah, and also [my lab mate] told me like what do you need to put in the, in an abstract.**

This excerpt shows Kira receiving help with writing an abstract. Specifically, a lab mate and her advisor each revised it. Additionally, her advisor told her what she needed to put in the abstract. By receiving feedback and explicit information about what constitutes the genre of abstract

writing, Kira is able to complete this task. Kira does not always seek out help; if she is able to complete a task solo, or just by looking online for assistance, she will do so, as in the following excerpt.

> **Daniel**: And what's your strategy?
>
> **Kira**: I think I will search online and see how native speakers express themselves.
>
> **Daniel**: So your first option is to check online.
>
> **Kira**: Yeah. I don't think I will ask others because I don't care about that. Because you know, most of the written exams is not asking you to be very precise. You just need to express your idea in general. So I don't think that's a problem, so I will not like ask others. **But if it's a like abstract, if it's important I will definitely ask someone who is more professional.**

In this excerpt, Kira is showing her resourcefulness in first trying to find out answers by herself. However, if the assignment is important, she has access to experts in the field who can provide support. Kira also shared about learning specific rules about what kinds of phrases/words can go in each section. For example, one of her lab mates told her to use *may* or *might* in conclusion, rather than *can* because "It's not directly from the, the observation. It's from a statistics" (Kira, winter quarter interview). She also shared a rule she learned about using *such as*. Her professor told her that when she uses *such as*, it needs to be followed by three examples.

> **Kira**: We struggled with "such as". So we are not sure if we need to put at least three examples after a "such as." But finally we put just one. It that okay?
>
> **Daniel**: Yeah.
>
> **Kira**: Because there's also another Indian professor who is very good at revising the papers and she told us you need to put at least three examples after "such

as." But finally we didn't take that advice. W**e just put one, because I think that is much more precise.**

On this paper, Kira co-wrote it with international colleagues. International students, like Kira, may have had a history of learning English rules and applying them. Knowing a rule in a language can provide comfort, yet academic writing, and writing in general for that matter, cannot be easily condensed into a set of explicit rules. In the end, Kira and her colleagues choose not to follow the prescribed rule that her professor offered, and put just one example after *such as*. This decision to not follow the prescribed rule shows that Kira is gaining a deeper awareness and intuition about academic writing in English.

5.5 Unsupported and Accused of Plagiarism

This section is dedicated to a particular episode involving one of the focal students, Luiza, who had a troubling experience of being accused of plagiarism. By the winter quarter, Luiza had settled into a routine where school was not overwhelming, and she was able to enjoy life and do well in her classes. Everything changed in the spring quarter when Luiza was accused of plagiarism by one of her professors (not her advisor). As soon as the spring interview started, I suspected that something was awry. Immediately, Luiza asked me if I had noticed anything in her writing. I responded that I had not noticed anything of concern, and that I was unsure what she was referring to. Luiza then told me her story.

> **Luiza**: No, then I'm going to tell you. What happened was, the professor said that he noticed a lot of English mistakes. And then because of that he realized that this paragraph here, this one, didn't have any mistakes. So he realized that I copied from the journal, there is this citation, but this some part, most of this paragraph is word by word. And then he sent me to SJA and I was prosecuted. I mean, I was in a court, like that.

It is not uncommon for international students to be caught plagiarizing. I, personally, have caught students in my LIN 25 class copying texts, specifically wikipedia, and have realized after meeting with the student individually, that he/she did not know that they were plagiarizing. Just as Luiza mentioned above, an instructor merely needs to see a section without errors, and then check Google or another online search engine to see if it was copied or not. While catching an international student plagiarizing is not particular difficult to do, the question more lies in whether or not the student was aware of his actions. Furthermore, in the context of this study, it is valuable to see the fallout and emotional ramifications of going through such an experience. Also valuable to this discussion is the ways in which Luiza, alone, is not the lone culprit. Rather, it is important to question in which ways other people or the institution played a role in her committing this act that amounts to grave consequences. After all, plagiarism in the west oftentimes carries significant penalties, including expulsion. The emotional impact that being accused of plagiarism brought to Luiza was severe.

> **Luiza**: I was almost expelled because of this paragraph and in the end the SJA said they would give me a second chance, but I signed the paper. I mean, if something happen, if someone say something about me I don't have the right of defending myself. And the professor has the full authority to do what he wants to do with me, so he could give me an F and I would be expelled anyway. He could give me a D and I would lose my scholarship. C, I would lose my scholarship and maybe be expelled. And then in the end he decided to give me a B-. So from A I got a B- because of this paragraph.

Luiza was nearly expelled and nearly lost her scholarship. Adding to the pain was the fact that this entire ordeal spanned two months. So, Luiza continued going to class “thinking every day that when I arrive i'm going to be expelled”. The SJA, in the end, found her case to be a minor infraction, which could have been remedied with quotation marks around the plagiarized paragraph. UC Davis does not have a zero tolerance policy with regards to plagiarism (i.e.

automatic expulsion), however, other universities do. As a result of this episode, in addition to the emotional toll, Luiza lost much of her confidence in writing.

> **Luiza**: I've faced everything, even crying in front of him. It's very rare for me to cry. He was like, 'I don't care that's what I think is right', so after he told me all of that I changed all my opinions about my writing skills. I'm not sure if I am confident anymore. I even questioned him. I said, let me see if I understand. When I do a lot of citation as I usually do in this kind of paper, I do because I want to show how much I read about, and to try to come up with the most accurate information. Would it have been different if I just said something wrong in this paragraph would have been better? And he answered yes, it's better you do something wrong than you try to copy. And I understand, but in the same way I'm like, the biggest lesson I got is instead of reading, just trying to make things up - I made something like the soil is great, I think that this process is happening because of god, you know. I just wrote things without really caring if it was accurate or not. I didn't try to come up with papers to corroborate with my ideas, I just put my ideas there, and I don't care because that was the lesson I learned.

Furthermore, Luiza felt as if this particular professor "was out to get her". She told some stories about negative experiences that her colleagues had with this same professor. Luiza, too, was dissatisfied with his class, which was a seminar class. She said that the professor rarely attended the class, but rather brought in guest speakers for each lecture. When he did show up to give a lecture, for the final class, Luiza challenged him on a point that he was making because she was very familiar with that research area. She thought that he may have felt undermined, and as a result looked for a way to lower her grade. While we do not have evidence that this is indeed the case, the fact that Luiza felt this way shows that she did not feel supported. During the meetings with him, Luiza felt that he was not showing care or compassion about her feelings. She was crying in front of him, and his response was about

how she needed to be a better scientist. Luiza ended up telling her advisor because she did not want him to find out through other channels. She mustered the confidence to talk to her advisor about about it, then quickly exited the conversation amidst growing anxiety. Her advisor contacted the professor who accused Luiza of plagiarism, and they had a discussion about what happened. At the time of the interview, her advisor told her that he was not sure if he was going to work with her anymore "because he could not trust her".

Overall, my assessment is: 1) Luiza made a mistake, and 2) the institutional system played a part. Luiza ultimately admitted her responsibility in making this mistake; however, she also felt untrained and unsupported. In the spring interview, she spoke about how in Brazil, students are required to take methodology courses that explicitly teach citations and how papers should be written. At UC Davis, she did not receive explicit instruction on what was expected in her field; instead, she was left to learn about APA guidelines on her own. While plagiarism is a topic that is covered in LIN 25, it may be the case that the material is not focused enough on particular fields, or perhaps the material is insufficient. In Luiza's case, it was.

> **Luiza**: No one gave me a presentation to say how I know the citation style. Is it APA, or other? I did APA because I searched the internet for what is the most common citation style Americans use and I felt like it was APA. I didn't really think that the way the citation is, is a big deal. The deadline was short. I was working to hurry up and, if I knew how to do the quotation mark, maybe I would have done because in Brazil if you do a quotation mark you can't just quote. You have to index and put it 4 cm from the left side, indent, and then you put in a small letter. You put with the quotation marks, for example. So I would have to have done all of this, and I assure you, that maybe if I had a class or a presentation telling me how to do this I would have done it. But I tell you when I was writing this paragraph, I wasn't sure how to do it in American way. I wasn't sure if I should put it in the Brazilian way, or if it was disrespecting.

Once accused of plagiarism, Luiza was left to navigate the bureaucracy of Student Judicial Affairs, where one misstep (missing a meeting, saying something wrong) could have resulted in expulsion. She felt unable to tell people what she was going through because it was embarrassing and painful. When she went to the accusing professor, he provided no empathy or compassion, but rather disregarded her emotional experience and gave her a stern lesson. This experience brought her severe pain, fear, and uncertainty about her future in the academy. This experience is highlighted here in its own section to demonstrate an extreme case, although not necessarily uncommon, of what can happen when a student does not have proper support. Even though Luiza kept her scholarship and stayed in the program, she underwent an enormously difficult situation that could have been avoided in a number of ways.

5.6 Conclusion

The connecting thread of this chapter is the concept of support, which includes asking for support, receiving support, having access to support, benefiting from support, and emotional affect around support. This chapter used data collected from surveys and interviews from international graduate students during the 2014-2015 academic school year at UC Davis. In this section, I will review the major findings from this section, and talk about how they relate to the theory and literature. The fact that nearly 70% of students never sought help from a writing tutor while 2/3 of the students sought help from a friend or colleague illuminates the discrepancy between what the literature focuses on and what students are actually doing. Perhaps the literature focuses on what happens inside a writing center because it is a more controlled environment, or because more resources are being poured into that kind of research. Empirically, what we find is that students are turning to friends and colleagues as primary sources of help, which students generally regard as somewhat helpful or helpful. Colleagues and friends are in a unique position in that they have a similar vantage. Students are also receiving writing support from their professors, which they generally regard as helpful. The vast

majority of the students reported receiving writing support from at least one source, suggesting that receiving support is the norm. Perhaps there are some students who are writing and completing some or all of their assignments in isolation, but they are in the minority.

In terms of the focal students, Luiza received support from colleagues and her writing instructor. While she had positive experiences with many of her professors, she also had negative experiences with a couple of professors. In one class, she did not receive feedback, which left her feeling "abandoned", and in another class, she was sent to the Student Judicial Affairs office for plagiarism, which ultimately was due to her not citing a source properly. Camila was fortunate to have a very support husband who was available for writing support throughout the year. She also received support from her writing instructor. Through her supportive network, Camila was able to become more autonomous with her writing throughout the year. Q showed that while international students may solicit for grammar feedback, international students can be and are sources of academic support for host nationals, as international students bring other strengths and knowledge to the table. I think this is a relevant point, and one that goes against the general idea that international students need to receive support, but they do not contribute support, which is totally false. Kira mostly received support from her lab mates, and occasionally from her professors. Through her support network she learned how to write an abstract and gained a greater awareness about the elements of a research paper. The focal students provided rich, qualitative data that helps illustrate elements of the writing support network.

The goal of the chapter is not to equate getting support with certainty of success; rather, the reality is more nuanced than that. Receiving writing support is an important aspect of success with writing assignments in graduate school, but students need not necessarily seek out help if it is not needed. The importance of the writing support network is that students have access to help when needed. Professors are not always accessible, writing tutors generally have limited availability, and family members may not always have the right answers. Friends

and colleagues fit in this narrow band of having knowledge about what is happening in the class and being able to provide support in an accessible and relaxing manner.

Chapter 4 discussed the types of social networks that the international graduate students have access to, and how those networks provide access to affordances for the students, including social and emotional support, opportunities to speak, and general ease and sense of comfort. Chapter 5, meanwhile, served to bridge the previous and subsequent chapters in that it took into account the student's access to resources and help, and explored how and where the student received support with writing. Chapter 6 will go into detail about the type of genre that the students engage in, as well as the qualities/features of their writing over the first academic year.

Chapter 6: Describing writing

6.1 Introduction

In Chapter 4, we learned about the social environment of first year international graduate students at UC Davis. These students are members of social and academic networks, as well as academic discourse communities, and a variety of communities of practice. The international students in the present study have a tendency to interact with co-nationals more than host nationals, likely due to comfort, ease, and convenience, which is consistent with the literature (Hendrickson et al., 2011; Montgomery & McDowell, 2009). The social environments which the students are in provide certain affordances around social and academic support. In chapter 5, we saw that, through the social environment, the students were able to receive writing support. The people involved in providing support form the student's writing support network. Writing support networks have been found to help students gain academic literacy (Ferenz, 2005). Findings from chapter 5 suggest that the writing support network tends to consist of peers (colleagues and friends), followed by professors, and lastly by specialized writing tutors and family members. One stark exception was Camila, one of the focal students, who relied heavily on her husband for writing support. The texts that Camila produced, as well as writing from the other focal students will be explored In this chapter.

This study includes a chapter on academic writing for several reasons. Graduate students are expected to produce written texts that adhere to academic writing norms, across several types of genres, from the beginning of their program oftentimes with little to no explicit writing instruction. Meanwhile, international students often encounter predictable struggles when approaching graduate level writing tasks. These struggles not only stem from a lack of vocabulary (Sawir, 2005; Lee, 1997; Lewthwaite, 1996) or a lack of confidence (Robertson et al., 2000; Senyshyn et al., 2000), but they also are due to a lack of knowledge about academic genres in U.S. universities (Angelova & Riazantseva, 1999). Graduate student writers may not

receive much direction or instruction because these students are expected to know the norms of academic writing and genre conventions. Also required from these students are texts that synthesize a multitude of sources, a skill that is rarely explicitly taught in graduate programs. Graduate level texts vary in length, but tend to be longer than those written by undergraduates, and must fit the conventions of a particular genre: grant proposal, literature review, dissertation proposal, lab report, etc.

The goals of this chapter are twofold: 1) to describe the academic genres of the writing assignments that international graduate students are expected to produce and 2) to describe the students' writing over the course of the first year of graduate school by examining grammatical complexity, noun phrase complexity, and lexical complexity. For the first goal, I will consider the types of texts (genre), length of texts, quantity of texts, etc. This is important because different genres will have different features, and require distinct structures and organization (Swales, 1990). In effect, the genre will have certain constraints on the type and style of writing that is produced. In order to describe features of the students' texts, a variety of measurements will be used. To begin with, grammatical complexity measurements will be used, including clauses per sentence, words per sentence, and words per clause. These measurements are a "blunt" tool that alone has limited value, but will help contextualize the other measurements. Additionally, studies that have measured MLU (mean length of utterance) (Hawkins & Filipovic) or T-unit length (Larsen-Freeman, 2006; Lu, 2010) have consistently shown that more advanced writers produce longer utterances/sentences/T-units. Then, we will examine noun phrase complexity, specifically number of modifiers per noun phrase, noun phrase density, and words before the main verb. We will end the analysis of each focal student by looking at lexical complexity, which includes measurements of the lexical profile, type-token ratio, lexical density, and lexical sophistication. Through these measurements, an interpretation can be made about the progress that the student has made over the year.

This chapter begins with a discussion on the academic genres that these graduate students have been assigned and a review of the writing features that will be used. Then, survey data will be used to show writing perceptions of LIN 25 students, which will help shape the findings that will be presented about the four focal students.

6.2 L2 Writing in Academic Genres

Genre study and analysis in second language writing is a vast field unto itself; as such, it is beyond the scope of this study to cover the wide-ranging issues that the literature investigates. Instead, I will focus on the aspects of the literature that focus on international students writing in academic genres. To begin, we will consider a definition of genre. Swales (1990) in his seminal piece *Genre Analysis* defines genre as:

> A genre comprises a class of communicative events, the members of which share some set of communicative purposes. These purposes are recognized by the expert members of the parent discourse community, and thereby constitute the rationale for the genre. This rationale shapes the schematic structure of the discourse and influences and constrains choice and content of style… In addition to purpose, exemplars of a genre exhibit various patterns of similarity in terms of structure, style, content and intended audience. If all high probability expectations are realized, the exemplar will be viewed as prototypical of the parent discourse community. (Swales, 1990, p. 58)

Genre, then, is a valuable place to start because the genre encompasses the shape and form which the text takes. Some genres are strict, where texts must follow rigid guidelines in order to be permissible, such as an abstract, while other genres have fewer restrictions, such as a dissertation. In any case, the genre helps the writer know what to put, and what not to put, in a given text, and the degree to which the elements within a given text fit the genre will, in part, determine the success of the text. Specifically it is the experts in the parent discourse who

determine whether or not a particular text fits within the genre. In the case of the present study, the professors who are assigning the writing tasks are the ultimate deciders of whether a text meets the standards of the academic genre. If professors are assigning and grading texts, it would logically follow that professors ought to be providing explicit instructions on what is expected in the genre which they are assigning. This is not always the case. Researchers have addressed the question of who is responsible for teaching genre, and have suggested that the bulk of the instruction falls on writing instructors (Spack, 1988; Raimes, 1991). Furthermore, in the Angelova and Riazantseva (1999) study, some professors specifically thought that it was not their responsibility to teach students how to write. One of the professors in their study said in an interview:

> My philosophy is that it's not my job to teach them how to write, I'm not a writing instructor. If they have major problems, they should take a writing course, hire a tutor or get an editor… I have a few just referred [one of my students] to the writing center. But after she went there, she said it wasn't helpful. (Angelova & Riazantseva, 1999, p. 509)

The mentality that professors are not writing instructors is particularly harmful for second language writers, who are "more and more often held to the same strict academic writing standards as their US counterparts" (Angelova & Riazantseva, 1999). Jenkins et al. (1993) found the same to be true in their study with Engineering professors - that NNES students are held to the same standards as NES students. Students in the current study reportedly received support on genre from writing instructors, lab mates, and professors, while other students specifically reported not receiving instruction about genre from professors.

In sum, the text must meet the requirements of the genre with regards to purpose, structure, style, content, and intended audience. The experts in the academic discourse community can tell which texts are acceptable and which are not, while international graduate students tend to be relative novices at writing in academic genres, especially in English. This is

potentially problematic, as admittance into an academic discourse community largely rests on the ability to write in field specific academic genres.

6.3 Complexity at the Clausal, Phrasal, and Lexical Level

In examining the writing of the students, the current study moved away from error measurements in favor of complexity measurements. Errors, to some extent, are to be expected in second language writers, and even proficient second language writers are prone to errors. Depending on the writing support network that the students have, international students may have access to host nationals, or other resources, for support with editing and proofreading. Instead, the current study examines measurements of complexity, specifically clausal, phrasal, and lexical complexity. Using complexity measurements serves to demonstrate what the students can do with their writing with regard to sentence structure, style, and tone.

Clausal complexity is operationalized here by the words/clause measure, in conjunction with the words/sentence and clauses/sentence measurements. We will start with these measurements to see if there are patterns at the causal and sentence level. Next, we will examine noun phrase complexity, which is a feature of writing in academic genres (Parkinson & Musgrave, 2014; Biber et al., 2011; Parkinson, 2015). As such, we would expect that more complex noun phrases would reflect writing development and increased complexity. The current study will use the following measurements of noun phrase complexity: mean number of modifiers per noun phrase, density of noun phrases, and left embeddedness (mean number of words before the main verb). These measurements were obtained through the online text analysis software, Coh Metrix (Graesser et al., 2004). Moving on from the phrasal level, next we will consider lexical complexity measures. Lexical complexity measurements will provide insight on the types of words that the students use, as well as the frequency, diversity, and rarity of the words in a given text. We will start with the lexical profile (Laufer & Nation, 1994) for each

focal student. The lexical profile breaks down the tokens in a given text (or set of texts), showing the percentage of 1) 1000 most frequent words (K1), 2) second thousand most frequent words (K2), 3) words on the academic word list (AWL), and 4) Off-list words (off-list), so the sum total from the four categories accounts for all of the words in a given text will be 100%. Each set of texts from the focal students was inputted into the Vocabulary Profiler (Cobb, 2002; Heatley, Nation, & Coxhead, 2002), which is a widely available online web application. There is particular interest in the percentage of AWL words and off-list words, as an absence or lack of these would indicate that the text is not academic. About 10% of the words in academic texts generally come from the AWL (Hyland & Tse, 2007), and off-list words are where field specific jargon in found. Additional measurements that will be used include type-token ratio, lexical density, and lexical sophistication. Type-token ratio is calculated by number of unique word types in a text divided by total number of lexical items. Lexical sophistication measures the ratio of sophisticated words (AWL and off list words) to content words (not grammatical words) (Laufer & Nation, 1994). See chapter 3 for a more detailed description of how these complexity measurements were chosen.

6.4 Writing background of LIN 25 students

In this section, I will use survey data to provide an overview of writing trends in LIN 25 students from the fall 2014 quarter. The data presented in this section will provide the context through which the focal students will be explored. The average TOEFL iBT writing score of the students in the current study is 24.1 with a standard deviation of 2.4. This score falls towards the upper threshold of the "fair" scoring category, with scores ranging from 18-25 (TOEFL website). The average score of 24.1 is also consistent with a preliminary study (Moglen 2015), which found the average TOEFL writing score of incoming international graduate students from 2007-2011 to be 23.5 with a standard deviation of 3.5. The lowest TOEFL writing score reported on the fall 2014 survey was 19, reported by two students, which still falls within the

"fair" scoring range. 11 students (23.9%) reported TOEFL writing scores of 26 or above, falling into the "good" scoring category (TOEFL website). In terms of genre, 71.7% of the LIN 25 students reported writing a summary, while 45.7% wrote a term paper. A summary of the genres which the students in the study encountered can be found in table 18 (note that because students generally wrote in more than one genre, the percentages in the table are independent of each other).

Table 18: Academic genres that students engaged in (fall quarter)

	Student count (N=46)	Percentage
In class writing	24	52.2%
Literature review	16	34.8%
Summary	33	71.7%
Lab report	9	19.6%
Term paper	21	45.7%

Five students reported only writing in the summary category during the fall 2014 quarter. Other genres that students reported on the survey include grant proposal, free write, progress report, and scientific paper review.

On the fall 2014 survey, I asked students about how confident they were using appropriate grammar and vocabulary in academic writing in English. The responses to this question are shown in table 19.

Table 19: Student confidence in using grammar and vocabulary appropriately in academic writing in English (N=46)

	Using Correct Grammar	Using Appropriate Vocabulary
Not Confident	12 (26.1%)	9 (19.6%)
Somewhat confident	18 (39.1%)	29 (63.0%)

	Using Correct Grammar	Using Appropriate Vocabulary
Confident	15 (32.6%)	7 (15.2%)
Very Confident	1 (2.2%)	1 (2.2%)

12 students (26.1%) were not confident with their ability to use correct grammar, while 9 students (19.6%) were not confident with their ability to use appropriate academic vocabulary. Five students (10.9%) were both not confident in their ability to write grammatically and not confident in their ability to use appropriate academic vocabulary. Perhaps not coincidentally, all of these five students had social environments that primarily consisted of co-nationals. Of these five students, four of them spoke english 0-20% of the time in social settings, and had a total of 2 host nationals in their academic networks, suggesting that a lack of confidence in grammar and vocabulary may be associated with a lack of social interaction in English. While there are not enough students to show a statistical correlation, the link is a sensible one, and one that is corroborated in the literature (Andrade, 2006). Other students who had strong co-national networks, however, reported higher levels of confidence in grammar and vocabulary, so I am not suggesting causal link, or rather, there is not enough evidence to determine a causal link. The survey also allowed students to elaborate on the question posed in the table above. A Chinese student, who reported "not confident" on grammar, and "somewhat confident" on vocabulary, remarked,

> "When I write academic articles, I need to think it using Chinese, and then need to translate into English. **This process makes me extremely confused how to write an 'American' article"** (Fall 2014 survey).

While it is beyond the scope of this study to consider L1 use in L2 writing, this student brings up an important piece to his writing process, which involves L1 use. This student is also touching on issues of genre. Presumably, academic genres in Chinese require different elements, tone,

and style compared to academic genres in English, thereby causing confusion when translating from Chinese to English. Another Chinese student, who was "somewhat confident" with vocabulary, elaborated, "When I write a article, I have so few words to choose from. I don't know how to make a reasonable argument in second language" (fall 2014 survey). This student would likely score low on the lexical diversity measure, and the lack of range of vocabulary would likely show up on his lexical profile. Having a lack of vocabulary will be a detriment as this student moves towards higher stakes writing. Another Chinese student who was "not confident" with grammar, wrote, "My grammar is a big problem. Sometimes, my advisor cannot understand what I am writing" (fall 2014 survey). A student like this one would benefit from ESL writing classes and perhaps even direct writing support from a tutor. Given that this survey was in the fall, this student still has time to improve his grammar before reaching gatekeeping genres such as the dissertation prospectus. Finally, one of the 5 students who was "not confident" in both grammar and vocabulary was a Thai graduate student. She wrote,

> I got comment from my professor that **he was distracted a lot with my grammar**. But he is fair enough for non-native student that he allowed us to submit revised paper and graded the revised one. After I got helping with my American classmate on grammar, I got full score. **My problem is not the content but grammar and variabilities of vocabulary using**. (fall 2014 survey)

This student was fortunate to have a professor who created an "intentionally inviting environment" (Angelova and Riazantseva, 1999, p. 522) by allowing her to revise and resubmit her assignment. This was a sensible move on the part of the professor, as this student felt like her content was sufficient, but needed to fix some of her grammar and vocabulary. Also, this example shows an international student seeking support from a host national colleague, which was a theme touched upon in chapter 5.

The LIN 25 curriculum is also relevant to the discussion of writing features. In particular, LIN 25 curriculum (see Appendix A) emphasizes clauses and vocabulary, but severely lacks

focused attention on the elements within noun phrases. Clausal types, specifically noun clauses, adverbial clauses, and relative clauses are explicitly taught and practiced in LIN 25. Academic vocabulary is stressed, as there are several (usually six) homework assignments that students complete to learn about and practice using academic vocabulary. However, there is no explicit instruction on noun phrase complexity, or which elements can modify a noun phrase. The lack of instruction about noun phrase complexity, given their importance in academic writing, will be addressed in the implication section of the concluding chapter. The following section explores the writing development of the focal students.

6.5 Focal Students

We turn now to our four focal students, Luiza, Camila, Q, and Kira. On the survey administered in the fall, the focal students reported their TOEFL scores, as well as how they perceived certain aspects of their writing ability. The following table shows the responses to these questions from the survey on the part of the focal students.

Table 20: Writing levels of students (self-reported data)

[Note: for vocabulary and grammar level, the survey question asked, “How do you rate your abilities in the following areas?” A four point scale was used (weak, not too bad, good, or strong)]

	TOEFL Writing	Vocabulary	Grammar
Luiza	22	Good	Weak
Camila	19	Weak	Weak
Q	27	Not too bad	Not too bad
Kira	25	Not too bad	Good

Camila scored the lowest on the writing section of TOEFL, and also self reported as being weak in both vocabulary and grammar. Luiza reported being "good" with vocabulary, but "weak" on grammar. Q reported himself as "not too bad" on vocabulary and grammar, still siding on the lower side of the four point scale. Kira felt good about her grammar, but not as good with her vocabulary level. None of the students marked themselves as "strong" on either category, suggesting that they recognized a need to work on both vocabulary and grammar.

The students in the current study wrote in a variety of academic genres, ranging from one paragraph summaries to full length research papers to grant proposals. Below is a table that highlights the different types of writing assignments that the students engaged with over their first year in graduate school, collected at three time points (end of fall, winter and spring quarters).

Table 21: Submitted academic writing tasks

	Academic Discipline	**Fall 2014**	**Winter 2015**	**Spring 2015**
Luiza	Land, Air, Water Resources	-Personal story/Progress report	-Five Summaries and personal opinion	-Two Research papers (approximately 2000 words each)
Camila	Food Science	-Three summaries (1-2 paragraphs each) -Personal story/reflection -Description of a figure (1 paragraph) -Description of field terminology (1 paragraph)	-Research paper (1450 words)	-Research paper (1613 words)
Q	Veterinary Medicine	-Two Summaries of TED talks -Description of a figure (1 paragraph)	-Two Research papers (approximately 2200 words each)	-Research paper (2558 words)

Kira	Nutrition	-Five assignment responding with short answer questions (1 of which was a midterm) -Three summaries (1 included a personal opinion) -Two assignments explaining the field and/or field specific jargon -One description of a figure -One statement about future goals	-One assignment with short answer questions -Take home final with short answer questions -Abstract (238 words, co-authored)	-Grant Proposal -Application with a proposed project

As is evident in the above table, there are a variety of writing assignments that these graduate students completed. All of these students took the first quarter academic speaking and writing course, LIN 25, where one of the stated purposes was to learn how to write a summary, which is why so most of the students submitted summaries at the end of the fall quarter. It should be noted that the table displays the texts that were submitted, so it is possible that students had writing that they did not submit. The summaries in LIN 25 were relatively short, about 1-2 paragraphs, usually not more than 300 words. The goal of having the students learn how to effectively write a summary is multifold. For one, students will need to write summaries in their field specific classes; Luiza, for example wrote five summaries in the winter quarter. Also, as students progress in their program and begin writing research papers, which happened as early as the winter quarter for many of the students, they must be able to understand journal articles in their field and boil down the main idea, sometimes to just a few sentences. Summaries are also explicitly taught as a mechanism to avoid plagiarism. As such, working with summaries in the fall quarter proved to be a useful skill throughout the year. Another genre modeling assignment that is common in LIN 25 is having students write a description of a figure or a description of a term in their field. These assignments are designed to be building blocks, and act as scaffolded stepping stones as students write longer research papers that will likely

necessitate these skills. Also of note is that none of the focal students were required to write research papers in the fall 2014 quarter.

In the next section, I will use data from the surveys and written texts, and interviews when appropriate, in order to detail textual features for each of the focal students. In each section, I will start with a brief description of the student's writing support network in order to contextualize the discussion on their writing. The writing features that will be the focus include: 1) the types of genres that the student engaged with, 2) Measurements of grammatical complexity, 3) noun phrase complexity, and 3) lexical complexity. Relevant examples and excerpts from the students' writing will be used, as necessary, to illuminate patterns and trends.

6.5.1 Luiza

Even when confident in other areas, Luiza never felt comfortable with her proficiency in grammar, and accordingly rated her English grammar as "weak" in the fall quarter survey. She elaborated on this by saying,

> **I still make a lot of grammar mistakes** and for some reason I always had low grades in writing, even in my mother tongue. And it is strange since I am a person that have strong opinion and usually make people stop to hear me. (Luiza, fall 2014 survey)

This comment is consistent with the confidence that Luiza exuded during the interviews over the year. She felt confident in her knowledge and her ability to persuade other with her writing, yet she struggled with grammar, which was evident in the writing that she submitted. Over the year, Luiza completed a variety of written assignments, the descriptions of which can be found in table 22.

Table 22: Luiza's texts, descriptions, and word counts

Quarter	Title	Genre/Description	Word Count

Fall	Final Progress Report	Telling a personal story/narrative, reflecting on strengths and weaknesses	973
Winter	N/A	Summary and personal opinion about a paper	600
Winter	N/A	Summary and personal opinion about a presentation	774
Winter	N/A	Summary and personal opinion about a presentation	714
Winter	N/A	Summary and personal opinion about a paper and a presentation	1147
Winter	N/A	Summary and personal opinion about a presentation	693
Spring	Evaluating How Physical and Chemical Characteristics of Different Biochars Affect Their Applicability Using Meta Analysis	Research paper with abstract, introduction, methods, analysis, results/discussion, conclusion	2001
Spring	Predicting the fate of phenanthrene and efavirenz in a contaminated site	Research paper with introduction, figures, chemical properties, contaminated site, results/discussion	1987

The only text that Luiza submitted to me in the fall was a final progress report from the LIN 25 class, which contained 973 words. The progress report was written in a narrative genre where she shared personal experiences about her growth over her first quarter. Because of the narrative quality, she used the first person singular pronoun, *I*, frequently. In the winter quarter, Luiza's main writing assignments that she submitted came from an upper division class about the global carbon cycle. For this class, she had to attend talks and presentations on campus, and write a summary and personal reflection. These summary/reflection papers ranged from 600-1147 words. An excerpt from one of these summaries in shown in chapter 5. Finally, for the spring quarter, Luiza wrote two research papers, each approximately 2000 words. These research papers included an abstract, introduction, methods, results/discussion, and conclusion sections.

One of the most salient features of Luiza's writing was her clauses per sentence measure, which stood out to me while I was originally reading through her texts. Her sentences

tended to be longwinded and oftentimes were run-on sentences. As a reader, oftentimes the ending of a sentence landed a great distance from the beginning. The following table shows clauses/sentence, words/sentence, and words/clause measures for Luiza.

Table 23: Luiza Grammatical Complexity

Luiza	Fall	Winter	Spring
Clauses/Sentence	2.50	2.79	2.17
Words/Sentence	33.17	38.28	36.9
Words/Clause	13.27	13.70	17.03

Notably, her writing follows the general trend of decreasing clauses per sentence and an increase in words per clause over the year, with slight deviations in winter for the clauses/sentence measure. In the winter, the sampling of sentences from Luiza's writing showed an increase in clauses per sentence (2.50 to 2.79) before falling below the fall output in the spring with 2.17 clauses/sentence. Also of interest is that the words per sentence measure for Luiza remained high throughout her first year, averaging well over 30 words per sentence throughout (ranging from 33.17 to 38.28 words per sentence), which is the highest MLU out of the four focal students. Her words/clause measure also increased over the first year from 13.27 in the fall to 17.03 in the spring. Luiza's words/sentence measure stays somewhat consistent throughout, which is evidence that her style of using long sentences has not changed, but what she chooses to put in those sentences has changed quite noticeably. I have selected example sentences from Luiza's writing from the fall (sentence (a)) and the spring (sentence (b)) to illuminate the pattern mentioned above (finite verbs are bolded):

(a) Some people **think** that renewable energy **means** carbon neutral, and actually the presentation **shows** that, a part of few studies **showed** a very

low carbon footprint in some particular cases of hydropower, solar photovoltaic energy, wind energy and biofuels, the majority of them **show** that none of this resources **can** actually be considered carbon neutral. (Luiza, fall)

Number of finite clauses: 6

Word count: 55

(b) Under the proposed rule for persistent, bioaccumulative, and toxic chemicals, the U.S. Environmental Protection Agency (U.S. EPA) **has** established a BCF range of >100 and <1000 to indicate a medium concern for bioaccumulation. (Luiza, spring)

Number of finite clauses: 1

Word count: 35

In analyzing sentence (a), based on the number of clauses from the grammatical complexity measure, we would, indeed, say that this sentence is complex. However, saying that Luiza has achieved a high level of complexity in her writing based on sentences like (a) would be misleading. Firstly, the main verb **think** enters the sentence as the third word, leaving the reader to disentangle the subsequent 52 words, which would result in low a left embeddedness score (number of words before the main verb). Also, three of the finite verbs are **show**, which does not show much variety in the lexicon. There are multiple embedded clauses, which, in this case, result in embedding within the embedded clauses. While embedding is valued in grammatical complexity measurements, the embedding in sentence (a) leads to confusion. Sentence (b) is shorter (35 words) than sentence (a) (55 words), and there is only 1 finite clause, suggesting that sentence (b) is less grammatically complex. However, not only is the logical flow smoother and more linear in sentence (b), Luiza has constructed a sentence whereby she is able to pack in the necessary information in a way that is much more easily

digestible from the reader's perspective. Luiza achieves this by adding more elements in the noun phrase, leading to a higher degree of noun phrase complexity.

Next we will turn to an analysis of Luiza's noun phrases. The table below displays the results of the noun phrase complexity measures for Luiza.

Table 24: Luiza Noun Phrase Complexity

	Fall	Winter	Spring
Number of modifiers per noun phrase	0.82	1.10	1.37
Noun phrase density (per 1000 words)	321.03	358.75	379.45
Left embeddedness (Words before main verb, mean)	5.04	5.71	6.69

The number of modifiers per noun phrase increased steadily during the year, from 0.82 in the fall, to 1.10 in the winter, and 1.37 in the spring. Luiza's noun phrase density score also increased over the year, from 321.03 in the fall to 379.45. This score suggests that Luiza is using a higher ratio of noun phrases in her writing as the year goes on. Finally, the left embeddedness measurement quantifies the mean number of words before the main verb (McNamara et al., 2009). As the year progressed, Luiza had a higher left embeddedness score throughout the year, up by almost 2 words by the end of the year. Referring back to the sample sentences (sentence (a) and (b) above), we can see an example that shows that length of sentence does not necessarily mean a higher left embeddedness score. Indeed sentence (b) is shorter than sentence (a), yet scores higher, much higher, on the left embeddedness measure.

Next we will look at an assortment of vocabulary measurements on Luiza's writing throughout the year, including her lexical profile, as well as type-token ratios, lexical density, and lexical sophistication measurements (see table 25). Luiza's lexical profile shows her K1 percentage (1000 most frequent words) decrease throughout the year, starting at 84.26% in the

fall, and dropping to 67.16% in the winter, and 62.33% in the spring. As her K1 percentage decreases, her AWL and off-list percentages increase; her AWL measurement increases by approximately 8 percentage points from fall to spring, and her off-list measurement increases by approximately 12 percentage points from fall to spring.

Table 25: Luiza Lexical Complexity

	Fall	Winter	Spring
Lexical Profile	K1: 84.26% K2: 4.67% AWL: 3.86% Off-list: 7.21%	K1: 67.16% K2: 4.18% AWL: 9.70% Off-list: 18.96%	K1: 62.33% K2: 6.39% AWL: 11.54% Off-list: 19.74%
Type-token	0.40	0.32	0.29
Lexical Sophistication	0.22	0.46	0.48

The off-list measurement is particularly important as it will contain the bulk of discourse specific jargon, and as we can see in the table above, Luiza's off-list percentage jumps from fall to winter, and increases another percentage point by the spring. This increase is consistent both with progress that she has made and also with the genres which she is writing in. Similarly we see increases in lexical density and lexical sophistication measures, yet a decrease in type-token ratio. This is likely due to the genre that Luiza was writing in. As she wrote research papers, and the scope of her topic narrowed, she may have been using few types of words. In this section we saw a snapshot of Luiza's texts over the first year, including the genres that she wrote in, as well as grammatical, phrasal, and lexical complexity measures.

6.5.2 Camila

Camila's primary source of writing support came from her co-national husband, who was able to provide support for her throughout her first year of graduate school. By the winter 2015 quarter, Camila commented that she started to feel "independent" as a writer, which signaled a shift in her confidence in her abilities. In the spring quarter, the feeling of independence

persisted when Camila took her final exam, which included several short written responses to questions. Camila was “nervous”, but at the same time felt “proud of her English”.

> **Daniel**: How did the exam go?
>
> **Camila**: Yes, it was great, really great. I feel really well. And this sensation was also like I can do that, because I never did that. It was like one year taking classes without class exams, and a lot of classmates of mine have some kind of exam, so it was nice have one of that.
>
> **Daniel**: A final exam, was it scary?
>
> **Camila**: Yes. I felt proud of my English at this moment because in general I'm super unsure when I write something - is it like this, or not? But I was like writing writing without thinking anything. I didn't stop because it was a long exam and I was nervous if I cannot finish.

Camila felt nervous about the exam, in particular due to the time constraints, yet she felt pride in her English. The fact that she felt this way during an exam that required writing was especially revealing because one cannot receive any writing support in that setting; the students are left on their own. Her feeling pride is a big step forward compared to her feeling about writing without support in the fall, calling it “super hard”, and talking about how she “spent a lot of time” even when writing a short paper. In this section, I will start by discussing the academic genres that Camila wrote in, then data will be presented on her grammatical, phrasal, and lexical complexity, using previously discussed measurements. Along with quantified measurements, I have chosen illustrative examples to demonstrate the patterns in Camila’s writing.

In the fall quarter, all of Camila’s writing assignments that were collected for this study came from LIN 25. In her LIN 25 class, she wrote three summaries (1-2 paragraphs each), a personal story/reflection, a description of a figure (1 paragraph), and a description of terminology in her field (1 paragraph). Camila wrote one research paper in the winter quarter

and one in the spring quarter, approximately 1400 words for the former and 1600 words for the latter. Table 26 shows a description of Camila's submitted texts over her first year.

Table 26: Camila's texts, descriptions, and word counts

Quarter	Title	Genre/Description	Word Count
Fall	Wine Market's Figure	1 paragraph description of a figure	86
Fall	Summary of "Got a meeting? Take a walk"	1 paragraph summary of a TED talk	159
Fall	My first two weeks of Fall quarter	Personal Reflection about life in Davis	207
Fall	Bioactive compounds in foods	1 paragraph about a field specific topic	78
Fall	Review of Bruce German's Talk	Summary of talk and personal opinion	390
Fall	Summary of "A park underneath the hustle and bustle of New York City"	Two paragraph summary of a TED talk	263
Winter	Phenolic compounds recovering from table olive wastewater	Research paper with Hypothesis, Background, Methods, Results, and Future	1450
Spring	Using starters for controlled fermentation in Spanish table olives	Research paper with Abstract, Introduction, Background, Analysis, Method, and Conclusion	1613

The longest piece of writing that Camila completed in the fall quarter was 390 words (just over 1 page double spaced), while the shortest piece of writing was 78 words (less than 1/4 page double spaced). Each of her research papers was 5-7 pages long, with the structure of the research papers varying slightly. The research paper in the spring included an abstract, while the research paper in the winter did not, and the research paper in the winter tested a hypothesis, while the one in the spring did not.

We will now move on to the various complexity measures for Camila. Starting at the sentence and clausal level, the following table shows grammatical complexity data from Camila's writing.

Table 27: Camila Grammatical Complexity

Camila	Fall	Winter	Spring
Clauses/Sentence	1.72	1.52	1.44
Words/Sentence	16.27	24.06	22.41
Words/Clause	9.46	15.87	15.51

In the fall, Camila is producing the most clauses per sentence (1.72) compared to winter and spring, but she is also producing the shortest sentences (16.27 words/sentence). As a result she wrote on average 9.46 words per clause in the fall, while in the winter she wrote 15.87 words per clause, and in the fall 15.51 words per clause. This provides evidence that Camila was writing more clauses in the fall, perhaps to make her writing more complex, although not always successfully. Throughout the year, she is able to write longer sentence with fewer clauses, meaning that the content of her clauses are likely to be more rich and informative. Let us take a look at some samples of Camila's writing over her first year. These sentences were chosen to illuminate the pattern in the table above. Sentence (c) comes from an assignment Camila wrote as a summary response to a lecture in the fall, and sentence (d) comes from her research paper in the spring.

(a) The problematic exposed for me **was** not a new idea, but how he **address** it and the solutions that he **gave** according my opinion **were** very creative. (Camila Fall)

Number of finite clauses: 4

Word count: 27

(b) In a study conducted using a strain starter of Lactobacillus paracasei, it **was observed** that the reduction of the pH during the first 2 days **was** 2 points higher for the inoculated versus spontaneous processes. (Camila, spring)

Number of finite clauses: 2

Word count: 35

Camila succeeds in packing four finite clauses into sentence (c); however, because the clauses are relatively short (approximately 7 words per clause), the clauses are lacking information, and the sentence does not emanate the feeling of complexity. Rather, it feels as though it has been spoken aloud rather than written in an academic register. Let us contrast sentence (c) with the sentence (d), from a research paper written in the spring quarter. Sentence (d), with fewer clauses, sounds much more complex and academic due to the length of the clauses rather than the number of clauses. Even though both of her main verbs were **was** in sentence (d), there was enough information packed into the phrasal level of the sentence to make the sentence informationally rich. Notably the vocabulary used in this sentence is also more academic, with the presence of more AWL and off-list words. Vocabulary usage and lexical complexity will be examined more below.

Following the call to use noun phrase complexity measures (Parkinson & Musgrave, 2014; Biber, Gray, & Poonpon, 2011; Biber & Gray, 2010), we will now examine some of the patterns in noun phrase development for Camila. The noun phrase complexity measurements were obtained by inputting Camila's texts into the Coh Metrix software, developed by Graesser et al. (2004).

Table 28: Camila Noun Phrase complexity

	Fall	Winter	Spring
Number of modifiers per noun phrase	0.89	1.20	1.30

Noun phrase density (per 1000 words)	345.18	361.75	365.50
Left embeddedness (Words before main verb, mean)	4.63	5.27	6.60

As seen in table 28, Camila's number of modifiers per noun phrase increases steadily over the quarters, which is consistent with the grammatical complexity measures mentioned above. Also, Camila's noun phrase density measure increased throughout the year, suggesting that she was using a higher ratio of noun phrases to other types of phrases. Finally, her left embeddedness measure increased by nearly two words, suggesting that she is, on average, adding more words at the beginning of the sentence before the main verb.

Next we will examine Camila's lexical complexity measurements, which include her lexical profile, type-token ratios, lexical density, and lexical sophistication. The following table displays Camila's lexical complexity measurements.

Table 29: Camila Lexical Complexity

	Fall	Winter	Spring
Lexical profile	K1: 78.30% K2: 5.27% AWL: 7.50% Off-list: 8.93%	K1: 62.70% K2: 4.33% AWL: 13.20% Off-list: 19.74%	K1: 62.78% K2: 4.32% AWL: 10.74% Off-list: 22.16%
Type-token	0.40	0.31	0.32
Lexical sophistication	0.31	0.55	0.54

Camila's K1 measure decreased over the year starting at 78.30% and ending at 62.78%. As her K1 measure decreases, we see a corresponding increase in both her AWL percentage and her off-list percentage. The only difference between the pattern in her AWL and off-list measurements is that the peak of her AWL percentage is in the winter; however, by the end of the year, both AWL and off-list are up from the fall quarter. Camila's off-list measurement is

over 20%, which is where field specific jargon is found, signaling that she used a much higher proportion of jargon compared to the fall. Also, her AWL percentage is right around 10%, which is what Hyland & Tse (2007) found as the rate of AWL words in scientific journals. Camila's type-token ratio decreased slightly over the year. The type-token ratio measures lexical diversity. It is possible that her lexical diversity was the highest in the fall because she turned in several different assignments, compared to the winter and fall, where she turned in one research paper for each quarter. Finally, the lexical sophistication measure also increased throughout the year, showing that Camila used a higher frequency of AWL and off-list words.

In sum, based on the grammatical, phrasal, and complexity measurements presented in this section, there is evidence that shows that Camila's writing is becoming more complex over the course of the year. In particular, her words/clause measure increased from 9.46 in the fall to 15.51 in the spring, as well as the number of modifiers/noun phrase, from 0.89 in the fall to 1.30 in the spring. In terms of Camila's lexical complexity measures, we saw that her AWL percentage increase from 7.29% in the fall to 10.74% in the spring. Also her off-list percentage, which is where field specific lexical items would be categorized, increased from 11.06% in the fall to 22.16% in the spring. Some of these changes over the year may be attributed to the genre which Camila was writing in and the amount of texts that she submitted in the fall. However, qualitative data from the interviews show that Camila felt more independent and proud of her writing abilities over the year, reflecting that she is, indeed, becoming more comfortable with writing in academic genres.

6.5.3 Q

Q completed writing assignments in a range of academic genres throughout the year. In the fall, all of the writing that he submitted for this study was from the LIN 25 class. In the LIN 25 class, he wrote a couple of summaries and a description of a graph. While these were short writing assignments, less than one page each, they are skill building assignments that are

useful for academic writing. Also of interest was the fact that Q submitted multiple drafts of his LIN 25 assignments. This proved to be useful in the interviews where I could ask him what changes he made between drafts, and why he made those changes. The descriptions of his writing assignments can be found in table 30.

Table 30: Q's texts, descriptions, and word counts

Quarter	Title	Genre/Description	Word Count
Fall	Walk and talk, walk the talk: Is it truly helpful for everyone?	Summary of a TED talk	317
Fall	Describing a figure: Table about the risk for HPAI H5N1 outbreaks	1 paragraph description of a figure	227
Fall	Weekday Vegetarian: The first step to save your world and your health	1 paragraph summary of a TED talk	267
Winter	Association of Geographical composition on the cattle farm pasture surface at calving season with cryptosporidium parvum infection among californian cow-cattle herd	Research paper with abstract, introduction, background, hypothesis, materials & methods, results, discussion, limitations & strengths	2224
Winter	Effect of Mycosplasma gallisepticum (MG) or Mycoplasma synoviae (MS) infection as a risk factor of Avian influenza (AI) infection in wild waterfowls in California.	Research paper with abstract, introduction, background, hypothesis, materials & methods, results, discussion, limitations & strengths	2175
Spring	Final Project Report	Research paper with introduction, materials and methods, data analysis, results, and discussion	2558

In the winter 2015 quarter, Q wrote two research papers, each over 2000 words. Each research paper in the winter had sections labeled abstract, introduction, background, hypothesis, materials and methods, results, discussion, and limitations and strengths. For the spring 2015, Q wrote another research paper of about 2500 words, with headings including introduction, materials and methods, data analysis, results, and discussion.

Next, we will look at Q's output for the grammatical complexity measurements taken at three time points. Q shows a decrease in the clauses/sentence measure and an increase in the

words/clause measure over the year. The following table shows grammatical complexity measures for Q.

Table 31: Q's Grammatical Complexity

	Fall	Winter	Spring
Clauses/Sentence	1.67	1.27	1.47
Words/Sentence	20.15	27.48	19.65
Words/Clause	12.09	21.60	13.36

In the fall, Q used 1.67 clauses per sentence, which then fell to 1.27 before finding a sort of middle ground of 1.47. Meanwhile, the words per clause measure started at 12.09 words per clause in the fall, and then increased dramatically to 21.60 in the winter before falling to 13.36, which was still higher than in the fall. Q's writing in the winter deviated from the pattern seen in other focal students in the sense that his clause per sentence measure was the lowest, while his words per clause and words per sentence measures was the highest. This deviation is likely due to the fact that his words per sentence measure is the highest in the winter quarter. In the spring, his clause per sentence measure is higher than in the fall, and his words per clause measure was slightly high, suggesting denser phrases.

Next we will examine the complexity Q's noun phrases throughout the academic year, which table 32 shows. Starting with the number of modifiers per noun phrase measurement, Q started at 0.91 in the fall, peaked in the winter with 1.40, then found a middle ground in the spring at 1.23.

Table 32: Q Noun Phrase Complexity

	Fall	Winter	Spring
Number of modifiers per noun phrase	0.91	1.40	1.23
Noun phrase density (per 1000 words)	359.22	410.71	382.64

Left embeddedness (Words before main verb, mean)	3.11	8.85	10.73

A similar pattern is exhibited for Q with regards to the noun phrase density measurement, which also peaked in the winter quarter. Finally, left embeddedness measurement increased over the year, which provides evidence of Q putting more information (more words) before the main verb.

Finally, we will look at the lexical complexity measurements for Q, which are displayed in table 33. In the fall, Q had a K1 percentage of 75.69%, which decreased to 63.94% in the winter, and then increased slightly to 64.24%. As his K1 measurement decreased, the AWL and off-list percentages increased, which indicates an increase in lexical sophistication.

Table 33: Q Lexical Complexity

	Fall	Winter	Spring
Lexical profile	K1: 75.69% K2: 5.07% AWL: 7.51% Off-list: 11.73%	K1: 62.94% K2: 5.26% AWL: 12.46% Off-list: 19.35%	K1: 64.24% K2: 3.54% AWL: 12.88% Off-list: 19.34%
Type-token	0.39	0.19	0.20
Lexical sophistication	0.33	0.49	0.48

In particular, the AWL measurement increased from 7.51% in the fall to 12.46% in the winter, and remained steady in the spring, at 12.88%. Similarly, the off-list measurement started at 11.73% in the fall, and rose to 19.35% in the winter, and remained effectively the same in the spring (19.34%). Q's type-token ratio decreased from fall to winter, from .39 to .19, signaling a decrease in lexical diversity. The lexical density measure increased over the year, as did the lexical sophistication measurement.

In sum, Q's complexity measurements generally show that his writing in the winter quarter was the most complex, but the pattern was not so clear. Kyu had the fewest clauses per

sentence in the winter, and the most words per clause, suggesting informationally dense clauses in the winter. He also had the highest average modifiers per noun phrase in the winter, indicating phrasal complexity. However, he scored the highest on the left embededness measure in the spring quarter. In terms of lexical complexity, there was no substantive difference from winter to spring. Based on these measurements, it can be concluded that Q's noun phrase complexity improved over the course of the year, and his lexical complexity improved, as well.

6.5.4 Kira

Kira submitted the most writing assignments overall, yet the length of her assignments was the shortest. She submitted almost 2000 words for a take home final, but because the format was short answer questions, it is not comparable genre-wise to a 2000 word research paper. In fact, Kira did not write a research paper in her first year, although the closest writing task was for an application, where she wrote a proposal for a research project. The following table shows a description of Kira's submitted writing assignments for the 2014-2015 academic year.

Table 34: Kira's texts, descriptions, and word counts

Quarter	Title	Genre/Description	Word Count
Fall	N/A	Assignment with short answer questions	539
Fall	Questions for Bunn Paper	Assignment with short answer questions	498
Fall	N/A	Summary of TED talk	228
Fall	N/A	Summary of TED talk	174
Fall	N/A	Statement about future goals	195
Fall	N/A	Summary of presentation and personal opinion	457
Fall	N/A	Explanation of field and future goals	278
Fall	N/A	Explanation of a term in the field	176

Fall	N/A	Description of a figure	254
Fall	N/A	Midterm with short answer questions	649
Fall	N/A	Response to a question	303
Fall	N/A	Response to a question	268
Winter	N/A	Assignment with short answer questions	580
Winter	N/A	Take home Final Exam with short questions	1997
Winter	Epicatechin Mitigates High-fat-associated Obesity and Insulin Resistance	1 page abstract with background, objective, methods, results, conclusion	238
Spring	N/A	Grant - background, aim, introduction, hypothesis, rationale	656
Spring	Epicatechin Mitigates High-fat-associated Obesity, Insulin Resistance and intestinal permeability	Application - Summary, Background, objectives, hypothesis, procedures, timetable, budget, personal qualifications	1010

Kira submitted 12 writing assignments for the fall quarter, ranging from 174 to 649 words. Most of the texts were written for the LIN 25 class, and the genres included summaries and descriptions of terms/figures. Outside of LIN 25 in the fall, Kira submitted texts corresponding to short written responses and exams with short response answers. In the winter, Kira had an assignment with short answer responses, a take home final that included a written portion, and an abstract.

We will start with Kira's clausal and sentence level complexity measures, which are shown in table 35. This table shows us that the clauses/sentence measurement for Kira decreased throughout the year, starting with 2.60 in the fall, falling to 2.08 in the winter, and slightly decreasing in the spring with 1.94.

Table 35: Kira's Grammatical Complexity

	Fall	Winter	Spring
Clauses/Sentence	2.60	2.08	1.94

Words/Sentence	26.40	23.58	25.17
Words/Clause	10.15	11.32	12.96

Meanwhile, her words/sentence remained steady throughout, ranging from 23.58 to 26.40, dropping slightly from fall to spring. The words/clause, almost predictably, increased from fall to spring, from 10.15 to 12.96. As a result from these numbers, we can argue that Kira is adding more information at the phrasal level throughout her first year. The following is a sentence dyad demonstrating the trends in the table above. Sentence (e) is from the fall quarter, while sentence (f) is from the spring quarter.

> (e) For the people who **focus** on clinical nutrition, their ultimate goal **is** to become a Registered Dietitian who **will be** qualified to give professional suggestions about nutrients intake to patients who **are suffering** malnutrition or other chronic diseases. (Kira, fall)
>
> Number of finite clauses: 4
>
> Word count: 38
>
> (f) Our preliminary data **showed** that dietary EC supplementation **had** the potential capacity to improve intestinal permeability, and in this project, we **want** to figure out the beneficial effects of different amounts of dietary EC on HFD-induced increase of intestinal permeability. (Kira, spring)
>
> Number of finite clauses: 3
>
> Word count: 41

While sentence (e) is readable and understandable, one of the salient features of this sentence is the fact that all three dependent clauses are who-fronted relative clauses, one of which is embedded within another one. In this sentence, then, she is showing her mastery of relative clauses, but also is, perhaps, showing a lack of command of other clausal structures in that she uses the same who-relative clause structure over and over again. In sentence (f), taken from a text submitted by Kira in the spring, she is showing a stronger command of variety within her

clausal structures. In sentence (f), by using two independent clauses and one finite noun clause, Kira is able to provide an information rich sentence that is understandable and academic sounding.

Next, we will examine Kira's noun phrase complexity measurements, which are displayed in table 36. In the table below, we see that Kira's number of modifiers per noun phrase increased, but only marginally over the year.

Table 36: Kira Noun Phrase Complexity

	Fall	Winter	Spring
Number of modifiers per noun phrase	0.99	1.08	1.15
Noun phrase density (per 1000 words)	357.30	360.14	390.62
Left embeddedness (Words before main verb, mean)	5.46	4.85	5.90

Her noun phrase density measurement increased as well, from 357.30 in the fall to 390.62 in the spring, signifying a higher rate of noun phrases in her writing. The left embeddedness measurement decreased in the winter, from 5.46 to 4.85, and then increased in the spring to 5.90.

Finally, we will discuss lexical complexity measurements for Kira, which are displayed in table 37. Lexical complexity measures illuminate the range and variability of one's vocabulary. As is shown in the table below, Kira's K1 percentage decreases by 14 percentage points from the fall quarter to the spring. Comprising such a large percentage of one's lexical profile, in this case 72.94%, indicates that the other elements in the lexical profile are diminished. Over the year, however, Kira's K1 percentage decreases, and as a result we see an uptick in the AWL percentage, as well as a drastic uptick in the off-list percentage (from 14.23% in the fall to 27.12% in the spring).

Table 37: Kira Lexical Complexity

	Fall	Winter	Spring
Lexical profile	K1: 72.94% K2: 5.74% AWL: 7.09% Off-list: 14.23%	K1: 62.97% K2: 4.20% AWL: 9.04% Off-list: 23.78%	K1: 58.80% K2: 6.93% AWL: 7.15% Off-list: 27.12%
Type-token	0.24	0.31	0.33
Lexical Sophistication	0.37	0.53	0.51

Kira's type-token ratio increased over the year, showing a greater range of lexical diversity. The lexical sophistication measurement increased from fall to winter and then remained about the same for spring.

In sum, Kira wrote in a variety of genres over the 2014-2015 academic year. Although she did not have to write a research paper, she wrote in academic genres that had overlapping elements. Over the year, I saw some signs of increased complexity based on the grammatical, phrasal, and lexical complexity measurements. Kira did not show substantive improvement in her noun phrase complexity measurements, but showed some improvement in her lexical complexity measurements.

6.6 Conclusion

This chapter has brought student texts into the discussion of social environments and writing support networks. Guided by the research question about what international graduate student writing looks like over their first year of graduate school, this chapter has taken into account features of the student writing including genre and measures of grammatical, phrasal, and lexical complexity. The genres that the focal students encountered included summaries, abstracts, research papers, exams, and grant proposals. Kira did not write a research paper in her first year, while the other focal students did. Luiza wrote 2 research papers in the spring, while Camila wrote 2 research papers, one in the winter and one in the spring, and Q wrote 3

research papers, 2 in the winter quarter and 1 in the spring quarter. The research papers that the students wrote shared many similar features: introduction/background, methods, results, conclusion - but varied in the presence of an abstract. Kira submitted the highest volume of texts.

There was a general trend among the focal students of decreasing clauses per sentence and increasing words per clause measurements. While there were some deviations in the winter quarter, all of the focal students had higher words per clause measurements and lower clauses per sentence measurements from fall quarter to spring quarter, suggesting that on average focal students were putting more information (words) in their clauses (if the words per sentence measurement stayed more or less the same throughout the year). With respect to the noun phrase complexity measurements, the general trend was an increase in all three measurements from fall to spring, with again, some deviations in the winter quarter for Q and Kira. Specially, Q measured the highest in modifiers per noun phrase in the winter, and Kira measured the lowest on the left embeddedness measurement in the winter. The left embeddedness measurement is not as indicative of noun phrase complexity compared to the modifiers per noun phrase measurement because the left embeddedness measurement does not directly measure noun phrases. There are other fronted non-NP constituents that this measurement will count. However, the left embeddedness measurement is said to indirectly measure NP complexity (McNamara et al., 2009), and a higher score on left embeddedness is associated with more complex texts (Graesser et al., 2004).

The focal students, in general showed signs of higher lexical complexity as the year went on, as well. In terms of AWL percentage, Luiza and Q are the two writers who showed improvement over the year. Both Camila and Kira improved from fall to winter, and then dipped in the spring. Or if taken at two time periods (fall and spring), there is an overall improvement across the year for Q, Camila, and Luiza, while Kira did not improve in this measure. Kira's lack of improvement may indicate that she needs more focused instruction with academic words. All

of the students had increased levels of off-list words in their spring quarter texts, which is evidence of the students using more discipline specific jargon in their texts. It is an interesting finding that some of the complexity measurements peaked, or dipped, in the winter quarter. It is hard to say exactly why that happened, so this would require a deeper inquiry. It is possible that the winter quarter classes required students to write in genres (like research papers) that encouraged the students to write more academically. However, the general trend was that complexity measurements increased from the fall to spring quarters, specifically those that were most indicative of showing a genuine increase in writing complexity. This is a promising finding that shows that the students' texts, based on the complexity measurements in this study, became increasingly complex.

Chapter 7: Conclusion

> *An ecological approach to language learning avoids a narrow interpretation of language as words that are transmitted through the air, on paper, or along wires from a sender to a receiver. It also avoids seeing learning as something that happens exclusively inside a person's head. Ecological educators see language and learning as relationships among learners and between learners and the environment. This does not deny cognitive processes, but it connects those cognitive processes with social processes*. (van Lier, 2000, p. 258)

This dissertation, as a whole, contributes to the literature on second language writing, specifically with regard to non-native English speaking graduate students. The literature in second language writing, as it stands, generally emphasizes studies with undergraduate students, while studies with graduate students are lacking. Because graduate students bring distinct qualities and experiences, and at the same time have distinct needs and goals when compared to undergraduate students, it is not always the case that studies with undergraduates can adequately inform studies with graduate students. Graduate students are expected to write texts in a wide array of academic genres, oftentimes using original research, and while synthesizing multiple sources. The genres in which graduate students write span proposals, grants, theses, literature reviews, and summaries, ultimately leading up to a thesis for those in Ph.D. programs. In addition, graduate students are expected to teach classes, supervise labs, and perform original research. Given the broad expectations that graduate students have, it is important to focus on their needs in order to provide proper resources. This dissertation, then, contributes to the small, yet growing, literature on international graduate students.

This dissertation is an inquiry into writing, yet differs from other writing studies in that the student's social and academic environments are considered and analyzed. The idea to consider the student's social and academic networks in a writing study comes from Ferenz

(2005), who looked into the writer's social network as a key marker of access to resources, thereby informing academic literacy outcomes. This concluding chapter will first revisit the research questions and provide a data driven response to each question. Then, this chapter will explain how this dissertation fits within the literature. Limitations, implications, and future directions will also be discussed. First let us revisit the research questions.

7.1 Research Question 1

1. *What types of social and academic networks do first year international graduate students develop?*

This research question primarily serves to examine the social environment the students are in. A preliminary study conducted as a precursor to this dissertation identified three different types of networks that international students join: network with majority of NESs, co-national network, and mixed network. NES networks are the most rare, and co-national networks are the most frequent. Many students, regardless of their network, experienced loneliness or sadness, which is not uncommon in the international student population (Sawir et al., 2008). Students in the study who did not have much social interaction with host nationals sometimes remarked how they would like to interact more with U.S. students. Students who had meaningful interactions with U.S. students generally appreciated the encounters. Trice (2004) found that students who socialized with U.S. people also "functioned comfortably in the American culture, socialized with students from other countries, and participated in campus cultural events" (p. 671). In essence, Trice uses social interaction with U.S. students as an indicator of cultural participation. Perrucci and Hu (1995) looked at social and academic satisfaction, finding that more contact with U.S. students correlated with higher rates of satisfaction. Returning to the data from the current study, I found that the participants formed social networks largely around co-national students, that is, students who share the same linguistic and/or cultural background. 28 out of 46 students who took the fall survey reported

that out of the 6 people with whom they have the most social contact with, 4 or more of those people are from their home country. This finding shows that the majority of the students in the survey have strong social ties to co-nationals. 11 students (23.9%) reported that all 6 people were from their home country, resulting in a strong co-national network. With regard to interaction with U.S. people, 16 survey participants (34.8%) reported having 0 U.S. people amongst the people they most frequently interact with. This shows a large section of the international graduate student population does not have much, or any, social interaction with U.S. people.

In conjunction with this first research question, I sought to find out how often students were using English in their social interactions. I asked students on the fall survey, what percentage of the time do you use English in social settings? Social settings were defined as off campus, at home, on weekends, at parties, etc. 20 students (43.5%) reported using English 0-19% of the time in social settings, while 2 students (4.3%) reported using English 80-100% of the time in social situations. While this percentage is strikingly low, this finding is consistent with what the students reported about the people with whom they interacted the most. In a sense, the question about frequency of English use provided a check to see whether or not the study participants were speaking English or their native language with co-nationals. The students were, indeed, predominantly communicating in their native tongue.

In academic settings, the students' academic networks tended to include more English speakers, which is to be expected, as English is the language in common at this university. I posed the same questions about the people in the network and the frequency of English use in academic settings. Academic settings included during class, in the lab, within the department, academic related meetings, etc. Four students (8.6%) reported that 6 out 6 people who they interacted the most with in academic setting were co-nationals. 14 students (30.4%) reported using English less than 40% of the time in academic settings. One of these students who is an infrequent user of English in academic settings elaborated by saying:

> Even though most people who I interacted with are not from my home country, **we can all speak Chinese and understand each other without using English**. The only person who I had to talk to him in English is my TA. However, most of the time I am a listener and I do not have much time to speak. (Taiwanese student, Biostatistics)

This student, who was not one of the focal students, shared how he was able to operate in Chinese most of the time, except when he had to talk to his TA in English. This excerpt provides some anecdotal evidence of a changing university environment at UC Davis where students, especially Mandarin speaking students, can and do communicate most of the time in their native language, even in academic settings. This finding puts into question the role that English plays for international graduate students. English is still an essential tool for success, but so is networking with colleagues and peers who can provide support and assistance.

Next I will turn to the findings from the focal and peripheral students. One of the peripheral students from the study, Lucy from Taiwan, joined a thriving student group called the Taiwanese Student Association, which she was able to do with ease because of her cultural background. This group, which evidently formed a community of practice, supported her in finding housing, finding a roommate, opening up a bank account, and even learning about riding a bicycle. Because the group consisted of co-nationals, they were able to provide each other with advice that was linguistically and culturally accessible. Another student, Luiza from Brazil, had social success by making friends with department colleagues and peers. These colleagues, in turn, invited her to participate with activities outside of the department. She played on an intramural sports team, attended happy hour social events with her friends, and she attended house parties, as well. Her network primarily consisted of U.S. students and Brazilian students. Interestingly, Luiza talked about how she differed from her Brazilian friends in that her Brazilian friends were not as involved in communities outside of co-nationals. Because of Luiza's previous international experience, and her outgoing personality, she made

friends easily. As a result of her active social life, Luiza had consistent opportunities to interact in English. Camila, from Chile, reported three Chileans, one U.S. person, and two international people as associates in her social network. Because Camila had a young child, she spent most of her time with her husband and child. She made a friend with a U.S. woman who also had a child, so they were able to spend time together with their children. Camila reported a lot of anxiety at the beginning of the year, and talked about how she would mostly nod her head, but she would not understand much in social interactions. At the end of the year, Camila felt more comfortable in social situations, and even reported feeling excited to have the opportunity to go out with her classmates for an end of the year celebration.

The question of which types of networks that first year international students develop is an important one because the network that is made during the first year lays a foundation for the student's journey throughout graduate school. These networks, as is further explored in the following research questions, provide linguistic affordances that benefit and support the focal student. Implications from this research question suggest that co-national networks play an important role in socializing new international graduate students into the campus community. As such, it would be prudent for the university to support and assist in cultivating and nurturing co-national communities. In addition, graduate departments may benefit from connecting more experienced, older international students with less experienced, newer ones for the sake of socialization of the newer students into the academic discourse community. International students in the study also wanted to have more interactions with NESs. As a result, the recommendation would be to encourage co-national networks but also create situations for international students to have meaningful interactions with host nationals.

7.2 Research Question 2

2. *Who is a part of the International graduate student's writing support network? How does the International graduate student utilize this network?*

This research question was primarily addressed in Chapter 5, which analyzes data about the students' writing support network. This question is both relevant and important to the literature and the university, as little is known about who international students go to for help, and how frequently they seek out help. Much of the literature that comes from the writing center perspective relies on studies that utilize writing tutors or writing center resources as interventions (Williams, 2002; Williams, 2004; Williams & Severino, 2004), and much of this literature focuses on undergraduate students. However, other studies, like Ferenz (2005), a study from an EFL setting in Israel, showed the importance of peers and colleagues, and not just relying on tutors and professors, throughout the writing process. The data from the current study provided confirmation of this phenomenon. While professors, writing tutors, and writing classes play unique roles in the process of the student developing as a writer, the data show that most students are relying on peers, colleagues, and friends to assist with their writing assignment. Data from the fall survey show that 40 out of the 46 (87.0%) students who took the survey went to either a friend or colleague at least once for writing support. Meanwhile, 27 of the students (58.7%) surveyed went to their professor for writing assistance, and 8 students (17.4%) requested help from a family member.

International students in the study sought support on writing from colleagues and friends the most and went to colleagues and friends the most frequently. Data from the fall survey show that 8 students (17.4%) out of 46 sought help from colleagues 3-5 times per quarter and 2 (4.3%) sought help 6 or more times. Similarly, 6 (13.0%) students sought help from friends 3-5 times throughout the quarter and 4 (8.6%) received help 6 or more times. These two groups of people, colleagues and friends, were reported as the most frequently sought out groups for help with writing. Meanwhile 31 students (67.4%) reported never receiving help from a writing tutor, and the number is likely even higher as some students who reported receiving help from a writing tutor seemed to mix up writing tutor and writing professor. The intention behind the question was to ask if the student went to a writing tutor, as in, someone who was not their

teacher, friend, colleague, or family member, but rather someone either provided by the university or paid by the individual to provide feedback and consultation on their writing. It is possible that some of the students were confused about what I meant by writing tutor. The vast majority of students did not go to a writing tutor, which is an important finding because much of the literature focuses on students who do go to writing tutors or the writing center.

With regard to the focal students, Luiza experienced multiple occasions of feeling unsupported by professors with her writing. In one instance, she did not receive feedback on any of written assignments from a professor, which left her feeling "abandoned". In another grave instance, Luiza was accused of plagiarism by one of her professors, which led to months of anguish and completely changed her identity from a confident leader to someone who was began to question her own confidence with writing. The impact on Luiza was severe and sustained. Meanwhile, Camila received help from her husband on much of her writing, both for academic and non-academic purposes (i.e. writing emails). Her husband acted as a crutch which she could rely on, yet throughout the year Camila felt more "independent" about her writing, and in the spring interview exclaimed that she felt "pride" about her English, in particular, she was referring to how she performed under time pressure on an exam that required writing. Camila's theme of becoming an independent writer shows her autonomy as she became a member of her academic discourse community. Next, Q received writing support from his LIN 25 instructor, and, through a series of drafts, was able to gain genre awareness around audience. Q's lessons about audience continued in the winter quarter with a peer review assignment, where he had to play the role of the audience. In that lesson, he gained a valuable perspective from reading and reviewing his colleague's work. Also, Q mentioned how while the U.S. students were sometimes available to support international students with writing, the support was not uni-directional. International students in Q's department helped the U.S. students with math and other quantitative questions. This was an important finding, that international graduate students are not merely needing to receive support, but rather they

provide valuable contributions to the academic environment. Even though international students may struggle with certain aspects of the language, they bring knowledge and skills to the table that are valuable. Finally, Kira, in general, relied on her co-national friends and colleagues for day to day support with writing or other assignments. A memorable quote from the fall interview captured her philosophy on the utility of co-nationals when she said, "as long as you have a Chinese friend, you will ask him or her because there is no language barrier" (Kira, fall interview). She also spoke about how she received support from both her advisor and an Italian lab mate about an abstract that she wrote. Both her advisor and lab mate revised her abstract, giving her implicit feedback; however, it was her lab mate who told her exactly what goes into the genre of abstract writing. Kira also learned about what goes in the background section of a research paper from the same Italian lab mate. This is a good example of a student receiving support from a colleague around what is and is not required in a particular academic genre.

Writing support networks illuminates something deeper than just who the student is receiving help from. This question is a reflection of what resources the student has access to, as well as whether or not the student is taking advantage of those resources. If the student does not have access to resources, or is not utilizing them, then the student is working in isolation. While working in isolation is a strategy that may work for a select few, learning is a social process as much as it is a cognitive one (Duff & Kobayashi, 2010; Atkinson, 2002; Atkinson et al., 2007; Batstone, 2010; Lantolf, 2000). These deeper issues of resource availability and accessibility are relevant to the university as it is in the interest of the university to provide quality cost effective resources that the students will actually use. Based on the findings from research question two, the recommendation would be to require STEM professors on how to effectively teach genre, and to encourage STEM professors to spend time in class to ensure that all students understand what the expectations are of a given writing task. Also, it would be

beneficial for there to be a line of communication between writing instructors and STEM professors so that writing instructors can provide additional support.

7.3 Research Question 3

3. *Over the course of the first year, how much does academic writing improve for international graduate students? What does this improvement look like?*

In order to answer this research question effectively, I began by examining the writing of LIN 25 students through the lens of genre. Genre dictates the style, length, tone, and other elements of a piece of writing. The success of a particular text depends on the extent to which that text fits within the constraints of its genre, as judged by experts in the discourse community (Swales, 1990). International students, while overcoming language deficits, must also quickly gain awareness around academic genres in English, as their knowledge around genre in their L1 will not transfer. Students in LIN 25 wrote in a variety of academic genres, including summaries, term papers, in class timed writing, literature reviews, and lab reports. In order to obtain information on how the LIN 25 students perceived their own confidence in aspects of writing, I asked a series of questions about this on the survey. 12 students (26.1%) reported feeling not confident in their ability to use grammar appropriately in academic writing, while 9 students (19.6%) reported feeling not confident in their ability to use vocabulary appropriately in academic writing. I also asked a series of questions about self perceived strengths and weaknesses in academic writing. 15 students (32.6%) reported themselves as weak in the skill of using citations appropriately in academic writing. This was after the LIN 25 class, suggesting that more writing instruction is needed around citations.

Next, I will examine the writing of the focal students in the study. The students submitted a variety of written texts throughout the year. Luiza, Camila, and Q each submitted at least one research paper over the course of the year, while Kira did not. The length of the texts that the focal student submitted ranged widely, from as few as 78 words to as many as 2500

words. I ran a variety of measurements for each of the focal student's writing in order to gain a deeper understanding of certain textual features. For reasons stated in chapter 3 and chapter 6, I decided to use measurements of complexity rather than measurements of error. The main justification behind this decision was that errors are expected in student's texts, and students can seek support from colleagues to help with editing and proofreading. Complexity measurements, on the other hand, are more illustrative of the student's writing ability and sophistication. In particular, I have chosen to use measurements of clausal complexity, phrasal complexity, and lexical complexity. With regards to the clausal complexity measurements, the clause/sentence measurement was the highest in the fall for all of the students. This is an interesting finding because clausal varieties are explicitly taught in the LIN 25 curriculum, and the vast majority of the students' texts in the fall came from LIN 25 assignments, suggesting that perhaps the students were paying more attention to using various clausal structures. Also, the words/clause measure for all of the focal students was the lowest in the fall quarter. This finding, along with the previous finding, provides evidence that the focal students had, on average, more finite clauses in each sentence, yet the length of each clause was shorter[6]. There were some deviations in the winter quarter; however, by the spring quarter the clause/sentence measure had decreased and the words/clause measure had increased. The trend described above is displayed in the table 38 below.

Table 38: Clausal measurements for focal students

	Luiza		Camila		Q		Kira	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Clauses/sentence	2.50	2.17	1.72	1.44	1.67	1.47	2.60	1.94

[6] These measurements are better understood in the context of the words/sentence measurement. If the word/sentence measurement stays roughly the same as clauses/sentence decreases and words/clause increases, then there would be evidence for more informationally dense clauses. Clauses/sentence alone is not indicative of how many words are present in each clause.

Words/clause	13.27	17.03	9.46	15.51	12.09	13.36	10.15	12.96

Next I looked at selected measurements around noun phrase complexity. In order to obtain these measurements, I inputted the texts into the Coh Metrix web application (Graesser et al., 2004). Coh Metrix provides output for over a hundred measurements, so I selected a few that were related to noun phrases, including mean number of modifiers per noun phrase, noun phrase density, and left embeddedness. The general trends amongst the focal students indicated an increase in complexity in noun phrases, as seen in table 39. The modifiers per noun phrase measurement was particularly useful and robust as there has been shown to be a direct correlation between number of modifiers per noun phrase and sophistication of writing (Parkinson & Musgrave, 2014). The left embeddedness measurement has also been shown to be indicative of writing level (McNamara et al., 2009), yet presents some issues as a measurement of noun phrase complexity. In particular, the left embeddedness measurement is an indirect measurement of noun phrase complexity, at best. Because so many other elements can be fronted (adverbs, prepositional phrases, and other fronted non-NP constituents). Graesser et al. (2004) argue that the left embeddedness measurement serves as a complexity measurement as texts with higher left embeddedness rates are generally deemed as more complex text. Still, there remains some issues when using left embeddedness to measure noun phrase complexity.

Table 39: Noun Phrase measurements for focal students

	Luiza		Camila		Q		Kira	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Modifiers per noun phrase	0.82	1.37	0.89	1.30	0.91	1.23	0.99	1.15

Left embeddedness	5.04	6.69	4.63	6.60	3.11	10.73	5.46	5.90

All of the focal students showed an increase in complexity of noun phrases based on these measurements. Kira showed the smallest gains in complexity in both measurements in the table above, from .99 modifiers per noun phrase in the fall to 1.15 in the spring, and 5.46 words before the main verb in the fall to 5.90 in the spring. Luiza showed the largest gain in the modifiers per noun phrase measurement (.82 in the fall to 1.37 in the spring), and Q showed the largest gain in the left embeddedness measurement (3.11 in the fall to 10.73 in the spring). Interestingly, noun phrase complexity is not taught as part of the LIN 25 curriculum even though many researchers argue that noun phrase complexity is an essential feature of academic writing (Biber et al., 2011, Biber & Gray, 2010; Parkinson & Musgrave, 2015; Parkinson, 2015). Recommendations for the LIN 25 class and for similar classes elsewhere will be discussed in the implications section of this chapter.

Finally, I examined lexical complexity as a way to measure the vocabulary development of the focal students. In the present study, I used Laufer and Nation's (1994) lexical profile, which separates the words in a particular text into four categories: percentage of top 1000 words (K1), percentage of top 2000 words (K2), percentage of words on the Academic Word List, and percentage of off list words. The K1 and K2 measurements are less indicative of vocabulary control than the AWL and off-list measurements as the K1 and K2 measurements show usage of the most frequently used words. However, as K1 and K2 percentages decrease, AWL and off-list percentages correspondingly increase. All four focal students had a higher percentage of AWL words in the spring quarter compared to the fall quarter. Luiza's percentage of AWL words increased from 3.86% in the fall quarter to 11.54% in the spring quarter, showing the largest gains out of the focal students, while Kira had the smallest gains in AWL percentage, from 7.09% in the fall to 7.15% in the spring. Corpus studies have found that on average,

academic writing consists of approximately 10% AWL words (Hyland & Tse, 2007), so it is reassuring to see the focal students approach that figure. Off-list percentage is also important because that is where field specific jargon will be categorized. To that extent, all of the students were using substantially more off-list words in the spring than in the fall, which indicates a higher frequency of jargon use.

Table 40: Lexical measurements for focal students

	Luiza		Camila		Q		Kira	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
AWL %	3.86%	11.54%	7.50%	10.74%	7.51%	12.88%	7.09%	7.15%
Off-list %	7.21%	19.74%	8.93%	22.16%	11.73%	19.34%	14.23%	27.12%

I also looked at Type-Token ratio, which is the number of unique words divided by the total number of words. However, there were not any clear patterns. Camila's type-token ratio stayed the same throughout the year, Luiza and Q's ratio decreased, while Kira's increased. This may be due to the fact that students submitted a different number of texts, and generally submitted more texts in the fall. Bringing the discussion back to the larger LIN 25 population, students widely reported struggling with vocabulary on the surveys. While academic vocabulary is a topic in LIN 25, the recommendation would be to offer more resources around vocabulary for international graduate students.

7.4 Research Question 4

4. *What is the relationship between social/academic networks, writing support networks, and writing development?*

The crux of this chapter is to connect the three data chapters and to explore ways in which social networks, academic networks, communities of practice, and discourse communities interplay in a way that shapes the writing trajectory of the student. The theoretical framework that bridges the social environment and the written text is the sociocognitive approach, which

rejects the mind world dichotomy, and which views the two integratively, as a "continuous ecological circuit" (Atkinson et al., 2007, p. 170). Aspects of the student's social environment make up the student's writing support network, which includes the people who are supporting or are available to support the student with their writing. Findings from the current study suggest that students who lack a strong writing support network may be left to write in isolation or with few resources, while students with a rich writing support network will have access to help when they need it. This is consistent with Ferenz (2005), who found that having a writing support network could enhance academic literacy outcomes. While the writing support network is somewhat dependent on the other networks and communities that the student has access to, it is a unique network that is comprised of people from the other networks, and possibly people outside of any of the networks. That said, students who are strongly enmeshed in communities and networks generally have stronger writing support networks, as there is often an overlap of membership among groups. To this extent, the theory of situated learning (Lave & Wenger, 1991) is also relevant to the current study, or more specifically, situated writing (Casanave, 1995), which refers to the local context of writers, including the writer's social environment. For some of the students, like Kira, the social environment that she was in directly influenced the writing support network that was available to her, which in turn helped shape her written texts. This dissertation recognizes that the social environment is incredibly complex; however, there is evidence that the social environment, the writing support network, and the written text are, indeed, interrelated.

7.5 Limitations

In the section, I will discuss the limitations of the current study. For one, the inquiry into a student's social environment is difficult, or perhaps impossible, to document thoroughly in a research project. The social environment is incredibly complex and dynamic, so the prospect of capturing all of the intricacies is perhaps unattainable. That said, certain methodological choices

were made to capture data points that illuminate aspects of the social environment. Further ways to deepen the inquiry, which were not implemented in this study, include journals, shadowing, and interviewing the associates within the network. While these modes of inquiry would brighten the picture of the social network, and help further triangulate the data, the full picture of the international student social network may never be precisely documented.

Another limitation was the rate of attrition on the surveys over the year, and the general attrition rate of the participants. While 46 students took the survey in the fall, 38 took the winter survey, and 25 took the spring survey. Several students, like Gary and Henry, provided illuminating interviews, yet were not considered as focal students because they did not submit any substantive writing assignments (Gary studied statistics and Henry studied Computer Science). Many other students did not submit writing if only for the fact that their classes did not require them to write much. The fact that certain students, specifically from the Statistics department and the Computer Science department, were not required to write provides a truth about some graduate programs nowadays; the skill of academic writing may not be needed. Instead, many of these programs rely on problem sets and tests to assess student knowledge. Ph.D. programs, regardless of field, require a dissertation as a gatekeeping genre, so academic writing remains as a necessary skill. Ultimately, the study was left with four focal students who participated fully in the study.

With regard to measuring writing, any measurement chosen tended to highlight a certain aspect or quality of a text, while shrouding other textual features. There are hundreds of measurements that could be taken to quantify second language writing; however due to limitations of time and scope, I narrowed the measurements down to a few, specifically related to measurements of complexity. The clausal/sentence level complexity measurements were done manually, which presented some difficulties. In terms of manual coding of sentences, it is not always clear, due to an error, for example, whether a particular sequence of words ought to count as a clause. Only overt finite clauses would count in the clause/sentence measure;

however, because this current study only counted finite clauses, the instrument would not distinguish between grammatically complex sentences that had numerous nonfinite clauses. In previous studies, both finite and nonfinite clauses were included in Complexity Accuracy Fluency and T-unit measurements (Biber et al., 2011). While the measurements presented in the study do provide useful information about the student texts, one must be careful in the types of interpretations that can be made from the data. In effect, one of the limitations of quantifying writing is that the quality of the text is somehow lost.

Also, in terms of the writing samples, I made the decision to collect writing that the students submitted as graded assignments. The benefit of this approach is that because the assignments are graded, the students have the incentive to do their best, unlike in studies where students are given a prompt. Also, there is the added benefit of students being able to take their time and not have to write under time pressure. The factor of time pressure can affect some students more than others, so removing time pressure is beneficial. However, studies that have students write for a given prompt have the advantage of being able to measure writing across participants in a more structured way. The present study, because writing assignments were from a diverse array of classes, more aptly measures student progress within each individual rather than across participants. The writing, then, reflects not just what the student can produce, but what the student can produce given his/her set of resources. Camila, for example, relied on her husband for much of her writing, so the final product of her writing was a blend of what she wrote with her husband's edits on top. Although this may seem to shroud the student's actual proficiency level, I would argue that this writing product is much more reflective of what the student is actually producing and much more in line with what it means to write academically. The student's writing journey beyond their first year will continue to be a mixture of their own thoughts along with edits, feedback, and suggestions from others. As such, this study provides a sociocognitive look into the students' writing assignments.

7.6 Theoretical Implications: Learning as a social activity

The present study situates itself within the sociocognitive approach of SLA research (Atkinson, 2002; Atkinson et al. 2007; Lantolf, 2000; Batstone, 200), which acknowledges that "the construction of new linguistic knowledge is both a cognitive and social process" (Duff and Kobayashi, 2010, p. 77). Watson-Gegeo and Nielson (2003), meanwhile, say that language learning is "fundamentally cognitive and fundamentally social", requiring "the profound interdependency and integration of both" (p. 537). Atkinson (2002) calls for researchers to step away from he calls the "lonely cactus view of SLA" and a move towards an image of a tropical rainforest. That is, language learning does not happen in isolation, but rather involves a complex environment of players and actors. Atkinson (2002) argues that:

> Our obsession with the decontextualized, autonomous learner has prevented us from conceptualizing SLA as a situated, integrated, sociocognitive process - a viewpoint that will bear real fruit in attempts to understand the complex phenomenon of SLA. (p. 526)

This dissertation, in part, aims to answer the calls of Atkinson and other researchers who argue that SLA research needs to move far beyond what happens solely on the cognitive level. It also aims to avoid an opposite problem, which is that by considering the complex social and cultural environment that the students find themselves in, research methodologies may run the risk of becoming too broad and removed from the focus that is central to SLA research. This dissertation attempts to bring together the social and cognitive processes that the sociocognitive approach calls for. This dissertation utilized sociocognitive theory by inquiring about the students' social environments and linking those aspects of the social environment to writing support through the concept of the writing support network (Ferenz, 2005). Also related to the discussion on the sociocognitive approach in SLA is language socialization, as Duff and Kobayashi (2010) acknowledge that:

> Because L2 socialization research brings together an analysis of social, cultural, and cognitive dimensions of situated learning, it is highly compatible with a sociocognitive perspective that considers the cognitive and the social to be intricately interwoven and mutually constitutive, although language socialization perhaps pays more attention to cultural and group processes involved in learning and less attention to the cognitive processes and linguistic development of individual learners. (p. 75-76)

We saw instances of socialization through legitimate peripheral participation (Lave & Wenger, 1991; Wenger, 1998) in Camila, who started out by participating consistently in her LIN 25 class, but rarely participated in her field specific classes. She felt comfortable participating, and gained valuable practice in participating in an environment that was both academic and safe. She then gained the courage to participate in one of her field specific classes, which was a big step in her academic development and a step towards her entryway into her academic discourse community. This study did not focus on participation in class per se, but this provides a good example of academic socialization in process. The act of Camila learning to participate changes her status in her academic discourse community, as "learning itself is an evolving form of membership" (Lave & Wenger, 1991, p. 53). These processes of learning and socialization are complex and multifaceted, as Duff and Kobayashi (2010) go on to say:

> Learning (cognition), knowledge, socialization, and participation are different facets of the same experience - the development of the human mind (gaining knowledge, expertise) and the enablement of linguistic action in society - reflecting processes and understandings that are distributed across many co-participants or members in a community. (p. 77)

This dissertation attempts to broaden the discussion on second language writing by by taking into consideration the networks in which the students participate and engage in. By starting at the macro level of the context of writing (Cumming, 2001), and focusing on the local factors

(Casanave, 1995) in which the writers are in, it is possible to better understand the social environment which directly impacts the trajectories of international graduate student writers.

7.7 Pedagogical Implications: Writing classes and writing resources

Stemming from chapter 6, which takes an analytical look at students' writing throughout the academic year, there are several pedagogical implications to consider. Many of these suggestions would be suitably implemented in LIN 25 or a similar class that specifically teaches academic writing to international graduate students. Such classes have many already existing benefits to students. For one, students, like Camila, felt comfortable speaking and participating in the LIN 25 class. For Camila, this practice eventually led her to participate in her field specific class, which was an important step in her academic journey. Additionally, LIN 25 provides a space for students to practice writing in a variety of academic genres, as the assignments in the class commonly requires students to write summaries, descriptions of figures and terms, among other genres. Also, a part of the LIN 25 curriculum is around academic vocabulary and clausal structures. Learning more academic vocabulary, as seen from the focal students, would be invaluable as they progress in their field. Learning clausal structures will help them vary the sentence structures in their writing. Finally, LIN 25 teaches students about plagiarism, specifically how not to plagiarize and the consequences of committing plagiarism. As seen in Luiza's case, this is a highly relevant topic. Overall, LIN 25 proves to be a necessary and valuable course for many reasons. Yet, there are several valuable improvements that could be made to the curriculum, which are discussed below.

First, international graduate students would benefit greatly from a deeper understanding of academic genre. While most of these students likely have some level of familiarity of academic writing in their native language, academic writing in English may be already a new and unfamiliar skill. As such, there ought to be more explicit instruction on academic genres, as well as what kinds of writing assignments/tasks are prevalent in their respective fields.

Furthermore, more attention needs to be paid to the elements within a genre. Most students will write at least one research paper in their field, so students need to know what sections to include and what needs to go in each section. While having students write summaries and descriptions of figures is a good start, perhaps other academic genres such as abstract writing needs to be included. For example, a possible assignment could be to ask students to find out what elements a research paper in their field generally has, and what those sections include. They could find out by asking their professor or a colleague who has been in the program longer than they have. LIN 25 would be a great place for this kind of assignment. By focusing on this metalinguistic awareness of genre, the student will gain more internal resources for knowing where to start and where to go with a particular assignment. In other words, students will know what to expect in terms of the types of writing assignments that they are likely to see.

Furthermore, while writing instructors are generally held responsible for helping international students gain membership into the academic discourse community (Spack, 1988), genre awareness needs to be taught in field specific classes, as well. It is important that genre is taught in the disciplines because of genre conventions differ between disciplines. What constitutes a research paper in one discipline will differ from what constitutes a research paper in another. Because international students are primarily in STEM fields, one recommendation would be to provide specialized training for STEM professors in order to better equip them to teach genre. At UC Davis, Writing Across the Curriculum (WAC) practitioners have recently put in place institutional programs to address the issue of training STEM professors. While there are certainly STEM professors who create what Angelova and Riazantseva call and "intentionally inviting environment", there certainly are other professors who, like one of the professor in the Angelova and Riazantseva study, think that international students should learn about genre and writing from a writing instructor or writing tutor. Ultimately, students should not be left on their own to discover the genre conventions and expectations within their field.

Another pedagogical recommendation comes from the literature on noun phrase complexity, in conjunction with the findings in chapter 6. At of the time of the study, a main focus of the LIN 25 curriculum had been on grammatical complexity, specifically relative clauses, noun clauses, and adverbial clauses. While these are necessary components to academic writing, what is gravely missing from the curriculum is focused instruction on noun phrase complexity and the possible elements that can accompany head nouns, specifically pre and post modifiers. Explicit instruction about noun phrase complexity would benefit students greatly as their writing becomes more complex, academic, and informationally dense. Data presented in this dissertation have shown that students generally show improvement with noun phrase complexity measurements. However, the focal students all had the highest clause/sentence measurement in the fall, likely because clausal structures were a primary topic in the LIN 25 class. As a result, focus on noun phrase complexity rather than clausal complexity would serve the students well.

Also, students like Luiza, would benefit greatly from further instruction with respects to citations. Luiza was not alone in feeling confused or unsure about how to cite correctly. 28.3% of the LIN 25 students from the fall survey reported their ability to cite properly as 'weak'. Because this survey was administered after the LIN 25 class, which indeed teaches citations, the recommendation would be for further or deeper instruction on proper citation use.

7.8 Institutional Implications: Orienting students to a new campus climate

Perhaps one of the strongest findings that arose from the data was the importance of the role of peers, colleagues, and friends, specifically those who shared the same language and/or cultural background. These co-nationals were able to provide a breadth and depth of support on a wide range of issues, from helping the student set up a bank account, to teaching the student about bicycle laws, providing academic and writing support, as well as emotional and

social support. Students with these strong co-national networks, like Lucy from Taiwan, were able to draw upon many useful resources from these communities including finding housing and roommates. Lucy provides a good example of someone who was “linked-in” even before arriving, as the Taiwanese student association starts helping students before they even arrive through online groups.

Interestingly, university sponsored orientation rarely came up in the interviews or surveys. In one stark exchange during the fall interview with Luiza, she mentioned how little she learned from orientation. She recounted how during the orientation there was a lesson on how to pronounce your name if someone does not understand you. She found this exercise to be a waste of time, as she does not have trouble pronouncing her name in a way that is comprehensible for domestic students (and other people on campus).

As a result of the ever-present theme of peer support, I would urge the university to provide extra resources to these student groups who are essentially orienting new students to the campus. In addition to allocating funds for a traditional orientation, the university would be wise to find ways to support already existing student groups as way to orient incoming students. The university also ought to provide resources for students to start new groups to reach a wider reach of students. The student groups do not need to necessarily be based on a shared culture or language, but that is how students seem to divide themselves naturally. There is some sense to this division, and it is not based on intentional segregation. Rather, students are pressed for time to get vital information that will affect their wellbeing (housing, classes, finances, etc.), and rather than trying to find out the information on their own or trying to navigate the complex bureaucracy of the university on their own, they gravitate towards others who have traveled a similar path. For example, the university would be wise to support the Taiwanese Student Association, as this student group provides valuable resources, information, as well as emotional, social, and academic support in a way that the university cannot provide. In a way, the Taiwanese student association is very much filling a gap in the institutional

system, and doing so independent of the university. This student group is undeniably serving the interest of the university, and in an extremely cost effective way. To quote Bochner et al. (1977):

> Thus mono- cultural (conational) bonds are of vital importance to foreign students, and should therefore not be administratively interfered with, regulated against, obstructed, or sneered at. On the contrary, such bonds should be encouraged, and if possible, shaped to become more open to bi- or multi-cultural influences. In particular, mediating individuals who function as links between different cultural networks, should be identified and supported. (Bochner et al., 1977, p. 292)

I agree with Bochner et al. in that these co-national communities should not be "regulated against, obstructed, or sneered at", but I disagree in that I think they *should* be administratively interfered with; that is, in a way that helps serve the mission of the group. It is not a coincidence that certain apartment buildings are full of Brazilian students, or Korean students. What is happening can be explained using Wenger's concept of Community of Practice. Expert, or more experienced, members are socializing new members, showing them where to live. The pattern is especially clear with students who shared a common L1. Simply put, connecting with students who have already traveled the path is something that the university should be supporting and even advocating for, even more so than the traditional orientation. The university could identify students who are willing to be liaisons and give them extra resources in order for those students to pass on information to new students.

Also, in terms of orientation, the recommendation would be to do a needs assessment to see what exactly students need in terms of orientation. It is possible that a needs assessment is already done, so if that is the case, the recommendation would be to take steps to ensure that individual students are receiving the information they need. Certainly not every important piece of information can be presented, but it is crucial that students are receiving useful information.

Luiza, in the spring interview, talked about her experience at orientation, which for her was mostly useless. In this excerpt, Luiza uses sarcasm to highlight how ineffective many of the presentations were to her.

> **Luiza**: I had two weeks of orientation in this university. all my friends attended 3 or 4 presentations and said this is useless, this is for Chinese people, and they left. They didn't show up anymore, but I went to all these, at least 1 presentation every day. This presentation I learned that I could look to the American eyes because there was one presentation about the behaviors. Another presentation I learned I shouldn't rape people. I didn't know that I couldn't rape people. The other presentation I learned I couldn't kill anybody. It was awesome, I didn't know I couldn't kill. Yeah, just sarcasm of course. Just stupid presentations. One or two presentations helped me. One presentation helped me. It showed the resources the university has, it was good. But ten presentations, two were good, that was the rate. Then I think, why? No one gave me a presentation to say how I know the citation style. Is it APA, or other?

Luiza is clearly being sarcastic when she said that she learned that she is not allowed to kill people. She is making a joke about how she already knew the information that was presented at the orientation. The process of orientation presents some inherent difficulties because there is a limited amount of time, and different students have different needs. It is possible that in whatever shape or form, not all students will benefit from attending orientation. Certainly Luiza, with her vast experience abroad needed fewer lessons about how to behave in a cultural appropriate way, and more about academic related topics. However, it is unclear whether orientation would be the best place to teach about how to cite properly. Luiza said that the presentation about the resources that were available on campus was helpful. One recommendation would be to limit the focus of the orientation to information about the university that is relevant to all of the incoming international students, such as resources, library use,

important dates, etc. Then, for those who are interested in a more culturally specific curriculum, there could be a separate series of workshops offered by the university. In this way, students would be able to choose which presentations they go to.

7.9 Area of further study

I recognize that there is much to be researched in the area of L2 writing, and, as such, would like to offer some areas of further study. As I dove into the data that were presented in each chapter, I realized that in a sense, each piece of data invited further inquiry. As such, not all of my curiosity could be satisfied within the parameters of this study. In this section, I wish to describe a number of future directions which would logically follow from the current study. For one, I found the data touching on aspects of identity especially interesting. I found myself intrigued by Lave and Wenger (1991), who wrote, "learning itself is an evolving form of membership" (p. 53). Learning is in a sense indistinguishable from a changing identity. What better place to inquire about identity than international graduate students who have made a major life change by studying in a foreign country? Language itself is linked with identity, and the choices that the students made about who to shape their communities around is both a reflection and refraction of their identity. Seeing Camila beginning to participate in her class, and becoming more autonomous with her writing made me wonder about how she viewed her evolving identity.

Also, given the continually increasing internationalization of the U.S. university, it would be beneficial to find out more about how students are forming their networks, and more specifically, how and why students are choosing to connect and engage with certain people. In particular, I am intrigued at the prospect of delving into strong co-national communities as well as academic discourse communities with high rates of a particular nationality. What comes to mind is the statistics department, which Gary is a part of. There is a threshold of Chinese graduate students that students are able to communicate almost exclusively in Chinese in both

social and academic settings. There is nothing inherently wrong with this, and there is no reason why a group of Chinese students should not use Chinese. This reminds me of a colleague of mine, who does not speak Chinese, who told me that in her undergraduate statistics class, her teaching assistant had trouble explaining a topic, and because the vast majority of the students spoke Chinese, the teaching assistant explained the topic, and fielded questions, in Chinese. Linguistically, I find this fascinating. A possible study that could follow the empirical findings stated above would be to do a case study of Chinese students in the Statistics department, and document their language use and language development over time.

Finally, I could foresee future studies related to how international graduate students relate to genre. Given that international graduate students are still learning about academic genres, it would be fruitful to devise a study related to the students' knowledge of genre. Questions that arise include: What do students know about genre? What do they not know? How is genre knowledge acquired? To what extent are professors in the disciplines teaching genre? From the present study, it seems like students are gaining genre knowledge from their writing instructors, colleagues, and sometimes from professors. Others are looking online, or are learning by just writing in specific genres. Students can interact in their L1 with co-nationals and receive academic support; however, genres do not translate well across languages, and must be learned and practiced, as Swales (1990) reminds us. The scope of the present study hopes to open these doors of opportunities for future research as the field of L2 writing research expands.

Final Thoughts

The students who participated in this study generally formed co-national networks, which served to create support networks that were linguistically and culturally accessible. The more that the administration, staff, and professors understand this fact, the more that the students' already existing environments can serve to benefit the student on his/her academic journey.

Findings from this study also suggest that students generally rely on friends and colleagues for support with their writing. Support from friends and colleagues was not rated as beneficial as support from professors and writing tutors, yet students still sought help more frequently from peers. This finding suggests that peers are more accessible than professors and tutors, and students feel more comfortable approaching peers. As a result, peers would serve well as a first line of support. Then, if more support is needed, the students may seek further support from a professor or tutor. Identifying support patterns will help the university better advise students about seeking out resources. Also, this finding suggests that it would be useful to train students in providing peer support, as that is a primary source of support. Findings from this study also suggest that the LIN 25 curriculum should be revised to better support L2 writers. It is my hope that with this dissertation more attention will be placed on the needs of first year international graduate students.

Appendix A: Linguistics 25 Sample Syllabus

COURSE OBJECTIVES

LIN 25 is a multi-skills course designed to help international graduate students improve their writing, speaking, vocabulary, grammar and listening skills in English as needed for successful academic work at UC Davis. Specifically, students will work on:

• Writing clearly and accurately on a variety of academic topics

• Giving organized and clear oral presentations

• Expanding academic vocabulary and understanding of idioms and expressions

• Summarizing and paraphrasing; avoiding plagiarism

• Improving grammar as needed for fluent and professional-level writing and speaking

• Increasing listening comprehension

• Increasing ability to participate effectively in group work and class discussions

REQUIRED MATERIALS

1. Writing Clearly: Grammar for Editing (Third Edition). Lane and Lange, Heinle/Cengage Learning, 2012. Available at the UCD Bookstore and Amazon.com (Note: please bring to every class.)

2. Vocabulary Lessons in Academic English. Available to be printed from the UC Davis Linguistics Website: http://linguistics.ucdavis.edu/global/graduate-esl/graduate-esl-courses/academic-vocabulary.

COURSE REQUIREMENTS

1. Class attendance and participation

Class attendance and participation are very important as much of the work for the course is done during class time. It is important that you arrive on time and attend each class. If you are sick or need to miss a class, talk to the instructor, or get the information and assignments you missed from one of your classmates.

2. Academic Vocabulary Audio Lessons (with worksheets)

These six audio lessons are based on the Academic Word List (AWL from the Victoria University of Wellington, New Zealand) and are designed to help you review important and common academic vocabulary, including how to pronounce the words correctly and recognize them when you hear them. The words in each lesson are useful for all fields of study. To do these lessons, you first need to print the lesson from the website (http://linguistics.ucdavis.edu/global/graduate-esl/graduate-esl-courses/academic-vocabulary). Then using this printed material, listen to the audio lesson and fill in the blanks as you listen. You will submit the completed lessons to your instructor on the dates listed on this syllabus.

3. Papers

You will write several short writing assignments. Please bring your laptop or tablet or favorite notebook and paper to class as we will work on these papers in class as well as out of class. Every paper can be re-written for a higher score as many times as you like until the last day of instruction.

• Summary and critique of a seminar presentation from your field of study or of a presentation given on campus that is of interest to you. Make sure you attend this presentation as early in the quarter as possible.

• Two short summaries to practice summarizing and paraphrasing accurately. These summaries will be based on video material and/or mini-lectures (completed with a partner).

• A formal e-mail message to a professor

• Describe a figure (see also, oral presentation below)

4. Oral Presentations

Idiom or expression

Each student will be assigned a date on which to present (at the beginning of class) an idiom or expression commonly used in speaking. You might choose an idiom you have HEARD people using so that it is current and useful for you and your classmates.

Campus Service or Location

You will be assigned a campus office or service, and you will present to your classmates on what the service is, where it is located, and how they might benefit from it.

Career and Field

This presentation will be 3 - 4 minutes long. In this presentation, you will focus on speaking clearly,

presenting information effectively, and using appropriate presentation style, describing what specialists in your field do, outlining your career goals, providing definitions of terms.

Describe a Figure

You will describe a figure (the same figure you use for the writing assignment above) for the class in a presentation of 2-3 minutes.

Micro-Lesson

This presentation will be 5 minutes long and will require you to teach the class a mini-lesson within your field of study.

5. Individual Conference with Your Instructor

There will be scheduled individual appointments with your instructor (see the Scheduler on Canvas). Your instructor may ask you to bring an assignment you are working on or one that has been returned to you by your instructor.

6. Other Material to Be Covered

Grammar: verb tenses and forms, modals, conditional, articles, noun plurals and singulars, relative clauses, adverbial clauses, noun clauses, connectors, among other topics

Mechanics: punctuation, capitalization, format and style of academic papers

Writing Style: flow of ideas, academic writing style

Pronunciation and oral activities: some difficult sounds, stress and intonation, keys to speaking clearly, greetings and responses, giving directions, saying numbers accurately, answering yes/no questions, saying names of people and places correctly.

COURSE GRADE

In Linguistics 25, you will be graded on a Satisfactory/Unsatisfactory basis. You will be assigned a grade of SATISFACTORY based on three factors: a) improvement; b) completion of the required assignments, and regular attendance and participation in class; c) passing grades (adequate or above) on the graded assignments in the course.

SUMMARY OF IMPORTANT EXPECTATIONS

ATTEND EVERY CLASS: Since much of the work for this course is done during class hours, if you miss class, you will jeopardize your ability to pass the course.

COME TO CLASS ON TIME: Come to class on time so that all students can benefit, without disruption, from all of the class activities.

USE OF TECHNOLOGY IN CLASS: Please bring your laptop or tablet to class as we will do some writing in class. You may also choose to write by hand. However, refrain from doing distracting things with your computers, tablets, or cellular phones!!

SUBMIT ALL ASSIGNMENTS ON TIME: You may not submit any assignments late. Assignments must be submitted on the due date, unless you are sick and have a note from a doctor.

GRAMMAR EXERCISES IN THE BOOK: You are expected to do these assignments.

REWRITE: In order to show improvement, you should rewrite for an improved feedback score whenever possible.

DO NOT COPY OR PLAGIARIZE: Plagiarism is the act of turning in someone else's work as your own, turning in a paper/work from the Internet, or not giving credit for information obtained from source material. Plagiarism in any form is unacceptable. If you plagiarize, you will receive a failing grade for that assignment and also risk being dismissed from UC Davis. To avoid plagiarism, you must clearly acknowledge the source of any borrowed language or ideas that you use in your papers. Please see the following websites for more information: http://cai.ucdavis.edu/plagiarism.html or http://sja.ucdavis.edu/files/plagiarism-001.html

Appendix B: Recruitment Script

Hello everyone, my name is Daniel Moglen and I'm a fifth year graduate student in the Linguistics Graduate Group. I am doing a research project about the writing development of first year international graduate students - that's you! Here's how you can participate. Please write your name and email if you would like to participate in my research project. Participation is completely voluntary, and will help us learn more about your experiences and your needs as international graduate students. Participation will involve 1) sending me your essays and papers that you write for your classes over the course of the year, 2) responding to 3 surveys, and 3) taking part in 3 short interviews. At the end of the year, upon request, I can provide an analysis of your writing, which will be helpful for you to identify areas where you may need to improve. Please feel free to contact me at any point if you have questions about my project. My email address is djmoglen@ucdavis.edu. Thanks!

Appendix C: Fall, Winter, and Spring Survey Questions

Initial Survey

1. Name

2. Email

3. Gender

4. Nationality

5. What is your native Language(s)?

6. What are your learned Language(s)?

7. What is your degree objective?

8. What is your department?

9. How many years have you studied English?

10. Are you willing to participate in three surveys (fall, winter, and spring quarters)?

11. Are you willing to participate in three interviews (fall, winter, and spring quarters)?

12. Are you willing to submit your written assignments to me (for the fall, winter, and spring quarters)?

Fall 2014 Questionnaire

1. Name (First and Last)

2. Email

3. TOEFL Score – Reading

4. TOEFL Score – Listening

5. TOEFL Score – Writing

6. TOEFL Score – Speaking

7. How much time have you spent abroad (outside of your home country)?

8. How many of these people are from your home country?

9. How many of these people are from the US?

10. How many of these people are from a different country (not your home country, not US)?

11. What percentage of the time do you use English in social settings?

12. In your social life, what have been your experiences interacting with U.S. people (or people from outside of your country)?

13. How many of these people are from your home country?

14. How many of these people are from the US?

15. How many of these people are from a different country (not your home country, not US)?

16. What percentage of the time do you use English in academic settings?

17. In your academic life, what have been your experiences interacting with U.S. students (or students from outside of your country)?

18. What kinds of writing assignments did you complete this quarter?

18. This next question asks about your strengths and weaknesses with different aspects of writing. How do you rate your abilities in the following areas?

[Writing an introduction/conclusion]

[Making an Argument]

[Organization]

[Using Citations]

[Grammar]

[Vocabulary]

19. This next question asks about your confidence with different aspects of writing. How do you rate your confidence in the following areas?

[Writing an introduction/conclusion]

[Making an Argument]

[Organization]

[Using Citations]

[Grammar]

[Vocabulary]

20. Use this text box to explain or elaborate on questions 18 & 19. Specifically, if you answered in the weak or not confident range, give examples.

21. Do you feel confident in your writing ability to succeed in your program?

22. Describe the most important writing task you completed this quarter, you can comment on the class, topic, purpose, length, etc.

23. Did you talk to any of the following people about this writing task? If so, how frequently?

[Professor]

[Colleague]

[Friend]

[Writing Tutor]

[Family Member]

24. If you talked to someone about your writing, how helpful was this interaction?

[Professor]

[Colleague]

[Friend]

[Writing Tutor]

[Family Member]

25. How comfortable do you feel talking to this person about your writing?

[Professor]

[Colleague]

[Friend]

[Writing Tutor]

[Family Member]

26. What has been your experience interacting with your professors this quarter?

Winter Quarter Survey

1. Name

2. Email

3. Nationality

4. Did you fill out the Writing Study Survey at the end of the Fall Quarter?

5. a) How many of these people are from your country?

5. b) How many of these people are from the US?

5. c) How many of these people are from a different country (not your country, not US)?

6. What percentage of the time do you communicate in English in academic settings?

7. a) How many of these people are from your country?

7. b) How many of these people are from the US?

7. c) How many of these people are from a different country (not your country, not US)?

8. What percentage of the time do you communicate in English in social settings?

9. a) Did you take any writing courses in the Winter Quarter?

9. b) If so, which one(s)?

10. How do your writing skills now compare to your writing skills at the end of the Fall Quarter?

    [Writing an introduction]

    [Making an argument]

    [Writing a literature review]

    [Using academic vocabulary]

    [Using more complex grammatical structures]

    [Making fewer errors]

    [Using citations properly]

    [Writing an analysis of results]

    [Understanding the reading material (books, journal articles, etc.)]

11. Any further comments about your English language skills now compared to Fall Quarter?

12. Rate how much influence each of the following people has had on your improvement as a writer in the Winter Quarter.

[Professor]

[Colleague]

[Friend]

[Writing tutor]

[Family Member]

13. What kinds of writing assignments have you completed this quarter?

14. For each of the following statements, choose the option that corresponds with your experience.

[I feel anxious when I talk to native English speakers.]

[I feel like there is a cultural barrier when I interact with U.S. people.]

[I would like to have more interactions with native English speakers.]

[I mostly communicate with people from my country in my daily life.]

[I understand most of what my professors say in class.]

[I feel like my vocabulary is limited when I write.]

[I am concerned that my English isn't good enough to succeed in my program]

[I think my English has improved a lot since I arrived at Davis]

[I have a lot of opportunities to speak in English in my daily life.]

[I wish there were more resources for learning English at UC Davis.]

15. Use this space to add any comments about the previous question (question 14).

16. Any additional comments about your experience as an international student at UCD?

Spring Quarter Survey

1. Name

2. Gender

3. Email

4. Department

5. Did you fill out the Writing Study Survey at the end of the Fall Quarter and Winter Quarter?

6. a) How many of these people are from your country?

b) How many of these people are from the United States?

c) How many of these people are from a different country (not your country, not the United States)?

7. What percentage of the time do you communicate in English in Academic Settings?

8. a) How many of these people are from your country?

b) How many of these people are from the United States?

c) How many of these people are from a different country (not your country, not the United States)?

9. What percentage of the time do you communicate in English in Social Settings?

10. Indicate whether how strongly you agree or disagree with the following statements?[My sentences are longer (more words per sentence)]

[My sentences are more complex (more clauses per sentence - not just writing simple sentences)]

[I am making fewer errors in my writing]

[I know when to use the singular/plural form of the noun]

[I know when to use articles (a/an, the, 0)]

[I am using a bigger variety of words in my writing]

[I know which logical connector to use (for example: even though, nevertheless, on the contrary, although, however, etc.)]

[I know when to use passive voice and when to use active voice]

[I know which words are “academic” and which words aren’t "academic"]

[I know which preposition to use (of, at, in, on, about, etc.)]

[I know how to correctly form questions]

11. Please take a minute and write about your experience writing in English:

12. Indicate whether how strongly you agree or disagree with the following statements?

[Using my native language helps me think of ideas]

[Using my native language helps me choose the right word]

[Using my native language helps me organize my thoughts]

[I feel like a real researcher when I write papers in English]

13. Please take a minute and write about how you use or think in your native language when you write in English:

14. Which of the following sources did you use this year for help with your writing?

15. Which of the following resources have you used THE MOST this year?

16. How many times did you meet with your PI/advisor this year?

17. How confident are you with your ability to write?

[Academic Writing in my native language]

[Academic Writing in English]

[Writing in general]

18. Take a minute and reflect on your first year of graduate school.

Appendix D: Fall, Winter, and Spring Interview Questions

Fall Quarter Interview

Topic 1: background information

1. Please tell me about your educational background and how you came to study at UC Davis.

2. Now that you have completed a quarter here, what advice do you have for international graduate students who will be starting at Davis in the coming year?

3. What were the hardest and easiest parts about transitioning to life in Davis (both socially and academically)?

4. Compare your English ability (reading, writing, speaking, and listening) now and when you first arrived.

Topic 2: opportunities and resources

5. What resources has your department offered you in terms of English support? This can be in the form of tutoring, meetings, etc.

6. What else would you like to see available at UC Davis in terms of English resources?

7. You have taken LIN 25 in the Fall. In what ways was this class helpful, and in what ways do you think that this class could be improved to better suit your needs?

Topic 3: Social and academic experience

8. What are some challenges that international students face that U.S. born students may not?

9. What was the most surprising thing about your program? In what ways has your program met your expectations?

10. What do you wish you knew before coming to Davis (about life, academics, your program)?

11. If you have been a TA, please tell me about that experience. If you haven't, what would you look forward to, and what would concern you about being a TA?

12. Tell me about your experience in your classes at UC Davis (note-taking, listening comprehension, opportunities to participate).

13. Tell me about your experience doing research at UC Davis.

14. If you were struggling with an assignment/paper, what would you do? Who would you see, how would you handle this situation?

Winter Quarter Interview

Checking in Questions

1. Compared to Fall, how do you feel with your English language skill (listening, speaking, reading, writing)?

2. What has been the most stressful part of your academic experience this quarter?

3. What are you doing, if anything to improve your language skills?

Questions about survey

4. In the Winter survey, you put down ___ for "people from the US" in both academic and social situations, and your use of english in social settings decreased:

5. You mentioned having difficulty _____

6. In the survey, you said you use English _____ of the time in social (and academic) settings, has that changed?

7. In the survey, you said _____ had a lot of influence on you as a writer?

8. In the survey, you said that you feel like there is a cultural barrier when you interact with U.S. people?

Questions about writing assignments

9. What kind of feedback are you getting on your writing?

10. What did you learn as you worked on each draft?

11. Specifically, what did you pay attention to in each draft?

12. Was the feedback helpful, how did you incorporate the feedback into the next draft?

13. What are your writing habits? When do you write? Do you procrastinate? How do you write?

14. While writing, were there areas where you felt you couldn't fully communicate your idea?

15. Are there areas in the draft where you're not sure the reader will understand your point?

Spring Interview Questions

1. How would you rate your English proficiency level in the following areas?

    [Speaking] [Listening] [Reading] [Writing]

2. In this portion, I will ask questions that relate to your survey responses.

3. What does your social network look like?

4. How has your social network changed over the year?

5. What does your academic network look like?

6. How has your social network changed over the year?

7. How often are you using English in social and academic settings?

8. How has your writing improved/changed?

Appendix E: Interview Codes and Definitions

Anxiety (+ or -)

Instances of when the interviewee talks or shares examples about feeling nervous, unsure, which leads to an interference with communication in English.

Confidence (+ or -)

Instances of when the interviewee talks or shares examples about feeling sure, certain, clear-headed, which leads to a higher level of language performance.

Comfort (+ or -)

Instances of when the interviewee talks or shares examples about feeling safe, at ease, in a way that promotes his/her English language ability.

Bonding/Shared Interest

Instances of when the interviewee talks or shares examples about having the same hobby, preference, taste, interest with another person, resulting in a connection.

Cultural Barrier

Instances of when the interviewee talks or shares examples about how differences in cultural background has interfered with the interviewee's communication with another person.

Language Barrier

Instances of when the interviewee talks or shares examples about how their knowledge, or lack of knowledge, of English has impeded their communication with another person.

Co-Nationals

Instances of when the interviewee talks or shares examples about spending time, communicating, interacting with students from their home country. This also includes students with their same language/cultural background.

U.S. People

Instances of when the interviewee talks or shares examples about spending time, communicating, interacting with students from the US.

International Students

Instances of when the interviewee talks or shares examples about spending time, communicating, interacting with students from countries other than the US and their home country.

Help (+ or -)

Instances of when the interviewee talks or shares examples about asking for (or not asking for), receiving (or not receiving) help from other people, books, or online resources.

L1 Interference

Instances of when the interviewee talks or shares examples about ways in which his/her L1 affects (negatively or positively) the way in which English is spoken, written, or conceptualized

L1 Use

Instances of when the interviewee talks or shares examples about speaking, thinking, reading, listening, writing in his/her L1

Social Isolation/Loneliness

Instances of when the interviewee talks or shares examples about feeling alone, not having many friends

Struggling/Difficulty with English

Instances of when the interviewee talks or shares examples about limited vocabulary, uncertainty about grammar, breaks in communication (speaking/listening)

Appendix F: Social and Academic Networks (Counts and percentages)

Social Network [co-national]

How many co-nationals are in your social network?

	Fall (count)	Fall (percent)	Winter (count)	Winter (percent)	Spring (count)	Spring (percent)
0	2	4.35%	5	13.51%	1	4%
1	5	10.87%	1	2.7%	1	4%
2	4	8.7%	6	16.22%	2	8%
3	7	15.22%	9	24.32%	5	20%
4	8	17.39%	4	10.81%	4	16%
5	9	19.57%	12	32.43%	5	20%
6	11	23.91%	0	0%	7	28%

Social Network [host nationals]

How many host nationals are in your social network?

	Fall (count)	Fall (percent)	Winter (count)	Winter (percent)	Spring (count)	Spring (percent)
0	16	34.78%	15	40.54%	12	48%
1	14	30.43%	6	16.22%	7	28%
2	7	15.22%	8	21.62%	5	20%
3	5	10.87%	3	8.11%	1	4%
4	3	6.52%	1	2.7%	0	0%
5	0	0%	1	2.7%	0	0%
6	0	0%	3	8.11%	0	0%

Social Network [international]

How many international people are in your social network?

	Fall (count)	Fall (percent)	Winter (count)	Winter (percent)	Spring (count)	Spring (percent)
0	15	32.61%	19	51.35%	11	44%
1	15	32.61%	8	21.62%	8	32%
2	7	15.22%	3	8.11%	3	12%
3	2	4.35%	2	5.41%	1	4%
4	3	6.52%	3	8.11%	1	4%
5	1	2.17%	0	0%	1	4%
6	0	0%	2	5.41%	0	0%

Academic Network [co-national]

How many co-nationals are in your academic network?

	Fall (count)	Fall (percent)	Winter (count)	Winter (percent)	Spring (count)	Spring (percent)
0	11	23.91%	10	27.03%	6	24%
1	11	23.91%	2	5.41%	6	24%
2	4	8.7%	5	13.51%	4	16%
3	9	19.57%	2	5.41%	2	8%
4	4	8.7%	8	21.62%	4	16%
5	3	6.52%	4	10.81%	2	8%
6	4	8.7%	6	16.22%	1	4%

Academic Network [host national]

How many host nationals are in your academic network?

	Fall (count)	Fall (percent)	Winter (count)	Winter (percent)	Spring (count)	Spring (percent)
0	7	15.22%	11	29.73%	3	12%
1	7	15.22%	6	16.22%	5	20%
2	10	21.74%	6	16.22%	6	24%
3	9	19.57%	5	13.51%	9	36%
4	6	13.04%	4	10.81%	2	8%

5	3	6.52%	3	8.11%	0	0%
6	4	8.7%	2	5.41%	0	0%

Academic Network [internationals]

How many international people are in your academic network?

	Fall (count)	Fall (percent)	Winter (count)	Winter (percent)	Spring (count)	Spring (percent)
0	9	19.57%	13	35.14%	5	20%
1	14	30.43%	6	16.22%	5	20%
2	10	21.74%	10	27.03%	6	24%
3	5	10.87%	3	8.11%	4	16%
4	5	10.87%	4	10.81%	3	12%
5	2	4.35%	0	0%	1	4%
6	0	0%	1	2.7%	0	0%

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