An Investigation of Language Teachers’ Explorations of the Use of Corpus Tools in the English for Academic Purposes (EAP) Class

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AN INVESTIGATION OF LANGUAGE TEACHERS’ EXPLORATIONS OF THE
USE OF CORPUS TOOLS IN THE ENGLISH FOR ACADEMIC PURPOSES (EAP) CLASS

by

JOHN DAVID BUNTING

Under the Direction of Dr. Viviana Cortes

ABSTRACT

Despite claims that the use of corpus tools can have a major impact in language classrooms (e.g., Conrad, 2000, 2004; Davies, 2004; O'Keefe, McCarthy, & Carter, 2007; Sinclair, 2004b; Tsui, 2004), many language teachers express apparent apathy or even resistance towards adding corpus tools to their repertoire (Cortes, 2013b). This study examines from a teacher cognition perspective (Borg, 2006) how three EAP (English for Academic Purposes) writing teachers identified their most pressing needs and considered possible ways that corpus tools might address those needs. After having an individualized corpus working session, each teacher put into practice one or more corpus tools to address self-identified needs in their writing classes. The teachers reflected on the process across a series of interviews and in a stimulated
recall session, which were analyzed using qualitative research methods. Each teacher discussed the degree to which the lesson met her objectives, and considered how she might use such corpus tools in the future, as one component in the development of her teaching beliefs, knowledge base, and practices. Through thematic analysis of the interviews and the individualized corpus working sessions, themes emerged that tell the story of these three teachers as they moved through this process, relating to the issues of time, student engagement, material analysis, selection and design, issues related to corpus tools, language, institutional factors, and collaboration. A new area of specialization on the pedagogical uses of corpus tools is discussed, based on the results of the three cases. Implications for researchers, material designers, corpus tools specialists, teacher educators, administrators and teachers are considered.

INDEX WORDS: Classroom research, Corpus linguistics, Corpus tools, English as a second language, English for academic purposes, English for specific purposes, Intensive English program, Qualitative research, Second language pedagogy, Second language teacher education, Second language writing, Teacher cognition
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JOHN DAVID BUNTING

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of
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by

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Georgia State University
July 2013
DEDICATION

To my sons Christopher and James- thank you, gentlemen, for your patience, love, and support. To my wife Mayira, thanks for keeping me focused on maintaining my own voice and for all your love across the years.
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1 INTRODUCTION

Teaching is not simply the application of knowledge and of learned skills. It is viewed as a much more complex, cognitively driven process affected by the classroom context, the teacher’s general and specific instructional goals, the learners’ motivations and reactions to a lesson, and the teacher’s management of critical moments during a lesson. At the same time, teaching reflects the teacher’s personal response to such issues; hence teacher cognition is very much concerned with teachers’ personal and “situated” approaches to teaching. (Burns & Richards, 2009, p. 5)

The nature of how language teachers make decisions in their professional lives is complex and intensely personal, as described in the quote above. This decision-making often includes understanding, selecting, and using innovative tools in teaching and learning. It would be easy for many teachers to feel overwhelmed when seeking to improve their teaching or to find ways to incorporate language teaching innovations in their own classrooms. In addition to printed materials, teachers are bombarded with many other options, including new mobile applications for students, websites that offer a range of online options for students to engage with language, and competing software choices for material design and course management. Amidst all the other challenges that teachers must deal with, including student needs, curricular demands, and the logistics of running a classroom, it is perhaps not surprising that learning about and using tools that incorporate a new approach to seeing language, such as the view of language introduced by corpus linguistics, might be a struggle.

In spite of the trouble that exploring innovative approaches and activities may bring about, teachers have begun to incorporate corpus findings in their professional lives, if perhaps at times not systematically. For example, in the middle of a recent semester, one of my colleagues asked a few teachers about the use of the verb confess by one of her students, because the student, a non-native speaker of English in a graduate writing class, had written the sentence The
students confessed plagiarizing in their theses. The teacher felt that confessed to would have been a better choice that confessed followed directly by the -ing verb. However, she could not find any information in her sources to confirm this feeling. She wondered whether adding to was just a local pattern that she had grown up using. The responses she received included citing information from other textbooks, providing additional intuitive support, listing concordance lines with the confess to –ing pattern, and creating a short list of common patterns pulled from an online corpus (S. Cavusgil, personal communication, November 3, 2011). After reviewing her colleagues’ responses and checking with her textbooks, this teacher decided to provide both forms as options for the student. This exchange illustrated how teachers attempt to use corpus tools (in this case, the online tools that allowed this particular teacher to find and sort concordance lines about patterns with the verb confess) among other options, to connect real language use to their students’ needs.

As one of the teachers who responded to the request, I began to wonder about the ways in which teachers gather and use knowledge regarding language in use, especially given the advances that have been made, through the use of corpus linguistics, in ways to gather, organize, and analyze language. Sinclair (2004a), an early proponent of the use of corpus linguistics in language teaching and learning, noted that this new avenue for examining language could lead to a major shift in how we see language.

We should strive to be open to the patterns observable in language in quantity as we now have it. The growing evidence that we have suggests that there is to be found a wealth of meaningful patterns that, with current perspectives, we are not led to expect. We must gratefully adjust to this new situation and rebuild a picture of language and meaning which is not only consistent with the evidence but also exploits it to the full. (p. 10)

While it could be claimed that the benefits of corpus linguistics in many areas of language study are even more evident today than they were when Sinclair made this statement, the degree of language teachers’ awareness, acceptance, and use of corpus tools remains
uncertain (Cortes, 2013b). Seeking reasons for this apparent failure to embrace corpus tools by teachers is the driving force behind the present study.

Conrad (2000) considered corpus tools a pathway to a revolution in grammar teaching, and more recently Römer (2009) stated that “corpus linguistics can make a difference for language learning and teaching and…it has an immense potential to improve pedagogical practice” (p. 84). Despite such optimism, the reality is that corpus linguistics “has not been welcomed with open arms, neither by the research community nor the language teaching profession” (Sinclair, 2004b, p. 1). The present study addresses this issue. Chapter 1 lays out the purpose of the study, including the research questions, followed by the significance and the organization of the study.

1.1 Purpose of the Study and Research Questions

The primary purpose of the present study is to examine the processes through which three experienced second language (L2) academic writing teachers consider, implement, and then reflect upon the use of corpus tools to address needs they identify for specific writing classes. The study uses qualitative methods that provide insights into the teachers’ cognitive processes and practices as they address their self-identified teaching needs through the implementation of corpus tools. Drawing on the work of Borg (2006), my decision to focus on teacher cognition and practices is to “more clearly understand teachers, not to create a prescriptive formula using ‘successful’ teachers as a model” (p. 14). My approach to telling these three teachers’ stories is rooted in the notion discussed by Johnson and Golombek (2002) that:

in order to recognize and document the activity of teacher learning and language teaching through the perspective of teachers, it is necessary to gather descriptive accounts of how teachers come to know their knowledge, how they use that knowledge within the contexts where they teach, and how they make sense of and reconfigure their classroom practices in and over time. (p. 2)
The study will use a set of qualitative research tools to answer the following research questions for three English for Academic Purposes (EAP) writing teachers as they consider the integration of tools used to explore, produce or exploit corpus-based findings for language learning purposes (hereinafter “corpus tools”) into their teaching beliefs, knowledge base, and practices:

1. What are these teachers’ self-identified needs as EAP writing teachers?

2. How does the active integration of corpus tools address those needs?

3. What changes occur in the teachers’ perceptions of the potential for using corpus tools in L2 writing classrooms after undergoing training and using those tools and materials to address needs that they have identified for their own classes?

My hope is that answering these questions may add to our understanding of how corpus tools can be used by in-service teachers. The study offers insights, often from the three teachers themselves, into their authentic classroom experiences with corpus tools through the use of classroom observations, corpus working sessions, stimulated recall sessions, and interviews.

1.2 Significance of the Study

Many corpus linguists agree that the analysis of corpus-based findings has had profound effects on how linguists can study language in use (e.g., M. Baker, Francis, & Tognini-Bonelli, 1993; Biber, Conrad, & Reppen, 1998; McEnery & Wilson, 2001; Sinclair, 1991, 2004a). Many researchers also believe that corpus-based findings can benefit second language teaching and learning (e.g., Biber et al., 1998; Biber, Johansson, Leech, Conrad, & Finegan, 1999; Conrad, 1999, 2000, 2004, 2005, 2008; Cortes, 2004, 2005; Flowerdew, 2009; Gavioli, 2005; Gavioli & Aston, 2001; Hunston, 2002; O'Keefe & Farr, 2003; O'Keefe et al., 2007; Römer, 2006, 2008,
2011). However, there appears to be little research that examines or explains the way in which teachers respond to and subsequently incorporate such knowledge in their classrooms.

Teachers and teacher educators respond to data-driven professional development, but like most of us they also need a story to illuminate and clarify data. The study presented here is, in its essence, three stories of energetic, principled teachers who were willing to allow their ongoing learning processes to be documented. To the degree possible, what you will read reflects the teachers’ stories, as they share their enthusiasm, skepticism, bewilderment, and delight in striving to make their classrooms more dynamic and effective places for learning through their consideration of the use of corpus tools at a specific moment and for specific purposes in their teaching. The story of these three teachers also reflects the process of exploring the corpus tools collaboratively with a colleague/researcher, who acted in part as a specialist in the pedagogical use of corpus tools. Another hope that lies behind the study is that the stakeholders in this area (researchers, corpus tools specialists, material writers, administrators, teacher educators, and teachers) can strengthen connections between research results and the practices and cognitions of working teachers.

1.3 Organization of the Study

The study is reported by chapter to provide a clear narrative of underlying concerns and goals, the location of the study within current research, methods used, and results, as well as the study’s implications and limitations.

Chapter 2, the literature review, provides an overview of current thought regarding the relationship between corpus linguistics, its pedagogical methods and tools, and teacher cognition. The chapter first includes an examination of corpus tools in language learning, with an emphasis on those tools that can be used by teachers either inside or outside their classrooms with the end
goal of providing more effective learning/teaching. The chapter then covers current views on teacher cognition.

Chapter 3 explains the methodology used in the study. It includes a description of the research context, including the EAP writing teachers, Cecilia, Simone, and Lorraine. It also provides information on the data collection instruments and processes. A rationale is provided for each data collection method: interviews, corpus working sessions, classroom observations, stimulated recall sessions, and textual artifacts (syllabi, learning outcomes, student handouts, etc.). Chapter 3 includes a detailed description of the data analysis process, and then discusses issues of research ethics specific to this study.

Chapter 4 provides results of a preliminary survey of ESL/EFL teachers that was conducted as a prelude to the primary investigation reported. The needs that these teachers identified as important are examined. The teachers also described their experiences with and opinions on the use of corpus tools, both in their own classrooms and in general by language teachers. This information helped lay the groundwork for understanding the range of current teacher needs and the potential role of corpus tools in the professional lives of language teachers.

Chapters 5, 6 and 7 constitute the heart of the investigation. They are summaries of the major findings for Cecilia, Simone, and Lorraine, respectively. These chapters include descriptions of the courses, texts, and students in each class. They also include discussions of the reasoning process that each teacher went through as she considered possible corpus tools and then made decisions throughout the lesson planning stage and during the class session. Finally, each of these chapters examines how each teacher responded to the use of the corpus tools in her class.
Chapter 8 is a concluding chapter that revisits the research questions and also addresses themes common to the three teachers that emerged as they explained ways of using corpus tools in their classrooms. Possible implications for corpus researchers, corpus tools specialists, material writers, teacher educators, administrators, and teachers are also included in this final chapter. Finally, limitations of the study and possible avenues for future research are discussed.
2 LITERATURE REVIEW

Chapter 2 reviews the literature that I believe is most relevant in framing this investigation. The chapter is divided into two major sections. The first section has a review of literature in corpus linguistics and language teaching and learning, while the second section has a review of literature on language teacher cognition and practices.

In the first section, I define corpus linguistics and discuss the relationship between corpus-based research, language teaching, and L2 writing. I also examine how corpus linguistics research has or has not been able to address teacher needs. I then raise the issue of the ‘invisibility of teachers’ in prior studies and teacher education materials on the use of corpus tools for language teaching and learning.

The issue of teacher invisibility leads to the second major section in the chapter on teacher cognition and practices. I clarify teacher cognition terminology that is used throughout the study and discuss relevant research in the area of teacher cognition of language teachers.

2.1 Corpus linguistics and teachers

One definition of corpus linguistics is the analysis of language as it occurs in natural language taken from a corpus, or a collection of texts, using computer software along with researcher judgments in a combination of quantitative and qualitative analysis techniques. In its essence, corpus linguistics incorporates and emphasizes the study of language in use rather than simply focusing on the study of the structures of language (Biber et al., 1998). The analysis of texts has undergone, with the advent of corpus linguistics, a radical change “from basically observing and describing a single communicative event, a text, to accessing, with the help of a computer, a whole collection of texts, a corpus, and observing the repeated lexical and
grammatical choices of a certain community of language users” (Tognini-Bonelli, 2004, p. 11).

From its beginnings, proponents have considered that corpus linguistics has ushered in “the emergence of a new view of language” (Sinclair, 1991, p. 1) and research in corpus linguistics has led to many insights into language in use, providing surprising and valuable new information about both the unusual and the usual, identifying patterns and also determining their relative frequency within a corpus.

A corpus (plural corpora) is a large, principled collection of texts, typically ranging in size from less than one hundred thousand words to more than one billion words, which is in a digitized format that allows computer-based (machine-readable) analysis. The concept of a principled corpus means that parameters are set to determine what texts will go into the corpus, based on clearly defined criteria. For example, the Michigan Corpus of Academic Spoken English (MICASE) is a principled corpus containing 1.8 million words of transcribed spoken language gathered at the University of Michigan (Simpson, Briggs, Ovens, & Swales, 2002). It is a principled corpus because it includes only specific types of speech acts within the university, such as discussion sections, office hours, and study groups. A decision was made to exclude speech acts such as food-ordering sequences and university staff conversations (Simpson-Vlach & Leicher, 2006). The concept of a principled corpus may also cover, among other parameters, text length, variety of authorship, time constraints, and register, among others.

One important component of well-designed corpora is that they can show accurate tendencies within the targeted area of language and will provide, as McEnery and Wilson (2012) noted, “a broad range of authors and genres which, when taken together, may be considered to ‘average out’ and provide a reasonably accurate picture of the entire language population in which we are interested” (para. 16). An important additional concept derived from relative
frequency is saliency, which refers to assessing the importance of textual items within specific
texts or groups of texts, often through researcher interpretation or the use of keyness (P. Baker,
2006; Scott & Tribble, 2006). Keyness is a descriptor for words (usually referred to as keywords)
within a text “whose frequency is unusually high in comparison with some norm” (O'Keefe et
al., 2007, p. 12).

Corpora are usually either large **generalized corpora** or smaller **specialized corpora**. Generalized corpora are often used to make broad claims about language use and frequently include numerous sub-corpora based on broad parameters such as register, written vs. spoken form, and location. Commonly used generalized corpora include the 100-million-word British National Corpus ("The British National Corpus, version 3 (BNC XML Edition)," 2007) and even larger proprietary corpora used by publishers as research tools for corpus-based dictionaries (e.g., Rundell, 2007; Sinclair, 2001); grammars (e.g., Biber et al., 1999; Carter & McCarthy, 2006; Collins Cobuild English Grammar, 1990), and textbooks (e.g., Bunting, Diniz, & Reppen, 2013; Conrad & Biber, 2009).

Specialized corpora, such as MICASE, have a narrower focus and tend to be smaller. These specialized corpora are often created for a specific purpose, such as analyzing learners’ use of idioms or examining lexical diversity in small corpora of newspaper summaries from the US and the UK (Perez-Paredes, 2003), to mention only a few examples. Useful annotated lists of frequently used accessible corpora, including both general and specialized corpora, are available in Bennett (2010, pp. 97-98) and O'Keefe, McCarthy, and Carter (2007, pp. 284-296).

As mentioned in Chapter 1, **corpus tools** are defined, for purposes of the present study, as those tools used to produce or exploit corpus findings for language learning purposes. To further refine this definition, corpus tools include materials and/or activities that allow teachers
and/or learners to interact successfully with corpora and/or corpus-based findings to notice the frequency, absolute and relative, and ordering of words, phrases and other linguistic or discourse patterns, in such a way that learners can then use this knowledge to become more successful in achieving one or more learning outcomes for their language development.

Corpus tools are typically computer-based and can be classified as add-ons to other tools, stand-alone software, or online tools. Add-on tools are attached to software, applications, or web services that have some other purpose; the ‘search’ tool in a word processing program could be considered an add-on tool. Stand-alone software is typically installed on a computer and performs a range of tasks to analyze a corpus that the user has obtained or created. One excellent example of this kind of tool is AntConc (Anthony, 2009), software developed to allow users to analyze a corpus that has been uploaded. The third kind, online tools, often perform tasks similar to the stand-alone software, but in an online environment, and often with a pre-installed corpus or other data that may or may not interact with new data that the user provides. One example is the Corpus of Contemporary English (Davies, 2008), or COCA, which allows the user, for example, to input a word or phrase to search for its occurrences and collocations within the corpora available on the website.

**Corpus-based teaching methodologies** encompass the various ways in which corpus tools can be used to meet learning outcomes, which can be envisioned in several ways. One early approach by Biber et al. (1998) identified three basic pedagogical uses of corpus findings: “many of the findings of corpus-based studies, as well as the techniques in corpus-based research, have valuable applications in educational settings… [in]… three ways: the dissemination of findings from corpus-based studies, the development of educational materials, and the design of classroom activities” (Biber et al., 1998, p. 236).
A second way to look at corpus-based teaching methodologies is to use Gavioli’s (2005) classification of how corpus analysis can be a tool for teachers: its use in syllabus design, as support for teacher explanations, and direct use by learners either with teacher guidance or autonomously. This first aspect, use in syllabus design, primarily means that findings from corpus-based studies are used to identify grammatical, lexical, or discourse points to include, exclude, or prioritize in the curriculum. The second aspect, use in supporting teacher explanations, can be illustrated by the use of corpora to provide authentic materials to highlight specific grammatical, lexical or discourse points and also to provide critical examination of existing published or self-created materials. Researchers, teachers, and learners find “that there exist considerable differences between what textbooks are teaching and how native speakers actually use language as evidenced in the corpora” (McEnery & Wilson, 2001, p. 120). The third aspect is to engage learners directly with corpus tools, which is addressed in greater detail below in the discussion of data-driven learning.

In a third view of corpus-based teaching methodologies, Römer (2011) made a distinction between direct and indirect applications of corpora and findings from corpus-based studies through the use of i) the corpora themselves and any software used to analyze the data, and ii) techniques used to analyze and interpret the results of corpus investigations. One example of the indirect application is to compare corpus-based findings with choices made in textbooks, identifying “any mismatches between naturally occurring [language] and the type of [language] that is put forward as a model in the examined teaching materials” (pp. 208-209). One example of direct application is having students use online corpus tools, such as the VocabProfile and Keywords Extractor tools in the Compleat Lexical Tutor (Cobb, n.d.). These tools are described in detail in Chapter 5 (Section 5.3.3) and Chapter 6 (Section 6.3.3), respectively.
The interaction between corpus tools and students, as shown by Gavioli’s two “direct use by learners” categories and Römer’s “student-corpus interaction” in Table 1, is the primary element of **data-driven learning** (DDL), a concept first introduced by Johns (1991), who stated that classroom use of corpus tools would allow “the language-learner [to be] …essentially a research worker whose learning needs [will] be driven by access to linguistic data” (p. 2). Davies (2004), in a study of students’ corpus-driven examination of syntactic variation in Spanish, suggested that in some circumstances learners should perform advanced research on the target language and in fact “be ‘trained’ as corpus linguists to extract data” (p. 268).

**Table 1 - Classification schemes for corpus-based teaching methodologies**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Learn results from corpus research</td>
<td>Guiding syllabus creation</td>
<td>Indirect applications</td>
</tr>
<tr>
<td>Develop pedagogical materials</td>
<td>Support for teacher explanations</td>
<td>• Affects syllabi</td>
</tr>
<tr>
<td>Create classroom activities</td>
<td>Direct use by learners with teacher</td>
<td>• Affects reference texts</td>
</tr>
<tr>
<td></td>
<td>Direct use by learners autonomously</td>
<td>• Affects textbooks and other materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direct applications</td>
</tr>
<tr>
<td></td>
<td>• Teacher-corpus interaction</td>
<td>• Student-corpus interaction</td>
</tr>
<tr>
<td></td>
<td>• Student-corpus interaction</td>
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</table>

Much DDL research has focused on the use of **concordancing**, or the decontextualized analysis of recurring lexical, grammatical or phraseological items within a corpus, usually in KWIC (Key Word In Context) format, as illustrated in Figure 1. Boulton (2010) suggested that DDL might be enhanced in some educational settings by essentially removing the technology at the level of the student and making the materials paper-based. Specifically, having teachers prepare targeted corpus-based materials and introduce them in a gradual way would allow students to ease into becoming more effective consumers of corpus findings. In an analysis of
twelve studies on student use of corpus tools, C. Yoon (2011) determined that certain aspects of DDL can be effective with sufficient training and support for learners. In that review, the author concluded that “learners should be provided with gradual and guided training that can accommodate learners’ different learning styles, experience and language proficiency levels” (p. 137). This focus on learners is a necessary first step, but the aspect left unexamined is how teachers can become familiar enough with corpus tools to undertake this training of learners, and how they can fit such training into their curricula.

Johns’ (1991) initial definition of DDL appears to have been broadened to include teacher-corpus interaction, though such a characterization perhaps diminishes the unique role of the teacher in the teaching-learning process. It might be better, instead, to consider the teacher as the occasional facilitator during DDL who deals directly with students. A different categorization for the relationship between teacher and corpus could be created; some corpus-based teaching methodologies might more aptly be called data-driven teaching. Even that emphasis on data might be too prescriptive, however, for what occurs in the cognitive processes and actual practices of teachers. While some studies indicate that there may be some benefit of DDL on student achievement (e.g., Cobb, 1997) and student attitudes (H. Yoon, 2008; H. Yoon & Hirvela, 2004), there is no research that effectively addresses equivalent issues for teachers in
their use of corpus tools. Thus, the concept of corpus-based teaching methodologies, for the purposes of this study investigating L2 writing teacher cognition and practices, requires a more nuanced definition than simply a teacher’s role in DDL.

For the present study, corpus-based teaching methodologies are defined as those methods which use corpus tools or corpus-based research findings to provide teachers with useful pedagogical materials (either commercially produced or locally/institutionally produced), activities for teachers to manipulate and analyze texts, activities that promote greater language awareness (especially of patterns in the target discourse area), and activities for students to analyze and produce their own texts.

2.1.1 Corpus tools, English for Academic Purposes, and L2 writing

The setting of the present study is the L2 writing classrooms of three teachers of English for Academic Purposes (EAP). The reasons for this choice are related to the goals of EAP writing, the pedagogical options it allows, and the focus of much corpus-based research in language learning. The nature of EAP writing courses often places emphasis on the areas of vocabulary, grammar, and discourse organization (Hinkel, 2004), all areas in which corpus-based research has had an impact (C. Yoon, 2011). This emphasis is clearly reflected in the learning outcomes that are part of the three EAP writing classes featured in the present study.

In addition, there are logistical concerns that are better addressed in writing classes. More written corpora are available in formats that are accessible to teachers and students, such as corpora available on websites. Some examples are the Compleat Lexical Tutor (Cobb, n.d.), which has only written corpora, and the Corpus of Contemporary American English (Davies, 2008), which has primarily written corpora. There are fewer spoken corpora available online, such as MICASE, and they are more easily accessed as written texts. In addition, a focus on
writing classes allows for the option of feasibly creating a corpus of student written language (O’Keefe et al., 2007). In contrast, creating a corpus of students’ *spoken* language would require enormous effort, which would not be a realistic expectation as the teachers explore the application of corpus tools.

A final reason for using EAP writing classes is that much corpus-based research of interest for language teaching and learning has focused on academic writing (e.g., Chambers & O’Sullivan, 2004; Charles, 2007, 2013; Cortes, 2004; Coxhead & Byrd, 2007; Gilquin, Granger, & Paquot, 2007; Römer & Wulff, 2010; Sun & Wang, 2003; H. Yoon, 2005, 2008; H. Yoon & Hirvela, 2004). Perhaps the most well-integrated and frequently-cited corpus study that focused on academic writing was Coxhead’s (2000) creation of an Academic Word List, which was based on a 3.5 million word corpus of academic writing from journals, textbooks, and other academic texts. The corpus covered 28 academic subject areas, and the author created a list of 570 words which occurred frequently over a broad range of those subject areas. This seminal study has been the basis of much additional research on academic language (e.g., Conrad, 2008; Coxhead & Byrd, 2007; Murphy & Kandil, 2004; Pickering & Byrd, 2008; Simpson-Vlach & Ellis, 2010; Wang & Nation, 2005) and pedagogical materials (e.g., Byrd, Reid, & Schuemann, 2006; Coxhead, 2006; Reppen, 2012). For these reasons a focus on EAP writing classes would provide the greatest opportunity for teachers to find and use corpus tools that might meet their self-identified needs.

### 2.1.2 Corpus linguistics and Computer Assisted Language Learning (CALL)

Corpus tools necessarily incorporate computer technology and as such could be considered one element of the broader category of technology-enhanced language analysis and Computer Assisted Language Learning (CALL). It is therefore curious that many CALL teacher
training texts often include only fleeting mention of topics related to corpus linguistics (e.g., de Szendeffy, 2005; Dudeney & Hockly, 2007), with one recent overview of technology in second language learning making no mention at all of corpus linguistics (Levy, 2009). CALL in its myriad forms has, however, over time and after some resistance early on, become a major component in the practices of many teachers (e.g., Chapelle, 2001; Egbert, Chao, & Hanson-Smith, 1999; Egbert, Huff, McNeil, Preuss, & Sellen, 2009; Hanson-Smith, 1999). As a result, its progression could prove instructional for corpus researchers interested in seeing broader acceptance of corpus tools and methods by teachers. While not directly comparable to corpus-based teaching methodologies, CALL research may provide valuable insights into how new technology is being integrated into teaching and learning (O'Keefe et al., 2007). Examining studies of how teachers have integrated CALL may be applicable to a degree in considering how teachers approach corpus tools and methods.

Because corpus linguistics provides such a completely new way of observing language, some proponents have become ‘true believers’ who see almost all language observation through the prism of a corpus perspective. This can be a powerful way to see language, yet lack of consensus on where this is situated vis-à-vis other areas of language teaching and learning can be off-putting to teachers, the practitioners who are foremost looking for answers to concrete questions of language learning and classroom management (Bunting, Gobron, & Snell, 2013; Conrad, 2007). In a powerful sense, it echoes an earlier concern regarding CALL that the current research “does not tell teachers anything” (Egbert et al., 1999, p. 8).

In one review of research on technology in the classroom (Egbert et al., 2009), five new elements were suggested. First, teacher’s explanations for their classroom decisions should be noted. Second, teacher insights could be used to provide more thorough contextual information
about classrooms. Third, teachers should explain their thought process when using materials, as a way to add further understanding of how they interpret and use technology. Fourth, teachers could reflect on their motivation for classroom decisions through stimulated-recall interviews. Finally, the fifth new element in this research was to allow teachers to provide their views on students’ short-term and long-term success (p. 765). These recommendations might also be useful when addressing corpus tools; giving voice to the teacher perspective through these five steps as corpus tools are introduced could provide valuable information on how teachers evaluate their effectiveness, immediately following a class session as well as more reflectively some time later.

In addressing areas of concern within CALL that might be relevant for corpus-based teaching methodologies, weaknesses in research design were noted by Huh and Hu (2005), who identified three main areas of concern. First, some studies do not make strong theoretical connections to SLA. Another concern is that conclusions are not based on the entirety of the data but rather on selected data, with limitations either weakly stated or absent. The third concern is that some studies focus on the technology at the expense of the pedagogy, producing ‘technocentric results’ that have very limited use for teachers (p. 10). As mentioned in the discussion above regarding teacher concerns, these issues in CALL, especially the concern over technocentric bias, may be relevant when examining the role of corpus tools and corpus-based teaching methodologies in language teacher cognition and practices. This connection between CALL and corpus is examined further in Section 2.2 below.

2.1.3 Corpus tools and language pedagogy

Researchers have identified issues that may affect the acceptance by teachers of corpus tools and methods. Gavioli (2005) identified three initial areas of concern regarding the push for
using corpora as an equivalent for real language in use. First, despite claims to the contrary, a corpus of whatever size still remains a sample of language, with issues of representativeness and usefulness still in question. Second, being exposed to corpus-based authentic language does not necessarily translate into better learning for students and, for spoken language, raises the concern that unfiltered corpus-based materials may not emphasize specific features of language as effectively as invented texts. Finally, ‘reality’ is a concept that goes beyond the collection of texts used for some other purposes, especially when taking into account the local circumstances of learners. These areas “raise issues concerning the relationship between corpora and learners as potential beneficiaries of corpus-derived information” (Gavioli, 2005, p. 19).

Gabrielatos (2005) stated in an examination of the relevance of corpus tools for teachers that “there is still a lot of ground to be covered until corpus use becomes a staple of language teaching and learning” (p. 23). In addition, Gavioli (2005) summarized five possible reasons for teacher resistance: poor communication from corpus researchers, a lack of any distinction between “what is scientifically interesting and what is pedagogically useful,” a perceived emphasis by teachers on non-linguistic elements of teaching and learning communicatively, teachers’ lack of access to corpora and corpus tools, and confusion over how to integrate corpus tools into existing pedagogy (p. 133).

Hunston (2002) described several challenges regarding the use of corpus tools in language teaching, especially related to what might be considered the extreme attitudes of corpus proponents, or those ‘true believers.’ The most serious of these challenges are (i) a perceived over-reliance on native speaker corpora for data on patterns in language, (ii) an undue focus on frequency as the primary identifier for course content, and (iii) an emphasis on lexical chunks at the expense of more traditional grammar rules and vocabulary lists (pp. 192-197). While
Hunston refuted each of these claims, many teachers may still believe that only an ‘extreme’ version of corpus linguistics exists, and that applying corpus-based teaching methodologies to their professional development or classrooms would require them to have the same level of commitment to the ‘cause.’ It may be that teachers have many other pressing concerns as well as enormous demands on their time and energy.

Flowerdew (2009) also raised concerns about the application of corpus linguistics to pedagogy, stating that truncated concordance lines focus more on bottom-up processing, much corpus data is decontextualized, an inductive approach is emphasized, and finally students (and teachers) may have a difficult time selecting from a variety of corpora available to use and in fact may end up using an inappropriate corpus for the purpose they have. These issues require solutions, and presenting corpus tools and corpus-based teaching methodologies to teachers without adequate resolution may only exacerbate the alienation of teachers. Of particular concern are the dual issues of contextualization (data removed from a larger context) and the principled selection of a corpus (for example, using a corpus of *Time* magazine articles to provide examples of good academic writing, which would likely present problems).

In Staples’ (2011) review of 26 corpus studies involving students in university settings, she noted that empirical data showing the benefit of corpus use in the classroom is limited, though it does appear to be effective in vocabulary development and, to a lesser degree, pragmatic development. Finally, Flowerdew (2009) noted that ‘although there are a few accounts in the literature regarding the ‘pedagogic mediation’ of corpus data, these are few and far between, indicating this is an area for further discussion and expansion” (p. 411). Römer (2008) recommended that teachers, along with students, need to receive training to work with corpora and evaluate concordance lines because actually identifying what is relevant versus what is not
requires extensive training, and each non-relevant conclusion could well make it that much more difficult to convince teachers of the benefits of corpus-based teaching methodologies.

Conrad (2007) examined the effects of training in corpus linguistics for pre-service and in-service teachers on their subsequent use of corpus tools and methods in their lesson planning. The results were not encouraging, as only two out of fifteen in-service teachers and three out of sixteen pre-service teachers used corpus materials in any substantive way. Concerns cited by participants included a lack of time to prepare materials, a lack of confidence in their own understanding and use of corpus tools, and questions about the relevance of corpus-based teaching methodologies to their classes. Conrad’s recommendations for building stronger links between corpus-based research and teachers were to develop stronger teacher education materials based on available research, create more corpus-based books, address isolation of the early adaptors of corpus tools and corpus-based teaching methodologies in schools, and work on teacher education programs with greater emphasis on corpus-based language knowledge.

Heather and Helt (2011) identified several areas in which pre-service teachers found corpus tools to be useful: prioritizing teaching points, identifying student errors (when using a corpus of student writing), and creating authentic materials. Their participants noted limitations as well, such as the complexity of working with the tools and the time needed to analyze the data. It is also relevant to note that their participants were students working with this material as part of a class, rather than full-time teachers dealing with the issues that come with that role.

Conrad (2008, pp. 127-137) further stated in a discussion of the benefits of corpus tools for L2 writing teachers that at least in the case of academic writing, corpus analysis provides an opportunity to challenge flawed teacher intuition by studying authentic language in use. She provides concrete steps that teachers can take to benefit from corpus linguistics, which include
seeking out and using corpus-based research for the targeted language focus, balancing the urge for creativity with useful lexical bundles and appropriate vocabulary, and trying to develop skills in corpus tools. These steps are clearly meant to engage teachers in corpus-based teaching methodologies and the insights they can bring.

2.1.4 Corpus tools and teacher needs

Only two studies have examined teachers’ needs and the ways that corpus tools might help address these needs, and both were survey studies. In a survey of 78 EFL teachers in Germany, Römer (2009) found that the respondents identified numerous common needs. They wanted better teaching materials, books that reflected real language, ways to create good materials quickly, ways to improve grading, better reference materials that were easier to access, native speakers to address areas of uncertainty and, not surprisingly, more time. The possible ways in which corpus-based teaching methodologies might help included using corpus-based textbooks, better DDL materials, more training in corpus tools for teachers to allow them the freedom to create their own materials, and using a corpus as a replacement for, or complement to, the ‘missing’ native speaker expert. Römer also suggested that researchers could reach out more to teachers and try to identify teachers’ needs and how to address those needs.

Tribble (2008) surveyed 150 teachers throughout the world on using corpus tools in teaching. The results showed that the respondents most highly valued the linguistic insights the corpus tools provided, they appreciated that students could do their own research and become more independent, and they also valued what they perceived as ‘real language’ that they could access through the use of corpus tools. They also used corpus tools to create both paper-based and electronic classroom materials, and as a reference tool for themselves and for their students. For those who did not embrace corpus tools, the main reason was a lack of time, followed by a
lack of knowledge about how to use corpora in teaching. In their written comments, many teachers identified a major impediment to be a lack of knowledge about corpus linguistics and how to use corpus tools. Other reasons why teachers felt uncomfortable included that corpora were not mainstream yet, they had computer issues, some felt apathy towards it, and there was a lack of training for teachers to learn how to use the tools and analyze data that they generated (Tribble, 2008).

These two surveys were the only resources I could locate and they were also now almost five years old. For those reasons, it was important to conduct a more current survey of teachers’ self-identified needs and opinions about corpus training, tools, and use in the classroom. This new survey is examined in depth in Chapter 4.

2.1.5 Corpus-based references, textbooks, and teacher training materials

Sinclair (2004b) wrote that through studying corpora “we observe a creative stream that is awesome in its wide applicability, its subtlety, and its flexibility” (p. 1). These characteristics have made corpus linguistics an essential component of many areas of language material development, such as lexicography (e.g., Corda, 1998; Howarth, 1996; Rizo-Rodriguez, 2004; Rundell & Granger, 2007; Tono, 1996) and learner dictionaries such as the Cobuild Dictionary (Sinclair, 2001) and the MacMillan Dictionary for Advanced Learners of English (Rundell, 2007). Most learner dictionaries are now based on corpus data, and many of the largest and most representative corpora are proprietary ones owned by publishing companies (e.g., Cambridge University Press, Longman Pearson, and Oxford University Press).

Corpus linguistics has had a similar effect on grammar material. In the Cambridge Grammar of English (Carter & McCarthy, 2006), the authors use the Cambridge International Corpus, which at the time contained over 700 million words and included the Cambridge Learner
Corpus, which the publisher claimed to “provide evidence about language use that helps to produce better language teaching materials” (p. vii). Likewise, the grammar reference book from Collins Cobuild (Collins Cobuild English Grammar, 1990) uses data from the Bank of English, another large proprietary corpus that purports to be representative of many areas of English.

Perhaps the most deliberate and comprehensive corpus-driven grammar, however, is the Longman Grammar of Spoken and Written English (LGSWE) (Biber et al., 1999), which more than any other grammar reference makes explicit and numerous references to corpus data throughout each section of the book. Table 2 illustrates one example of explicit corpus data; in this case frequency data is used to identify the use of –er and –est adjectives in the four different registers in the Longman corpus: conversation, fiction, news, and academic writing. This example highlights the competing visions of how to expose teachers to corpus data. In the LGSWE, the emphasis is unabashedly corpus-centric, with a view that frequency lists provide valuable information; in publishing, anything that takes up space is considered more valuable than what does not make it into the book (J. Mairs, personal communication, March 20, 2010). In the much smaller Longman Student Grammar of Spoken and Written English, based on the same materials but geared more towards students, the distribution tables are removed, though the frequency lists remains intact (Biber, Conrad, & Leech, 2002). In varying degrees in all these reference books, corpus data informs the choice of material covered, patterns highlighted, and examples used.
Table 2 - Example of corpus data in LGSWE (adapted from Biber et al., 1999, p. 524)

<table>
<thead>
<tr>
<th>Register</th>
<th>Comparatives (-er forms)</th>
<th>Superlatives (-est forms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversation</td>
<td>**********</td>
<td>****</td>
</tr>
<tr>
<td>Fiction</td>
<td>****************</td>
<td>**********</td>
</tr>
<tr>
<td>News</td>
<td>**********</td>
<td>**********</td>
</tr>
<tr>
<td>Academic</td>
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<td>********</td>
</tr>
</tbody>
</table>

In addition to grammar reference books and dictionaries, corpus data has been moving slowly into traditional ESL/EFL textbooks. Promotional materials for *Real Grammar* (Conrad & Biber, 2009), a student grammar book that highlights its corpus-based approach, proclaim that the book’s ‘focus on authentic usage helps students move past traditional grammar texts and use English more like native speakers’ (back cover). The book explicitly identifies material as corpus-based by using sections labeled *What does the corpus show?* This explicit use presumably will focus the learners’ and the teachers’ attention on the use of corpus data to determine important information to focus on. Other books on writing, grammar, and vocabulary have all used, to varying degrees, principles of corpus analysis in selecting topics and creating materials (e.g., Bunting, Diniz, et al., 2013; Schmitt & Schmitt, 2005).

There are also numerous non-commercial materials available, including materials on Michigan Corpus of Academic Spoken English (MICASE) and the Corpus of Contemporary American English (COCA) both in print and online (Shaw, 2011b; Simpson-Vlach & Leicher, 2006). Other alternatives are locally created corpus-based materials, such as the PRAC (Published Research Article Corpus) created by Cortes (2007, 2009, 2013a) for research purposes as well as for a graduate level academic writing class for non-native speakers of
English. In her materials, corpus tools were used to identify patterns in experimental research papers, and students created and analyzed their own corpora of relevant texts.

Cortes (2011) examined student written production and perceptions from both corpus-based and non-corpus-based classes using this material, with similar results, though it was noted that the students in the corpus-based class had “new skills that [they] could eventually keep on using once the semester was over” (p. 77). While teachers were not interviewed, students in both sections were satisfied with the class, though around half of the students from the corpus-based class were concerned about “too many papers to analyze” (45%) and “too little time for analysis” (55%). In contrast, around two-thirds of the students in the traditional class felt that they had too few papers to analyze (69%) and also had not considered using online papers (61%). They also saw having the class in a computer lab strictly in terms of using grammar and spellcheck tools, without an awareness of other benefits, such as the use of corpus tools. As with many studies, the perspective of the teacher was not directly addressed, though it was noted that the course was never implemented on a broader scale due to institutional and teacher issues.

Books specifically written to encourage either pre-service or in-service language teachers to use corpus tools are the final group of materials examined in this section. The three books included here are From Corpus to Classroom: Language Use and Language Teaching (O’Keefe et al., 2007), Using Corpus in the Language Learning Classroom: Corpus Linguistics for Teachers (Bennett, 2010), and Using Corpora in the Language Classroom (Reppen, 2010). These materials are especially relevant because they are perhaps the most likely texts that teacher might read to become familiar with corpora. Of the three, O’Keefe et al. (2007) is the one least likely to be used by in-service teachers due to its cost and size. Further, the authors quite openly state that “we do not intend to tell you how to teach and what to do in your own classes; only you
can know best what is effective and appropriate in your local context, and you are by far the best person to take the final, practical steps in applying our ‘applied’ linguistics, if you judge the book to have value” (O’Keefe et al., 2007, p. xi). The focus of this book is more to provide the theoretical and research knowledge that the authors feel teachers need in order to then make best use of corpus tools in their own classrooms. They include several chapters on vocabulary topics, several on grammar topics, and one chapter on academic and business corpora.

The other two books emphasize use of corpus tools and methods in the classroom. More than half of Bennett’s book (2010) is on corpus-designed activities. Chapter 4 is on patterns of the/a/an in television news shows, using concordance lines from COCA. Chapter 5 uses MICASE to notice the use of signal words in academic speaking. The next chapter focuses on the AWL used in a text in a reading class. The final chapter on hands-on activities involves creating a tagged corpus, with the assistance of other teachers, to help students identify comma errors in their academic writing. This chapter requires the use of rather involved research techniques, such as tagging, and analyzing tagged concordance lines in TextSTAT concordancing software. This book provides very specific tasks and tools, in contrast to O’Keefe et al.’s (2007) distancing from telling teachers what to do.

Reppen (2010), in addition to laying out the basic principles and tools of corpus linguistics, identifies specific ways to use corpora with language learners: building word lists, analyzing concordance lines, using tagged texts, and examining the role of register. She also provides suggestions on how to use online corpora in the classroom with students, guidelines to create a corpus of student writing, and a series of activities for teachers to modify to match their own classes. All three of these resources offer valuable information, and yet there still appears to
be resistance from teachers about using corpus tools and corpus-based teaching methodologies in their professional lives (Cortes, 2013b).

2.1.6 The issue of teacher invisibility in corpus-based research and textbooks

An interesting element of some research and teacher education materials is the almost invisible role of the teacher in making the connection between the corpus data and the classroom (Bunting, Gobron, et al., 2013). Much research on the use of corpus tools in developing curricula and building student awareness and use has had the authors/researchers acting as teachers (e.g., Charles, 2007, 2013; D. Lee & Swales, 2006; H. Yoon, 2005, 2008; H. Yoon & Hirvela, 2004). While this is a critical first step, a possible next step would be to include a broader base of teachers who understand and choose to use the same curricula. Lee and Swales (2006) noted that their corpus-based EAP course, while successful, in all likelihood would not continue due to a lack of engaged teachers to carry on after the researchers stopped teaching it. Cortes (2011) in her comparative study of a corpus-based versus a non-corpus-based advanced academic writing course, also expressed concern that, despite its successes, the corpus-based course was not widely adopted for students across the university, based in part that “it takes time and more studies that analyze [new teaching methodologies] to convince administrators and instructors… of the advantages of this type of classes” (p. 78). These examples point to the need to address teacher issues in order to have broader sustained impact on language pedagogy (Cortes, 2013b).

In the earliest approaches to DDL, one goal was for students to interact directly with data, thereby perhaps making the teacher almost unnecessary (Johns, 1991). There has been little attempt to examine the complexity of the role of teachers when considering learners as researchers in DDL, with Gavioli (2005) suggesting that the teacher as ‘middleman’ should still take “the role of a guide in introducing the data to the learners, in showing ways to ‘read’ the
data and make sense out of them, in suggesting comparisons with more data, and in providing interpretations which the students can discuss and contrast” (pp. 128-129).

In their discussion of language corpora in language pedagogy, Gavioli and Aston (2001) examined the issue of whether corpus data are authentic or merely genuine (see, however, Widdowson, 1998 for a fuller discussion of genuineness versus authenticity), and provided three extended examples of how learners can use corpus data. The only mention of teachers occurred at the end of the third example, when the authors noted that “teachers can assist [the learning] processes by suggesting and illustrating possible activities, encouraging learners to switch backwards and forwards between observer and participant perspectives” (p. 244). In their view of language pedagogy, the role of the teacher was minimized almost to the point of invisibility.

Likewise, in Kennedy and Miceli’s (2010) study on the use of concordancing by three intermediate students of Italian, the researchers worked directly with students, bypassing other teachers entirely. Because the emphasis in much DDL is fostering more autonomous learners, it is not surprising that in this study the teacher’s perspective was not fully examined, with the researchers-as-teachers planning “in future, through class discussion around corpus-based activities we will seek to make these principles [of corpus-consultation literacy] explicit” to students (p. 40, emphasis added). While understandable that the research focus was on the learner, there was often little consideration of the issue of how, and at the expense of which other classroom activities, teachers (other than the researchers) could accommodate such discussions.

Another concern is researchers’ perhaps at times unrealistic sense of what teachers can glean from data presented in corpus-based studies. It is understandable that corpus researchers are eager to see their insights incorporated into pedagogy; however, without clearly articulating exactly how corpus-based research findings can be successfully integrated into teachers’
professional lives, it may be that researchers are offering little that teachers can effectively use, given the constraints and limitations teacher face. Conrad (1999) placed the onus squarely on teachers when she stated that “practicing teachers and teachers-in-training can learn a great deal from corpus-based studies, and, in fact, owe it to their students to share the insights into language use that corpus linguistics provides” (p. 3, emphasis added). The implication that finding, analyzing, and integrating corpus data is easily attainable and should be high on a teacher’s list of priorities might seem unrealistic to many teachers.

Even in materials specifically directed to in-service teachers, the ease of integrating corpus tools is perhaps overstated and the learning curve minimized. Reppen (2010) suggested, for one activity using corpus data to boost academic reading vocabulary, that “as can be seen from the steps taken to create this activity, it would not take a lot of time or research; it’s just a matter of taking existing corpus research and transforming it into practical classroom activities that reinforce the learning goals, in this case using corpus research to help boost academic vocabulary for reading” (p. 25, emphasis added). For corpus researchers or those teachers who are already enthused about using corpus tools this task may not be overwhelming. However, it may be quite different for teachers who have not embraced the value of corpus tools over other pedagogical tools. Further, it can be daunting to hear that such tasks, which in most likelihood would require significant time and research for in-service teachers to complete, are addressed lightly in a sentence or two.

Most research on corpus tools in language pedagogy either does not describe the teachers involved, or the researchers themselves are the teachers. There is little or no analysis of teachers who are not researchers as well. Such an analysis is necessary to understand the real effect of tools and methods suggested by corpus-based research; however, the processes that teachers go
through in determining the efficacy and feasibility of corpus tools is an area for additional research.

### 2.2 Teacher cognition and teacher practices

To fully understand how teachers do what they do when they teach, and to gain insights into their cognitive and affective processes, it is necessary to go beyond a behavioral model of teacher research, and to move into areas that examine teacher intentions, beliefs, knowledge, affect, and reasoning in addition to behaviors before, during, and/or after teaching. Shavelson and Stern (1981) argued that a “solely behavioral approach… cannot account for predictable variations in teachers’ behavior arising from differences in their goals, judgments, and decisions, [but] research linking teachers’ intentions to their behavior will provide a sound basis for educating teachers and implementing educational innovations” (pp. 455-456).

Teachers react to innovations in a variety of ways. Shi and Cumming (1995), in a study of five experienced university ESL teachers in Canada, examined through a series of weekly interviews each teacher’s post-lesson thinking and beliefs about writing instruction. The results indicated that teachers’ decision-making was based primarily on each teacher’s unique set of existing beliefs and practices, “considered largely in personal, practical terms” (p. 104). The findings also suggested that some teachers might accept innovation when it aligns with their beliefs, or they might choose to ignore parts of innovation or modify them to fit those existing beliefs and practices. Innovation might be rejected entirely, however, if it cannot fit the teacher’s existing practices and beliefs. The teachers, whether accepting, modifying, or rejecting the innovation, generally integrated it within several months into their “usual belief systems and teaching routines” (p. 104).
Tsui (1996) addressed how teachers may consider innovation in L2 writing classes, in her study of Julie, an EFL teacher in Hong Kong. The innovation (in this case, using process writing over a more product-focused approach) addressed self-identified needs in the teacher’s current practice; she felt that it overemphasized grammatical accuracy, offered uninteresting writing topics, and created an unfriendly learning environment for the students. Despite successfully addressing these issues, Julie resisted more fully implementing the innovation, however, because she felt it negatively impacted several other issues that she believed were critical. The first was the amount of time it took, which resulted in fewer writing assignments. Second, there was an increase in students’ grammatical errors, which Julie felt put her students at a disadvantage within the educational system in place. In addition, Tsui suggested that a lack of administrative support may have played a role in Julie’s decision to modify her innovative practices.

A key focus of the present study is to examine the interaction between teacher cognition and the linguistic and pedagogical applications of corpus tools in language teaching and learning. The study of teacher cognition in foreign/second language teachers has developed over the past twenty years into an important and evolving area of research (e.g., Borg, 1998, 2003, 2005, 2006, 2009, 2010, 2011; Breen, Hird, Milton, Oliver, & Thwaite, 2001; Gatbonton, 1999; Golombek, 2009; K. Johnson & Golombek, 2002; Mullock, 2006; Phipps & Borg, 2009). Section 2.2.1 examines teacher cognition in language teaching, and then Section 2.2.2 considers how teacher cognition research on Computer Assisted Language Learning (CALL) might hold useful connections to the present study.

### 2.2.1 Teacher cognition

In discussing research on teacher cognition, it is necessary to define several terms. One key term is **teacher cognition**, defined as “the complex, practically-oriented, personalized, and
context-sensitive networks of knowledge, thoughts, and beliefs that language teachers draw on in their work” (Borg, 2006, p. 272). The concept of teacher cognition has an underlying assumption that “teachers are active, thinking decision-makers who make instructional choices” based on those networks (Borg, 2003, p. 81). This concept is highly relevant when trying to examine the individual characteristics that each teacher possesses and their impact on teaching practices and decision-making processes.

Teachers’ beliefs are an important component of teacher cognition. Borg (2011) stated that “beliefs are propositions individuals consider to be true and which are often tacit, have a strong evaluative and affective component, provide a basis for action, and are resistant to change. In the context of language teacher education, beliefs are seen as a key element in teacher learning and have become an important focus for research” (pp. 370-371). These beliefs collectively constitute a teacher’s belief system, which is “founded on the goals, values, and beliefs teachers hold in relation to the content and process of teaching, and their understanding of the systems in which they work and their roles within it” (Richards & Lockhart, 1996, p. 30). Borg (2006) also suggested that shifts in the practices of individual teachers that move away from their core beliefs may be unlikely though not impossible; however, it may be difficult to identify exactly what drives such shifts.

The belief systems of teachers “are built up gradually over time and consist of both subjective and objective dimensions” (Richards & Lockhart, 1996, p. 30), with six main sources: language learning experiences, teaching experiences, established practices in the teaching environment, personality, principles based on education or research, and approach/methodology-linked principles (see Figure 2). All these sources could play a potential role in the integration of
corpus tools and corpus-based teaching methodologies into a teacher’s knowledge base and belief system.

**Figure 2 - Sources of beliefs (adapted from Richards & Lockhart, 1996)**

Phipps and Borg (2009) also added that beliefs may have a strong impact on practices, or pedagogical decisions (p. 381). In their teacher cognition study of three EFL teachers’ grammar beliefs and practices, they proposed that the tensions between what teachers say and do reflect a ‘belief sub-system.’ They contended that understanding this process is one way to better understand teachers, and concluded that context plays a major role when beliefs do not match actions, citing practical issues such as prescribed curricula, time constraints, and high-stakes testing as factors. Phipps and Borg also stated that research methods make a difference; questionnaire responses are more likely to reflect ideals, while interviews about specific classes, particularly when using stimulated recall, are more likely to reflect their teaching reality.

Another important component of teacher cognition is each teacher’s **knowledge base**, defined by Mullock (2006) as “accumulated knowledge about the act of teaching, including the goals, procedures, and strategies that form the basis for what teachers do in the classroom” (p.
48). Johnston and Goettsch (2000) in their qualitative study of four experienced ESL teachers’ knowledge base, examined Shulman’s (1987) seven categories of teacher knowledge: content knowledge, general pedagogic knowledge, curricular knowledge, pedagogical content knowledge, knowledge of learners, knowledge of the educational context, and knowledge of educational goals, purposes and values. Of these seven, Shulman viewed pedagogical content knowledge as especially interesting because “it represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners” (p. 8).

Johnston and Goettsch (2000) addressed three areas of teacher knowledge in particular: content knowledge, pedagogical content knowledge, and knowledge of learners. Their results indicated that the nature of teacher knowledge is complex and it can be difficult to tease out different categories of knowledge. For example, the researchers stated that knowledge of English as a content area, while obviously vital, takes on a new dimension when combined with other kinds of knowledge, such as knowledge of the learner, and further that “while the ‘categories’ of teacher knowledge are a useful analytic concept, in reality these categories are melded together in complex and indeed inextricable ways to produce multifaceted, holistic accounts of, and actions in, language teaching” (Johnston & Goettsch, 2000, p. 461).

In Gatbonton’s (1999) study of the pedagogical knowledge of seven experienced ESL teachers, the six categories for “domains of knowledge” based on teachers’ responses were handling language items, factoring in student contributions, determining the contents of teaching, facilitating the instructional flow, building rapport, and monitoring student progress. In a partial replication of Gatbonton’s study (intact classes were used instead of specially prepared laboratory classes), Mullock (2006) found similar results but also noted that “learning to teach
has an affective aspect… [and] becoming a teacher involves having or developing certain attitudes towards learners, towards the tasks of teaching and learning, and towards oneself and one’s relationship to the teaching role” (p. 63).

This inclusion of affective issues with teacher cognition was also raised by Zembylas (2005), who completed a three-year study of one elementary school teacher and concluded that “it seems that a teacher’s emotional development is profoundly influenced by his or her participation in particular forms of social and discursive practices at school” (p. 481). These suggestions that affect may play a larger role in the area of teacher cognition and practice are important aspects of the present study, especially in the area of collaboration and self-identified expertise.

In another approach to investigating the cognitive processes that teachers go through, K. Johnson (1999) examined what she identified as reasoning teaching, or “the complex ways in which teachers conceptualize, construct explanations for, and respond to the social interactions and shared meanings that exist within and among teachers, students, parents, and administrators, both inside and outside the classroom” (p. 1). Understanding the complexity of teaching requires awareness of many factors, including the teacher himself/herself, the students, what the students know, what they need to know, what the teacher knows and believes, what the teacher’s goals are for the students, what constraints are on teaching, the value students place on the teacher and on the class, and how the students are perceived in the institution and beyond.

In K. Johnson’s (1999) analysis of the reasoning teaching of ‘Elizabeth,’ an IEP teacher in a US university, Elizabeth articulated several self-identified perceived needs as a teacher. She wanted her students to be autonomous in taking control of their own learning and realistic about their expectations for the class. Keeping students engaged and motivated were also important
issues for Elizabeth. Using a combination of observations and interviews that included stimulated recall, the researcher determined that Elizabeth’s “reasoning is shaped by her knowledge of the skills and competencies her students will need to succeed outside her classroom, her knowledge of her students’ unique language learning styles and strategies, her belief in the value of having students interact with one another in meaningful ways so as to learn from one another, and her desire to build up her students’ confidence in themselves as learners and users of English” (K. Johnson, 1999, p. 126). Like many successful ESL teachers, Elizabeth balanced a variety of needs as she taught.

Another salient point is that all teaching is essentially local and individual; thus, research focused on understanding teaching should strive to “capture the highly situated, interpretive and at times idiosyncratic qualities of real teaching- the messiness that is inherent in the ways in which teachers think about what they do” (K. Johnson, 1999, p. 2). This contextual awareness also applies to collegiality and institutional, mentor, and peer support for teachers (Childs, 2011).

Breen et al. (2001), in their study of eighteen ESL teachers, identified seven ways in which practices interact with principles. In this study, the concept of teacher principles is similar to Borg’s (2003) concept of teacher cognition though not identical, highlighting the concern Borg (2006) expressed over a lack of uniform terminology within teacher cognition research. The seven principles Breen et al. (2001) identified were that i) teachers develop favored sets of practices that follow their principles; ii) a principle can be expressed through several practices, and a practice may represent several principles; iii) experienced teachers differ more from each other as their practices evolve and they develop their favored set of practices; iv) teachers in similar situations may follow similar principles, though their practices may vary; v) the sets of practices they follow may however be more closely aligned to common principles; vi) a common
practice, though, might often be attributed to a variety of principles by the teachers; and finally, vii) there exists the possibility of a “collective pedagogy” among teachers working in similar settings.

Borg (2003) identified four main factors that have an impact on teacher cognition: education, professional development, classroom practices, and contextual factors. The interaction of teacher cognition with teacher practices before, during, and after class is an essential component of operationalizing teacher cognition. In other words, in examining teacher beliefs and knowledge base, cognition is revealed less by what the teacher reports and more by what the teacher does.

2.2.2 Teacher cognition and CALL

It appears that there is no research that directly addresses teacher cognition and corpus tools, which suggests that there is a gap in our knowledge on this topic. However, as corpus tools are linked to technology, it is also useful to consider studies that address issues of technology and computer-assisted language learning (CALL). Shin and Son (2007) surveyed Korean EFL teachers about their perceptions and practice regarding technology in their classrooms. The results showed that most teachers surveyed used the Internet to prepare materials, and over half used the Internet in the classroom, with many of the other teachers unable to do so due to institutional constraints. While this study provides useful information about reported beliefs, the only instrument used was a survey (n=101), which does not allow for any in-depth interaction with the teachers and no observation of their actual classroom practices. As Borg (2006) suggested, while surveys and questionnaires can provide a starting point, in-depth interviews and classroom observations are the optimal approach in examining teacher cognition and practices.
In another study that more directly addresses teacher cognition, Lam (2000), in examining language teachers’ use of technology, suggested that “teachers’ decisions regarding technology seemed to depend on whether the teacher was personally convinced of [its] benefits…for L2 instruction” (p. 410). In a series of interviews with ten ESL teachers, their reasons for either using or avoiding technology were examined. It is important to note that the technology tools that Lam investigated (video, audio and computer use) are not identical to corpus-based tools and are in fact somewhat dated. Nevertheless, the issues raised could be used as a starting point for identifying teacher concerns vis-à-vis corpus-based teaching methodologies. The main factors that teachers identified as influencing their decision-making were professional development opportunities, resources and funding, student background (if, for example, students were refugees or had limited exposure to computers), administrator attitudes, student language level, and time needed to find and use materials. For the teachers in Lam’s study who opted not to use computers at all, the main reasons given were a lack of knowledge about its use in L2 teaching, lack of access to the necessary tools, lack of confidence in their own skills, and a perception that the technology did not meet student needs.

Borg (2009, 2010) also considered, in a slightly different setting, reasons why teachers might choose not to engage with research. Reasons for not engaging were a lack of time, lack of knowledge about research topics, and lack of access to materials. In addition, research was not seen by teachers as adequately addressing their practical and professional needs. Because both these studies on teacher engagement have a connection to the present study, it is useful to compare elements of each. These areas of concern have informed the possible causes for reluctance towards those I have identified for corpus tools, as Table 3 illustrates.
Lam (2000) also identified six factors that appear to play a role in teachers’ reported views on the use of technology: professional development opportunities, student background, student language level, resources and funding, administrator attitudes, and time needed to find and use materials. These factors may be connected to teacher needs, and they may also have an impact on teacher cognition and practices.

The present study examines the role of corpus tools applied to ESL teaching from a perspective that emphasizes teacher cognition and practices, but to my knowledge there is no previous research that addresses the same issue. While there is much that can be taken from teacher cognition studies with a different focus, there has been no investigation that directly examines how teachers view and use corpus tools in their classrooms.

This review of literature provides information on where gaps exist in our understanding of how corpus tools play a role in teachers’ development of beliefs, knowledge, and practices.

<table>
<thead>
<tr>
<th>Reasons why teachers chose to not use technology (adapted from Lam, 2000)</th>
<th>Reasons why teachers did not engage with research (adapted from Borg, 2009, 2010)</th>
<th>→</th>
<th>Starting points for teachers reluctance with corpus-based teaching methodologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of knowledge about using computers in L2 teaching</td>
<td>Lack of knowledge about research topics</td>
<td>→</td>
<td>Lack of knowledge about using corpora and corpus tools in L2 teaching</td>
</tr>
<tr>
<td>Lack of access to computers</td>
<td>Lack of access to materials</td>
<td>→</td>
<td>Lack of access to computers; lack of access to corpora; lack of access to programs to use corpus data</td>
</tr>
<tr>
<td>Lack of confidence in their computer skills</td>
<td></td>
<td>→</td>
<td>Lack of confidence in their skills in using corpus tools and interpreting the results</td>
</tr>
<tr>
<td>Inadequate for meeting student needs</td>
<td>Inadequate for addressing practical and professional concerns, lack of relevance</td>
<td>→</td>
<td>Inadequate for meeting student needs, professional development needs, practical needs</td>
</tr>
<tr>
<td>Lack of time</td>
<td></td>
<td>→</td>
<td>Lack of time</td>
</tr>
</tbody>
</table>
While there is a growing body of research on students’ use of corpus tools, I could find little research on the impact of corpus tools on teachers’ professional lives, other than survey data and brief interviews (Römer, 2006; Tribble, 2008). In the area of teacher cognition, there appears to be no research that examines specific links between the potential benefits (and drawbacks) of corpus tools and teacher cognition and practices. The present study is an attempt to address this gap.
3 METHODOLOGY

This chapter describes four main aspects of methodology for the current study. Section 3.1 has a description of the research setting of the study, including the location, programs, courses, and participants. Section 3.2 describes how the data were gathered. Section 3.3 explains the data analysis used and how issues of confidence in the results were addressed. Finally, Section 3.4 examines research ethics for this kind of qualitative teacher cognition study in general as well as issues that have arisen specific to the present study.

The primary research methodology used is the case study, defined as the in-depth exploration of “a program, an event, an activity, a process, or one or more individuals [which are] bounded by time and activity [and include gathering] detailed information using a variety of data collection procedures over a sustained period of time” (Creswell, 2003, p. 15). The main components of the study are individual cases with each participant, Cecilia, Simone, and Lorraine (pseudonyms that were self-selected by each participant). Each case involves gathering and analyzing data from multiple data sources, building rapport with participants, and creating a set of themes. I selected this methodology because, as Willis (2007) explained, “it allows you to gather rich, detailed data in an authentic setting, it is holistic and thus supports the idea that much of what we can know about human behavior is best understood as lived experience in the social context, [and] unlike experimental research, it can be done without predetermined hypotheses and goals” (p. 240). I followed Borg’s (1998) exploratory-interpretive approach in his case study of one ESL teacher’s pedagogical systems and grammar teaching, with an ‘aim to generate rather than verify theory [using] naturalistic rather than experimental research design” (p. 11). In allowing each teacher to reflect upon and define needs and then participate in developing
materials she deems relevant, the study explores the cognitive processes that underlie each teacher’s decision-making actions, looking at teachers’ intentions and judgments. The setting and participants have been purposefully selected, which is further discussed in Section 3.1 below.

3.1 Research Context

The site for the study is a large urban research university in the southeastern US. Serving over 30,000 students, the university has international students from over 160 countries. The university has two programs which focus specifically on the language needs of non-native speakers of English who need additional language coursework, the Intensive English Program (the IEP) and the English as a Second Language Program (the ESL program), both housed in the Department of Applied Linguistics and ESL at the university.

3.1.1 The Intensive English Program (the IEP)

The IEP is a non-credit-bearing program that provides academic English preparation for non-native speakers of English, with most being international students (the remaining students are residents, usually from immigrant families). The students typically study full-time in the IEP, which is eighteen academic hours. The program has six courses that focus on specific skill areas: oral fluency, oral communication, reading and listening, extensive reading, academic writing, and structure and composition. The program has five proficiency levels, ranging from beginner to advanced proficiency. The lower levels, Levels 1 and 2, are less academically oriented and they include oral fluency classes. The upper levels, Levels 3-5, replace the oral fluency course with a course on how to write successfully for university exams. The program has nine full-time lecturers, several temporary lecturers, and between ten and twenty part-time doctoral and master’s level teaching assistants working as instructors. While most classes are three-hour courses, the structure and composition course is a six-hour intensive class focusing on process
writing, with increasing emphasis on creating effective longer academic essays as students move into the higher levels of the program. Two teachers in the study, Cecilia and Simone, work in the IEP.

### 3.1.2 The ESL program for graduate and undergraduate students

The second program for non-native speakers of English is the English as a Second Language Program (the ESL program). The ESL program serves the university with two components, one supporting undergraduates and one supporting graduate students. The program offers freshman writing courses for non-native-speaker undergraduates, with a mix of international students and immigrant students. For graduate students, the ESL program offers classes for international teaching assistants, advanced listening/speaking classes, and advanced writing classes. These graduate level classes have a much higher percentage of international students, who are studying in a range of majors, primarily in the hard sciences. In the graduate writing classes, students write on topics taken from their graduate courses and/or their research interests. Lorraine, the third teacher who participated in the study, teaches in the ESL program.

### 3.1.3 Focus on English for Academic Purposes (EAP) writing classes

Teachers of EAP writing classes are the focus of the study. While the use of corpus tools can have an impact on all language classrooms, the study focuses on teachers of EAP writing classes for several reasons. First, as mentioned earlier in Section 2.1.1, much corpus-based research and corpus-based materials for teachers have focused on the written language. Second, L2 writing classes can draw upon both general corpora of primarily written English, such as the British National Corpus (BNC) or the Corpus of Contemporary American English (COCA), as well as also more specialized corpora that can target pedagogical needs for specific student groups (e.g., Charles, 2013). Finally, using well-designed specialized corpora of successful
writing (see, for example, Cortes, 2004, 2007) can provide more clearly delineated patterns and can also be easier to use pedagogically (O'Keefe et al., 2007, p. 198).

The focus of these classes is academic writing. However, because the curricula in both the IEP and the ESL program operate within a communicative framework, the writing courses include the other skill areas of reading, speaking and listening. These courses have a particular emphasis on academic vocabulary and grammar, areas which offers a broader range of tools to choose from for the study’s corpus component. In other words, the program’s writing courses use all language skills, whereas its reading and oral communication courses use writing only minimally.

Working within writing classes also allows the possibility of using corpus tools directly with the students’ own written production if the teacher chooses to do so. The tools are readily available and the student writing is already in a format that could be analyzed. Another reason for using EAP writing classes exclusively is to provide a more consistent setting when examining the different teachers’ views on how they integrate the corpus tools as part of the instructional routine, eliminating issues related to different skill areas being taught or English for other specific purposes. It would be interesting to examine how corpus tools can be integrated into other skill areas and in other specific purpose language learning, but such examinations would be best left for future research.

3.1.4 Participants

This section focuses on the three main participants, Cecilia, Simone, and Lorraine. In addition, there is a final subsection that addresses indirect participants: each participant’s students, and the teachers’ colleagues who played a role in the study.
The three principal participants, Cecilia, Simone, and Lorraine, were selected based on their experience as university writing teachers (see Table 4) and on their willingness to participate in the study. They regularly attend conferences, participate in professional development, and travel extensively for work, primarily to provide guidance to in-service and pre-service teachers. Two of the teachers, Cecilia and Simone, teach a range of courses in the IEP, including structure and composition courses, while the other teacher, Lorraine, teaches Freshman Composition and graduate level writing courses in the university’s ESL program. All three, based on their experience and their professional development, could be considered highly experienced teachers, which serves the purposes of the study well because, according to Borg (2006), they are more likely than novice teachers to i) see the various components of teaching as integrated, ii) understand the possibility of in-service learning, and iii) make connections clearly between knowledge and practice. Their considerable experience as classroom teachers was a key factor in selecting them as participants in the study. In addition to having extensive experience as writing teachers, the teachers are all comfortable using technology in the classroom and in daily life, and have varied experience with corpus linguistics and corpus tools.

Table 4 - Teachers participating in the study

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Formal education in corpus linguistics</th>
<th>Current class</th>
<th>Use of technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cecilia</td>
<td>One graduate course on corpus linguistics twelve years earlier</td>
<td>Intermediate IEP structure and composition (academic writing) class</td>
<td>Little use of technology in teaching and some use in her daily life</td>
</tr>
<tr>
<td>Simone</td>
<td>One audited graduate course on corpus linguistics six years earlier</td>
<td>Upper-intermediate IEP structure and composition (academic writing) class</td>
<td>Extensive use of technology in teaching and in her daily life</td>
</tr>
<tr>
<td>Lorraine</td>
<td>No formal training in corpus linguistics</td>
<td>Graduate level writing class</td>
<td>Limited use of technology in teaching and extensive use in her daily life</td>
</tr>
</tbody>
</table>
3.1.4.1 Cecilia

Cecilia has been teaching English as a second language for more than twenty years in several different programs. With more than six years working in the IEP, she has extensive experience in all levels and skill areas in the program. In addition to her teaching, she has also worked on IEP accreditations, worked overseas as an expert in English language teaching for a year (an English Language Fellow), and has training and experience in business.

Cecilia has had limited formal training in corpus linguistics, having taken one corpus linguistics course in a master’s program fourteen years ago. She has only limited experience with corpus tools in her teaching, and has had no professional development related to corpus linguistics since she began teaching in the IEP. The course that she taught that was the focus of the present study was an academically-focused intermediate (Level 3) structure and composition course.

3.1.4.2 Simone

Simone has been teaching English as a second language for over twenty years, all of that time at the same university and most of it in the IEP. She has extensive experience teaching all levels and skill areas in the program. She has also held numerous administrative roles, such as assessment director and supervisor for graduate teaching assistants. She worked in North Africa in the Peace Corps and as an expert in English language teaching for a year (a Fulbright scholar), served as a legal expert on applied linguistics, and has worked on various language-related projects, including the development of award-winning content-based EAP curriculum.

Simone had no graduate or undergraduate training in corpus linguistics. However, with a colleague she audited one master’s level corpus linguistics course about seven years ago. She has some experience with corpus tools in her teaching and has informally taught other instructors,
both at her institution and at other institutions, regarding specific classroom strategies and tools. Simone has also presented numerous times at conferences on a range of topics, including teacher education, classroom strategies, and her own use of technology and online corpus tools in her classes. The course that she taught which was the focus of the present study was an academically-focused upper-intermediate (Level 4) structure and composition course.

### 3.1.4.3 Lorraine

Lorraine has been teaching English as a second language for close to twenty years. She has worked in both IEPs and ESL programs at several institutions, both as a teacher and director. In her current ESL program, she has extensive experience teaching all levels and skill areas. She has also held numerous administrative roles, such as director of the program and liaison to other university departments. She has worked with graduate and undergraduate students on their individual writing projects, served overseas as an English Language Specialist, and worked on numerous language-related projects, including the transitioning of the department's IEP from a general ESL program to a more focused EAP program.

Lorraine has no graduate or undergraduate training in corpus linguistics. She has limited experience with corpus tools in her teaching. She has presented numerous times at regional, national and international conferences on a range of topics, including L2 writing, teacher education, classroom strategies, and teacher supervision. Her course that was the focus of the present study was a graduate level writing class for master’s and doctoral students from across the university.

### 3.1.4.4 Indirect participants

There are several other groups that played a secondary role in the study but were nonetheless participants. One group of indirect participants is each teacher’s set of students.
They are described in Chapter 5 (Subsection 5.2.2), Chapter 6 (Subsection 6.2.2), and Chapter 7 (Subsection 7.2.2), respectively.

The three participating teachers’ colleagues are the second group of indirect participants in the study, and they are discussed in each teacher’s respective results chapter. In Cecilia’s class, she had a student from a master’s level Practicum class who observed throughout the semester and also participated in classroom activities, occasionally teaching short portions of the class. This practicum student, Maxine, played a collaborative role during the class period, providing assistance and acting as a sounding board for Cecilia in their meetings outside of class. More information about Maxine is included in Section 5.2.4 in Chapter 5. A collaborative participant for Simone was Nancy, the teacher who taught another section of the Level 4 structure/composition class. More information about the role that Nancy played is included in Section 6.3.2 in Chapter 6.

Finally, as the corpus working sessions were collaborative endeavors in which each teacher and I worked together to identify and address each teacher’s self-identified needs, my own role is important to address, and is discussed in greater detail below in Section 3.4. Because the main participants—Cecilia, Simone and Lorraine—all operate within a vibrant teaching/learning environment, the impact of their students’ and colleagues’ roles in their day-to-day decision-making should be noted.

### 3.2 Data collection

Data collection for each participant consisted of a series of four interviews, with one interview including a stimulated-recall (SR) component, as well as three observations and a one-on-one collaborative corpus working session. The procedures are listed in chronological order in Figure 3.
The first procedure was an initial non-recorded observation of each writing class to lower the reactivity effect (Figure 3, Item 1). Each participant had an initial interview in which they discussed their beliefs and their views on L2 writing and the use of corpus tools (Figure 3, Item 2). Each teacher’s specific learning/teaching setting was then captured through an audio-recorded class observation of the teacher’s L2 writing class (Figure 3, Item 3). This was followed by a second interview that addressed issues specific to the writing class, the institution, and the group of students (Figure 3, Item 4). During this interview, each teacher identified class-specific needs that could be addressed by using corpus tools.

Using a range of published and unpublished corpus materials available for teachers, I then created an individualized working session on corpus tools relevant to each teacher’s specific needs. During the working session, each teacher and I jointly developed a lesson plan to integrate the corpus tool into her existing syllabus (Figure 3, Item 5). Each teacher then used the lesson plan during a subsequent class period that was recorded (Figure 3, Item 6). The ways in which each teacher perceived how the active integration of corpus tools addressed their concerns were then examined in two follow-up audio-recorded interviews. The first follow-up interview occurred just after the recorded class and included a section using stimulated recall (Figure 3, Item 7), and the second follow-up interview occurred six to eight weeks later (Figure 3, Item 8), allowing the teacher time to further reflect upon the process.
1. Observation 1 (not recorded)
   • Purpose: Acclimate students, teacher, and researcher

2. Interview 1 (audio recorded)
   • Purpose: identify teacher needs and describe class, share experiences with and views about corpus tools

3. Observation 2 (audio recorded)
   • Purpose: further acclimate students, observe classroom dynamic, provide information to guide Interview 2 discussion on needs specific to this class

4. Interview 2 (audio recorded)
   • Identify needs for specific class
   • Determine possible corpus tools to meet needs

5. One-on-one collaborative corpus working session (audio recorded)
   • Learn about specific corpus tools
   • Develop lesson plan

6. Observation 3 (video- or audio-recorded)
   • Observe student interaction with and responses to corpus tool
   • Observe teacher interaction with and responses to corpus tool

7. Interview 3 (audio recorded, including stimulated recall component)
   • Purpose: examination of the teacher’s view of specific events during the observed class, her view of the specific corpus tool, and her more general view of corpus tools in her professional life

8. Interview 4 (audio recorded)
   • Purpose: reflection on the lesson with the corpus tool, more general view of corpus tools in her professional life, and future practices

Figure 3 - Chronological list of data collection procedures

3.2.1 Interviews

The heart of the research was a series of extended semi-structured interviews with Cecilia, Simone and Lorraine. Based on Charmaz’s (2002) claim that ‘multiple sequential interviews form a stronger basis for creating a nuanced understanding of social process” (p. 682), the study included four strategically timed interviews with each teacher. The interviews took place in the participant’s office, and lasted between 45 and 75 minutes. All interviews were audio-recorded using an Olympus DS-40 digital voice recorder and transcribed using Express Scribe transcription software (NCH Software, 2011).
Interview data, unlike survey data or other self-report data, move beyond an ideal vision of one’s own teaching. As Borg (2006) explains:

One explanation for the mismatch between teachers’ reported cognitions and their actual practices which has been identified...is that when presented with theoretical statements or hypothetical situations to comment on, teachers’ responses may reflect their views of what should be done rather than what they actually do. Self-report instruments may, then, reflect teachers’ ideals. For this reason they are inadequate, on their own, in situations where there is an interest in real classroom practices, and need to be supplemented with additional forms of data such as observations and interviews. (p. 184, emphasis in original).

Because the goal of the current study is to address issues of the teachers’ actual classes, not just hypothetical ones, the use of interview data along with classroom observation provides more opportunity to move from the ideal to the actual.

The first interview (see Appendix A.1 for Interview 1 protocol) focused on each teacher’s background and general beliefs and knowledge. The interview protocol included guiding questions, the flexibility of which allowed each teacher the opportunity to direct the interview towards those issues that she identified as relevant to her needs as a teacher. The focus during the first interview was on the teacher’s i) general views on needs of writing teachers; ii) specific needs in her class; iii) her experience with corpus tools to date; and iv) general views on the role of corpus tools for EAP writing teachers.

The second interview, which occurred after the first audio-recorded class observation, focused more on the specific needs of each teacher’s writing class and the ways that corpus tools might help meet needs identified by the teacher for her specific class (see Appendix A.2 for Interview 2 protocol). In the study, the interview process addressed, as much as possible, each teacher’s current practical needs rather than more abstract principles of teaching.

The third interview session took place shortly after the third observation (see Appendix A.3 for Interview 3 protocol). One key aspect of the third interview was the use of stimulated
recall, which is a technique that allows the teacher to review recorded parts of the target lesson after the lesson has occurred and provide their insights into the processes that they remember as having occurred (Gass & Mackey, 2000). Stimulated recall can provide a valuable avenue from a new perspective for participants to provide rationales, explanations, amplifications, and observations of their own practices. In this interview, I used segments from the recordings of the third observation as a guide for the teachers to recall the observed lesson that included the corpus tool.

In stimulated recall, some stimulus (e.g., a video or audio recording, written work) related to the target event (e.g., a lesson or part of a lesson, classroom assignment) is provided to the participant so that they can “recall and report thoughts that they had while performing a task or participating in an event” (Gass & Mackey, 2007, p. 53). Gass and Mackey recommend that the stimulated recall be done as soon as possible so that the actual event is still in the participant’s recent memory. The stimulated recall sessions were held as soon as possible, taking into account the need to select the segments and meet the scheduling needs of the teachers. Stimulated recall sessions were held for Cecilia and Lorraine within four days, while Simone’s stimulated recall session occurred ten days after the observation, due to conference travel.

In addition, the degree of structure in the process should be linked to the research questions of the study (Gass & Mackey, 2000). To that end, I selected six two- to seven-minute segments for each participant that highlighted parts of the class where the corpus tool was being introduced, students appeared to have questions or comments on the use of the tool, issues arose regarding the use of the tool, or the teacher was interacting directly with all, some, or individual students regarding the corpus tool. The participants were encouraged to talk during the recording or pause the recording to elaborate on some element of the class, as they saw fit. As suggested by
Gass and Mackey (2000), the instructions for the stimulated recall should be “detailed, clear and unambiguous” (p. 57). The following instructions were read aloud verbatim to each participant at the start of the stimulated recall session:

“Now, we are going to watch some excerpts of the video of your class. As we play each section, you can talk as it plays or you can pause the video to explain what is happening or what you were thinking at that time. I will try to stay neutral as you speak, so don’t worry if I don’t talk with you too much while we watch the video. This is an opportunity for you to talk through what was happening.” (See Appendix A.3 for the full protocol)

Based on Gass and Mackey’s (2000) suggested methodology, I selected questions from a prescribed list to ask when the teacher stopped commenting on the recording during the stimulated recall. The choice of question depended on the content in the specific segment, and the possible questions were:

- What is happening here?
- What was the purpose of this section of the class?
- Can you identify a reason for saying what you did?
- Do you think your students understood what you wanted them to understand here?
- If you could do this part of the lesson again, would you do/say anything differently?

I also avoided providing either positive or negative responses to the teacher’s comments, and added only neutral non-responses such as “uh-huh,” “I see,” “OK,” or “Ah.” Prior to beginning the stimulated recall session, I explained to the teachers that I would be reacting in this way, as it might have seemed unusual and disconcerting for another teacher to fail to react more emotively to their commentary.

In addition to the stimulated recall session, Interview 3 included the teacher’s reflection on the topics of classroom objectives for that period, the teacher’s sense of interaction and engagement by students, her own thought processes and feelings during the period, her analysis of the efficacy of the corpus-tool component of the lesson, thoughts on lesson flow and
integration with the larger course objectives, and any technological or logistical issues that occurred to her during the interview or while doing the stimulated recall. These questions are listed in Appendix A.3. Each teacher was also encouraged to move into other areas of discussion if she felt it was important, so the interview was driven largely by the teacher’s sense of how the corpus tools interacted, positively or negatively, with her larger objectives and needs.

The final interview was held after the end of the semester, more than a month after the final observation (see Appendix A.4 for Interview 4 protocol). The delay in holding this fourth interview was purposeful. Tierney and Dilley (2002) recommend allowing teachers time and distance to reflect on the overall sense they had of the class, the students, and their teaching. While much of their commentary was consistent with that of the third interview, additional time for reflection proved valuable in allowing some initial excitement as well as initial frustration to cool over time, providing another more reflective element for analysis.

3.2.2 Observations

Classroom observation is an important data collection strategy in teacher cognition research, especially in conjunction with interviews, because it moves from the hypothetical and ideal toward the actual and practical (Borg, 2006). In the current study, there were three observations of each teacher’s class. The first class observation was an opportunity for me to become familiar early in the semester with the class, the students and the teacher. More importantly, it also allowed the students and the teachers to acclimatize themselves to my presence in the classroom, which was of particular importance because some of the students already knew me from previous semesters. I did not record or take field notes for this first observation. The goal was to make my presence less intrusive and make the process more authentic and less disruptive in later observations (J. Murphy, personal communication, January 24, 2012). In
addition, it allowed me to have more information regarding the course and the students prior to the first interview.

In the second class observation, I took field notes and created audio recordings. Because the invasiveness of recording in a classroom can be a concern (Gass & Mackey, 2007), this observation helped acclimate students and teachers to my presence and the use of recording equipment. This observation also gave me an opportunity to observe the dynamics in the classroom, and it provided material for use in the subsequent interview and corpus working session to help guide the teacher in identifying needs and possible areas for the use of corpus tools. Field notes were focused on issues that each teacher had identified during the first interview session as important; some of these issues were the increasing role of technology (all three classes were in classrooms with student computer stations), distractibility of students, and the struggle to fit everything into the limited time available with students.

The third class observation with each participant took place after the corpus working session and incorporated the corpus tools that each teacher and I developed. These class observations were originally planned to be video-recorded in order to better allow the teacher to recall events, thoughts, and feelings during the subsequent stimulated recall session. However, in discussing the study with the teachers, it became clear that the use of video was an issue of some concern, based on events during previous research projects conducted by other researchers.

This concern over the invasiveness of video recording in the classroom has been recognized in the literature (Borg, 2006; Gass & Mackey, 2000). One purpose of video-recording the class with the corpus tool was for use in the stimulated recall sessions, yet Gass and Mackey (2000) noted that in stimulated recall “the researcher needs to be able to put participants at ease [and] convey the impression that the participants are not being asked to do something very
difficult or unnatural” (p. 61). Borg (2006) addressed the issue of recording options by noting that “decisions about how to record observations...need to [be] made not only on methodological grounds but with an appreciation of the context in which the observations will occur” (p. 240). Therefore, I presented the use of video in addition to audio as an option dictated in large part by each teacher’s comfort level with video in her classroom. As one goal of the study was to engage the teachers in a more participatory form of research and maintain an atmosphere of collegiality rather than researcher-subject distance, I encouraged the teachers to use video only if they felt comfortable with it, and, in fact, Simone and Lorraine opted to use video in addition to audio recording.

The classes that included the corpus tool (Observation 3) were all audio-recorded, and Simone and Lorraine’s classes were also video-recorded. In Cecilia’s class, the audio recorder was located at the front of the room where she was clearly heard and most student responses were also clear. In Simone’s class, the audio recorder was also at the front of the room, and the video was handheld from the back of the room. This allowed easy movement of the frame to where Simone was working with individual students. In Lorraine’s class, she suggested that she keep the audio recorder around her neck, which provided clear audio of her interaction with students. As in Simone’s class, the video recorder was handheld and stayed on Lorraine during her individual work with students.

### 3.2.3 Collaborative corpus working session

An individualized collaborative corpus working session with each teacher after her second interview is another key part of the data collection. Once each teacher had identified needs for her specific set of students in the writing class during the second interview, the teacher and I then worked together during a collaborative corpus working session to consider possible
tools, and then create a lesson plan that fit the teacher’s style and the course syllabus. At that point, I consulted a variety of materials for possible corpus tools to develop an appropriate starting point for creating a lesson plan geared specifically for each teacher’s unique situation. Those materials included corpus textbooks for teachers (e.g., Bennett, 2010; O'Keefe et al., 2007; Reppen, 2010), presentations on corpus tools for teachers (e.g., Bunting, 2005; Diniz & Bunting, 2012; Diniz & Moran, 2005; Shaw, 2011a; Staples, 2009), and published materials for ESL/EFL students (e.g., Bunting, Diniz, et al., 2013; Conrad & Biber, 2009; Swales & Feak, 2012).

Using available materials, both in print and online, the collaborative corpus working session covered the basic principles of the tools to be used, how they could be used, what benefits they might offer, and how to troubleshoot any possible issues. During the corpus working session, the teacher and I created student materials (handouts, web links in their online course site, etc.) and a lesson plan that took into account the degree to which the teacher wanted to involve the students in corpus-awareness raising and data-driven learning. There was one corpus session for each teacher, which lasted between 40-90 minutes, was audio-recorded and transcribed, and took place in an office in the teachers’ department. At the end of the corpus working session, we had a clear plan that included materials, learning outcomes, tasks, activity types and an estimated duration of each activity during class.

3.2.4 Artifacts

Artifacts were collected from each teacher; these were the course syllabi, class lists, textbooks, course learning outcomes, lesson plans, handouts, and PowerPoint presentations. The syllabus, class lists, textbooks, and learning outcomes were used in the preparation and implementation of the first two interviews and the corpus working sessions. The lesson plans,
handouts and PowerPoint presentations were used during the follow-up interviews as each teacher reflected on the class session and the use of the corpus tools within that session.

3.3 Data Analysis

In this discussion of data analysis, the first section is on coding and thematic analysis of the transcriptions of the participant interviews, the stimulated recall interactions, and the corpus working sessions. A second section addresses building reader confidence in the results of the analysis.

Data analysis was carried out in a cyclical manner, with analysis being done on one batch of data as a way to inform the next steps of the research, an approach which followed that taken by Borg (1998) and Farrell & Lim (2005). The data were analyzed through a process of creating and refining the set of themes that emerged. Starting with a preliminary set of themes from a survey of teacher needs and experience with corpus tools (see Chapter 4), additional results from each interview and the corpus working session led to modifications and shifts in focus for later interactions, to identify and illuminate the need areas that each teacher found to be most important for her specific evolving situation.

3.3.1 Interview and corpus working session data: Thematic analysis

In the analysis of interview information, I used a constructivist approach in which “interviewers and interviewees are always actively engaged in constructing meaning” (Silverman, 2006, p. 118) because an underlying principle of this research is that the knowledge we seek exists as part of the teacher’s set of beliefs and knowledge base (Borg, 2003); hence, approaching the interview as an opportunity to understand how these teachers view the world as language teaching professionals could provide them the room to explore what they may not have even acknowledged previously.
In using thematic analysis through the use of coding sections of texts, it is important to acknowledge that “coding necessarily reflects the researcher’s interests and perspectives as well as the information in the data” (Charmaz, 2002). In other words, it would be disingenuous at best to make any claim that I enter this process unbiased or having somehow excised my prior experience and knowledge. While in quantitative analysis this acknowledgement may be considered a liability, in this kind of grounded qualitative research, acknowledging and even embracing my role in the process can make the analysis more powerful, with “the personal-self becom[ing] inseparable from the researcher-self” (Creswell, 2003, p. 182). As Charmaz (2002) suggests, as a researcher I can use my own pre-conceived ideas about teaching and the use of corpus tools as an effective starting point for further refinement, provided I do it reflectively and with self-awareness. This is in stark contrast to objectivist researchers who “minimize… reflexivity about the constructions- including preconceptions and assumptions- that inform their inquiry” (Charmaz, 2002, p. 683).

The first step in working with the interview and corpus working session data was to transcribe each interview and corpus working session, making notes of distinctive elements or anything that might be unclear to someone reading the transcripts later. For example, many of the codes for corpus tools deal with specific online tools, such as the Corpus of Contemporary American English (Davies, n. d.), which might not be clearly understood by someone who is not well-versed in that area. In such instances, I added parenthetical information that provided the necessary background knowledge. As Braun and Clarke (2006) noted, “what is important is that the transcript retains the information you need, from the verbal account, and in a way which is ‘true’ to its original nature” (p.88). As another example, during Lorraine’s first interview, she began to make reference to the textbook on her desk. This exchange was unclear in the
transcripts, until I added additional information to note that she was referring to a specific book; it also occurred when she began discussing her syllabus and course materials. I reviewed all transcripts for accuracy by reading them while listening to the recordings again. Listening to the recordings several times, as suggested by Braun and Clarke (2006), allowed me to become even more familiar with the way in which each teacher described her own process of approaching the course, and the reasoning behind it.

Member checking, or providing participants with data at various points in the research process for their review and feedback, is an important element of building confidence in a researcher’s analysis of qualitative data (Ryan & Bernard, 2003). After my review and revision of the transcripts, I sent them to the participants, as a first step in the process of member checking (this topic is further addressed in Section 3.3.2 below). My goal in sending the transcripts was to provide each participant with an opportunity to identify any sections that she felt misrepresented her intent in the interview. In fact, all three teachers found that the interview and corpus working session materials accurately represented their voices and their views.

After transcribing and verifying the data from the interviews and corpus working sessions, the primary tool for analysis used was thematic coding, “a form of shorthand that distills events and meanings without losing their essential properties” (Charmaz, 2002, p. 684). I examined the data using Atlas.ti thematic analysis software (GmbH, 2013) and began an initial coding stage. The steps I used in the coding process were to first do initial coding without referring to the literature and without setting any limits on the scope of the possible codes. As suggested by Charmaz (2002) this coding was done line-by-line, with some codes being generated through keywords in the text and others being generated by the underlying meaning of phrases, sentences, or larger sections of discourse.
This coding process was then repeated, as recommended by Charmaz (2002), so that new
codes could be added and initial codes could be rejected as inaccurate, too vague, too specific, or
unimportant within the larger context. In addition, the codes could then be grouped and
regrouped, building sets of larger codes or themes based on categories from teacher cognition,
such as teacher beliefs, decision-making, or assumptions about learners, or based on categories
from the use of corpus tools in teaching and learning, which could include limits on corpus tools,
ease of use, or ideal corpus tools.

This initial coding resulted in numerous comments on the ideas that the participant
expressed. For example, Figure 4 shows how Cecilia responded to the question “How do you
think the lesson went?” during the third interview.
<table>
<thead>
<tr>
<th>Line</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I think it went pretty well. I would have felt better if I'd had more of a resolution task for them, other than the vocabulary task, because when I got that back, and only four or five people did, I got back words they should have known already or I know that they know already. So I think if I do it again I want another final task that gives it more closure, or maybe even asks them their opinion about it. Or require them to give their opinion, requires them to freewrite about it— I don't know what it would be. But I feel like it wasn't a total void of resolution, but I felt it was a little bit unresolved. I think they were game, I think they did really well with the overwhelming visual nature of what we showed them. (C3-015)</td>
</tr>
</tbody>
</table>

**Figure 4 - Excerpt from interview data**

During the transcribing process, I added a note “not really sure she will do this again!” at Line 4, based on her tone of voice when she said “So I think if I do it again...” At Line 5, I noted “her focus on student affective issues or student perspective on the relevance/effectiveness/success of activity.” Then, in the initial post-transcription analysis, I added comments to various sections of the response. For Lines 1-3, I added the note “wants better ‘ending’ task.” In Lines 4-5, I added the note “wants student view” and in lines 5-6 “make it a writing task.” For lines 7-8, I added the note “critique of website.” In further review of the data, I began to add more nuanced codes. It also was becoming apparent that much of the thematic content went longer than one or two lines, so for this section, the entire passage was coded as addressing “reflective practices,” “student affect,” and “teacher reasoning.” The final

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1 Excerpts are identified by the teacher initial, interview session, and paragraph number. This excerpt, C3-015, refers to the fifteenth paragraph in Cecilia’s third interview.
sentence (Lines 7-8) was coded for “Lextutor” (the corpus tool used), “comfort-students,”
“distraction,” and “student affect.”

During the reiterative process of coding, a final set of 111 codes emerged. These codes were then gathered into eight larger categories, or code families: corpus tools; lexicogrammar; material design, selection, and critique; student issues; teacher cognition; teacher issues; technology; and writing. The number of codes within each family varied, ranging from the technology family having only one code (technology), to the teacher cognition family having 29 codes. The categories and codes together with working definitions and illustrative examples from the transcripts are laid out in Table 5.
Table 5 - Categories and codes in thematic analysis

<table>
<thead>
<tr>
<th>Category and codes</th>
<th>Working definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corpus tools</strong></td>
<td>Statements that address opinions, knowledge, or use of corpus tools by the teacher</td>
<td><strong>Code: corpus limits</strong>&lt;br&gt;I don't know if I really would [use the corpus tool again]. If there were other options, I might not. I think it's not the most user-friendly website going. As a website, as a visual tool, it's overwhelming. I have an issue with some of the statistics, also. I'm not so sure about the value of some of the information that you get, and I'd have to - some of the feedback that you get- I'd have to work with it more.&lt;br&gt;(C4-20; additional codes: material critique, teacher reasoning)</td>
</tr>
<tr>
<td><strong>Lexicogrammar</strong></td>
<td>Statements that address grammar or vocabulary issues</td>
<td><strong>Code: vocabulary</strong>&lt;br&gt;I think that it's hard for them to otherwise be aware [of new vocabulary]. They only know the words they know; they don't know the words they don't know. So how else would they find out the words they don't know? I wish there were some similar mechanism to help them learn word forms. I think learning morphology, learning over the long term, helps them, but I think they really have trouble at this level with accurate word forms. And it really often obscures the meaning in their writing.&lt;br&gt;(C3-054; additional codes: corpus effectiveness)</td>
</tr>
<tr>
<td><strong>Material design, selection, or critique</strong></td>
<td>Statements that address how the teachers view materials (both actual and potential)</td>
<td><strong>Code: material critique</strong>&lt;br&gt;I take back what I just said, because I think it depends on the student audience. I do feel, for the [graduate student] audience, I just feel as if that could be useful. And the way that [the textbook authors] have created other books, there's a lot in there that you're not going to use at all. So I think incorporating corpus tools into a book like that- I think could be helpful. But I don't know.&lt;br&gt;(L4-084; additional codes: corpus effectiveness, L2 writing, student-as-consumer model, student level, teacher reasoning)</td>
</tr>
<tr>
<td><strong>Student issues</strong></td>
<td>Statements that address student needs, concerns, and interaction</td>
<td><strong>Code: student level</strong></td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Codes: comfort-students, curricular issues, distraction, feedback to students, fun, impact on students, student-as-consumer model, student affect, student autonomy, student buy-in, student differences, student goals, student interaction, student level, student needs, student strengths, students-as-linguists concern</td>
<td>Next fall, I think I'll teach an undergrad class. I'm going to try [using the corpus tool], but I think I will use it more in the graduate class. I think that audience tends to be more motivated. They have a real need to be better writers. It's very apparent to them that they need to be able to write effectively, and they want to write like others in their field. So I think that this is more interesting, perhaps, to grad than undergrad. I say that based on- I've never tried it with undergrads, but I've heard other people who have, and I was told that the undergrads weren't all that interested in it. But I'll try it. (L4-007; additional codes: integration into teacher’s system, L2 writing, student affect, student buy-in, student differences, student goals, teacher reasoning)</td>
<td></td>
</tr>
<tr>
<td><strong>Teacher cognition</strong>&lt;br&gt;Codes: ambiguity, beliefs, buzzword, collaboration, concerns, cost-benefit ratio, dislikes, future goals, goals, innovation, integration into teacher's system, knowledge base, likes, needs, past beliefs, patience, pedagogical knowledge, personal experience, personality, present beliefs, professional development, reflective practices, self-awareness, self-doubt, strength, teacher 'face' with students, teacher affect, teacher reasoning, weakness</td>
<td><strong>Statements that address teachers' cognitions</strong>&lt;br&gt;I believe that you have to be flexible. I often will talk about what works for me, with my students, as a writer, but then I want to hear from them because I believe there's not just one approach to something. And I think that may be an area where I've grown a bit. Maybe I try to be less, well, rigid I think is more negative- but I try to be more- I keep saying flexible, but realize that we can approach things in more than one way…. So I guess that would be a belief- that you have to change… My belief is that, as the instructor, you have a plan but the student is the one that you're teaching to, and so you might need to- you have to listen to what they're saying and you have to seek feedback from them and be willing to alter what your plan was.&lt;br&gt;(L1-25; additional codes: classroom management, flexibility, impact on students, student differences)</td>
<td><strong>Code: beliefs</strong>&lt;br&gt;I believe that you have to be flexible. I often will talk about what works for me, with my students, as a writer, but then I want to hear from them because I believe there's not just one approach to something. And I think that may be an area where I've grown a bit. Maybe I try to be less, well, rigid I think is more negative- but I try to be more- I keep saying flexible, but realize that we can approach things in more than one way…. So I guess that would be a belief- that you have to change… My belief is that, as the instructor, you have a plan but the student is the one that you're teaching to, and so you might need to- you have to listen to what they're saying and you have to seek feedback from them and be willing to alter what your plan was.&lt;br&gt;(L1-25; additional codes: classroom management, flexibility, impact on students, student differences)</td>
</tr>
<tr>
<td><strong>Teacher issues</strong></td>
<td>Statements that address the teacher’s role, actions, and issues in handling students, resources, and the institutional environment</td>
<td><strong>Code: time</strong></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Codes: administration, assessment, classroom interaction, classroom management, collaboration, concerns, control, curricular issues, feedback to students, flexibility, grading, language issues, learning outcomes, lesson plan, office space, practicality, program concerns, resources, time, workload concern</td>
<td>We’re now working on problem-solution writing, and [the students are] doing their proposals, but I don’t know, because it’s not so smooth. This took too much time because I was trying to figure out what was wrong, and I said “let’s stop doing this, and you’re going to…” I think if I tried this, I could maybe condense it by one week. I feel like I wasted two class periods, not back to back but a little this in one class... over time I wasted two class periods because I was trying to figure out where’s the disconnect. What’s happening here? Why are there so many questions? (L2-24; additional codes: academic writing genres, L2 writing, reflective practices, self-doubt)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Category:</strong> Technology</th>
<th>Statements that address knowledge or use of technology by the teacher or students</th>
<th><strong>Code: technology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Codes: technology</td>
<td>[Technology has] become very important but there is also the hindrance [of] using technology, like for example the computer lab and the student's desire to be engaged with their email or Facebook, but I think it's been real helpful having students be able to word process. If you think about years ago, typing, and now that they can just edit and change within their [document] and also they are able to use the internet to find sources and support research for what they're writing about... and then the corpus stuff, and just the way you are able to communicate with students too, through email or using the [online course management] support system. (S1-43; additional codes: corpus tools, distraction, student affect)</td>
<td></td>
</tr>
</tbody>
</table>
From the analysis of these codes, themes began to emerge. The most pressing needs for the three participants collectively were time, student issues, material analysis, selection, and design, issues with the corpus tools, institutional issues, and collaboration. These themes are discussed in Section 8.1 of Chapter 8.

An important component in qualitative teacher education research (see, for example, A. Baker, 2011; J. Lee, 2011) is to implement a process of inter-coder agreement (Willis, 2007), or what Lee (2011) called his “external check” for thematic coding (p. 79). One way to build consumer confidence in thematic data analysis is to demonstrate second-coder reliability, or “the degree to which coders agree with each other about how themes are to be applied to qualitative data… [which] suggests that the concept is not just a figment of the investigator’s imagination and adds to the likelihood that a theme is also valid” (Ryan & Bernard, 2003, p. 104).

To work towards this end of building consumer confidence through a second coder, I recruited another researcher, a doctoral candidate who was also working on a qualitative study of
language teachers. We held a training session in which I explained my research questions and how I had started coding the initial sets of interview data. We then went through several excerpts of interview material together, discussing the coding process and clarifying concepts as needed. In this preliminary stage, we examined interview and corpus working session data using excerpts from all three teachers and from all stages of the research: these stages included the initial interview, the second interview focused on the specific class and students, the corpus working session, the immediate follow-up interview with the stimulated recall component, and the final interview after several months had elapsed.

Once the second coder understood the method and scope of coding and we went through some coding together, I provided her with a sample of 5,573 words, or about 10%, of the interview material to review on her own. Over the period of several weeks, she then coded the material using my list of codes as well as other codes that she might create, and we met again to compare results. Having inter-coder agreement of 90% is considered optimal (Miles & Huberman, 1994) but on our first review, our agreement rate was at about 76%. We further discussed the coding topics related to corpus linguistics, as she was not well-versed in corpus tools or terminology, and we realized that the main disagreements in coding were related to the corpus tools. The codes that I had created based on the specific content of the study were: Corpus of Contemporary American English (COCA), concordancing, corpus 'dream tool', corpus creation, corpus effectiveness, corpus limits, corpus linguistics, corpus research, corpus tools, Data-Driven Learning (DDL), keywords, Lexchecker, Lextutor, and Michigan Corpus of Upper-Level Student Papers (MICUSP). We discussed these codes in more detail, and I explained their role in the study more fully. Once she became more familiar with those codes, and based on our discussion of the role of the corpus tools in the study, she revised several codes (she modified
many references to corpus linguistics generally to more specific codes), we collapsed several similar codes, and then we reviewed our respective results again. After this second review, our final inter-coder agreement rate rose to 91%.

3.3.2 Building confidence in data analysis results

The nature of qualitative research is, to a degree, idiosyncratic. The quantitative research concepts of validity and reliability are not transferrable to many forms of qualitative research, and “qualitative research does not have one way of establishing warrant, it has many, and they are sometimes contradictory, debated, and dependent on different ideologies. The field of qualitative research has not yet arrived at a consensus on how to decide what warrants our attention and what does not” (Willis, 2007, p. 154). There are, however, ways to increase “consumer confidence” (the value that the target audience places in a study’s results) in the analysis of qualitative data and findings (Willis, 2007, p. 220).

Ryan and Bernard (2003) note in considering thematic analysis that “there is no demonstration of validity, but we can maximize clarity and agreement and make validity more, rather than less, likely” (p. 103). The nature of the current study aligns with the claim that “reality is socially constructed, and thus there are multiple perspectives on reality [so] there is not necessarily a need to try to eliminate all but one true reality from [the] study’s conclusions” (Willis, 2007, p. 220). Notwithstanding this concern, working to build agreement on the interpretation of data is an important step in building consensus among the target audience regarding the value of findings. There are several ways to provide transparency when presenting thematic data analysis.

Triangulation is one way to increase confidence in research findings, yet it is only an appropriate approach for research that “follow[s] the postpositivist search for generalizations –
for laws and truth” (Willis, 2007, p. 219). What is considered triangulation in quantitative studies could be approximated by the use of various data collection techniques in qualitative research (Creswell, 2003). In this case, data from the interviews, corpus working sessions, and stimulated recall provide several ways to view how teachers reason when they consider, develop, use, and then reflect upon corpus tools in their teaching. Providing such an alternative to triangulation is one way to build consumer confidence in the present study.

Having a high degree of agreement with a second coder, as discussed in Section 3.3.1 above, also adds to confidence in the results of data analysis. In addition to inter-coder agreement, several other avenues exist for building confidence in the results of the study. These include member checking throughout the process and acknowledging the researcher’s extended experience in the environment (Willis, 2007).

As mentioned above, as a way to engage the participants’ own expertise while also ensuring accuracy in presenting the data, early in the process I employed member checking, a process in which participants are provided with the data at various stages during transcription and analysis (Creswell, 2003). This was continued throughout the process, which allowed the participants to read and reflect first on the transcripts and then on my analysis, providing them with opportunities to challenge or clarify findings and illuminate specific episodes. Because Simone, Lorraine, and Cecilia all have extensive knowledge, both practical and theoretical, of language pedagogy and L2 writing, their feedback through member-checking provided another valuable alternative to triangulation. I provided Cecilia, Simone, and Lorraine with coded excerpts for their review throughout the process because the themes relate directly to their expertise as teachers and professionals; hence, it is therefore “appropriate when one of the goals is to identify and apply themes that are recognized or used by the people whom one studies” to
share the data analysis with the participants as highly experienced teachers (Ryan & Bernard, 2003, p. 104).

A final alternative to triangulation is to use the researcher’s own “extended experience in the environment” (Willis, 2007, p. 220), or the researcher’s experience or expertise within the context being researched. In this case, I have over ten years’ experience teaching similar writing classes in intensive English programs and in ESL programs. In addition to having taught over 25 semesters of academic writing, I have participated in program reviews and accreditation processes, and served on curriculum committees for over five years. Further, I have written two ESL textbooks that have incorporated elements of corpus tools, taught using various corpus tools, and given workshops on how teachers could use corpus tools in their professional lives. This extended experience in both areas (L2 writing instruction and the use of corpus tools) adds to the degree of confidence that an informed audience might have regarding the results of the study. This valuing of extended experience in the area of pedagogical corpus tools connects with the idea of creating a new group of specialists trained in the pedagogical use of corpus tools. These specialists might present a useful new model for addressing the issues that teachers may have with the use of corpus tools. This topic is discussed more fully in Section 8.3.2 below.

3.4 Research ethics

The present study has intended to examine the participants’ current beliefs, knowledge base, and decision-making, and further intended to provide training that would have an impact on the classroom environment as well as on the teacher’s role in the classroom. Therefore, it has been essential for me, as a researcher, to transparently adopt an active identity in the process of examining the participants’ view of corpus tools and providing options for appropriate classroom materials and activities. In other words, my role in the research has played an integral part in the
process that each teacher has gone through. That role, however, is more than simply a researcher examining phenomena in a setting. My interconnected roles of researcher and colleague “echo in the ongoing relations of research participants” (Warren, 2002, p. 97).

I am a peer to Cecilia, Simone and Lorraine, and this collegial relationship bears heavily on the research effort. Having a working knowledge of the institutional and program history as well as the curriculum and the student population allows closer and, I would argue, more authentic collaboration in the exploratory component of the study. Each of the teachers and I worked together to develop class-specific priorities and then created a lesson plan, much like what could occur between any colleagues. This collaboration differs from a typical researcher-subject dichotomy. Such collaboration has a direct effect on teachers’ professional lives; hence, understanding that we share a common goal and maintaining a sense of trust was vital.

However, any qualitative researcher must “systematically reflect on who he or she is in the inquiry and [be] sensitive to his or her personal biography and how it shapes the study” (Creswell, 2003, p. 182). While my relationships with the teachers more closely matched authentic collaborative professional development in which colleagues work together, boundaries during the observations featured as part of the study had to be clearly addressed. Further, because I worked closely with the teachers in the development of their materials, guidelines had to be clearly established to provide minimal impact during observations; these guidelines included providing several pre-observation reminders to avoid unnecessary interaction during class, encouraging in-class strategies such as avoiding eye contact, and providing reminders about the research aspect of investigator-participant interaction (A. Baker & Lee, 2011).

Drawing upon Creswell’s (2003) classification of field roles in observational research, I took an approach that falls somewhere between “observer as participant” (having only brief,
formal contact with the teacher during the observation), and “participant as observer” (participating while observing and also developing a relationship with the teacher). I strove to maintain a distance during the first two observations (acting as an “observer as participant”) and did not interact with the teacher or students; however, during the set of third observations, which occurred after our corpus working sessions, on several occasions each teacher used me as a sounding board and/or additional resource during the class (more of a “participant as observer”), which we had discussed and agreed upon prior to the observed class session. My belief is that this would provide the teacher with more confidence during the lesson and would allow her to explore more fully the range of options when dealing with corpus tools.

Similarly, during the corpus working sessions, I developed closer relationships with each teacher as we worked through ways to match corpus tools with each teacher’s unique knowledge base and classroom needs, described in Chapters 5, 6, and 7. As Borg (2006) suggested for observation, these roles were clarified in advance so that there was no confusion or tension regarding my presence within the teacher’s classroom and planning space.

Finally, an important part of any research should be the positive effects it has on the participants (Willis, 2007). For Cecilia, Simone, and Lorraine, my goal was to provide them with opportunities for reflection on their teaching, professional development, and decision-making processes. The process allowed them to develop “richer understanding of the many interrelated factors involved in learning [and] help… see how the ways we organize learning environments can promote or inhibit growth” (D. Johnson, 1992, p. 5). In addition, as members of this participatory research, all three teachers have critically engaged the research as well as worked together to share the results of the study.
3.4.1 Informed consent

All respondents and participants provided informed consent for their roles in the study. For student participants (non-native speakers of English), the consent form was provided in language appropriate for their language proficiency, and time was taken during class to explain the study, the consent form, and the individuals’ rights and protections in language that was accessible. The consent form for teacher participants is in Appendix E.1, the consent form for the student participants is in Appendix E.2, and the consent form for the survey respondents is in Appendix E.3. Obtaining, reviewing, and safekeeping consent forms were all carried out under the authority of the Georgia State University Institutional Review Board (IRB). Protocol Number H12221 was approved by the IRB for this study (See Appendix F for IRB documents).

Through the design, collection, and analysis of the data, as set forth here, I was able to explore the processes that these three teachers- Cecilia, Simone, and Lorraine- went through as they identified their needs for their specific writing classes, considered possible ways to use corpus tools to address one or more of those needs, and then reflected upon the lessons that they had created and how they might (or might not) integrate corpus tools in the future. The next chapters will examine the results of this data collection and analysis. In Chapter 4, the preliminary survey is discussed. In Chapters 5, 6, and 7, we hear Cecilia’s, Simone’s and Lorraine’s stories, respectively, and each teacher’s views of corpus tools when considering them vis-à-vis their self-identified teacher needs. Chapter 8 presents a summary of themes, implications, limitations, and possible future research.
Before beginning to work with the three main participants in the study (Cecilia, Simone, and Lorraine), I conducted a preliminary online survey with teachers from a range of educational settings (the survey instrument is shown in Appendix D). The survey asked language teachers about (i) their self-identified needs as teachers, (ii) knowledge of and experience with corpus tools, and (iii) views on the relevance of corpus tools in their professional lives as teachers. An analysis of the results of this survey allowed me to compile a set of teachers’ needs in the classroom. In addition, the survey provided teachers’ perspectives about the use of corpus tools in their professional lives. I used these teacher-identified needs and perspectives to inform the first set of interviews with Cecilia, Simone, and Lorraine (see the protocol for Interview 1 in Appendix A.1). This chapter examines the survey respondents’ self-identified needs as ESL/EFL teachers as well as their awareness of and interest in corpus linguistics and corpus tools in their own teaching, as reflected in their answers to the survey.

To create the survey, I reviewed existing surveys on teacher needs (Römer, 2006) and teacher views and experience with corpus tools (Römer, 2006; Tribble, 2008). Survey items were created based on the general categories of teacher needs, corpus knowledge, corpus experience, and professional development. The categories and the items were reviewed by six ESL teachers with extensive experience in EAP writing (five from IEPs and one from a community college ESL program); these teachers provided feedback, which served as a basis for modification of the items.
Potential respondents were targeted via professional networks and online discussion groups. Most responses were the result of email requests sent to two professional groups of IEP directors, the American Association of Intensive English Programs (www.aaiep.org) and the University Consortia of Intensive English Programs (www.uciep.org). Other organizations that participated in distributing the survey were national, regional, and state TESOL organizations. One hundred sixteen teachers responded, and one hundred eleven completed the survey.

I used a brief summary of the results of the survey as a way to guide but not restrict Simone’s, Cecilia’s, and Lorraine’s reflections about their own needs for their writing classes. In other words, they were able to reflect upon the general survey results prior to the first interview and were able to review them as they wished throughout the process. Taking a grounded theory approach, the initial set of codes created during the survey process shifted, as they were evaluated, refined, added to, or deleted (Silverman, 2006). This was done for each participant based on her views on her class and its learning outcomes, as will be explained in Chapters 5, 6, and 7.

4.1 Survey respondents

This section provides demographic data on the survey participants. A total of 116 teachers took the survey. The majority were women (74.8%; n=111), with 26% in their twenties, 26% in their thirties, 18% in their forties, 18% in their fifties, and 11% in their sixties or beyond,

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2 Because the university’s Institutional Review Board (IRB) does not allow surveys with mandatory items, survey respondents always had the option to not respond to individual items. Therefore, although there were a total of 116 respondents, not all items had 116 responses. For this reason, I have included additional numeric information after each item discussed in this section, if relevant.
as shown in Figure 5. They were all teaching English (110/110), and a majority were native speakers of English (73%, 81/111) and were teaching in the United States (69%, 79/111).

The respondents were well educated, with 7% either working on or holding a bachelor’s degree, 76% either working on or holding a master’s degree, and 14% either working on or holding a doctorate. The majority held degrees in either TESOL or Applied Linguistics (62%, 69/111). The next largest categories were English (12%, 14/111) and Linguistics (6%, 7/111). Other majors held by only one teacher each were Business, Communication Disorders, Distance Education, Egyptology, and Special Education. Regarding when respondents had finished their studies, 22% were currently in school at some level, 14% were in their first year out of school, 24% had finished school between 2-5 years earlier, and 38% had been out of school for more than five years (see Figure 6).
Most respondents taught a range of proficiency levels from beginner (A1 on the Common European Framework) to proficient (C2 on the Common European Framework) (Martyniuk, 2006). Teachers responded most frequently that they were teaching more than three levels currently, with the majority (76%) teaching Intermediate (B1) classes, and the fewest teaching advanced (C1, 53%) and proficient (C2, 30%) students. Most of these teachers had experience with multiple levels of students, though more often with lower levels.

The majority (59%, 64/109) of respondents were working in Intensive English Programs. Other program types represented were universities (16%, 17/109), middle or high school (8%, 9/109), Adult Education (6%, 7/109), Community colleges (6%, 6/109), Elementary (5%, 5/109), and Pre-elementary education (1%), as shown in Figure 7. Overall, the teachers had extensive teaching experience, with 41% (45/109) having more than ten years of experience. Only 13% (14/109) had less than two years of teaching experience.
4.2 Frequency-based and thematic analysis of survey data

The survey results were analyzed in two ways. For discrete items, percentages for each response were recorded. For example, in Item 27 *Have you ever used corpus linguistics tools or methods in your classroom?*, 44% of respondents answered “Yes.” For Likert scale items, such as Item 16a *For your own teaching, identify the importance of providing feedback to student writing*, the results were also summarized using percentages for each response type. For example, 61% of respondents felt that providing feedback to student writing was an extremely important need.

For the open-ended item *Please identify the three most critical needs you have as a language teacher*, thematic content analysis was used. The 290 responses (each respondent listed up to three needs) were put into 58 initial categories, which were then collapsed into four main categories:

- Student needs
- Classroom and administrative needs
• Teachers’ development of knowledge and skills

• Language issues

Recurring themes within data can be identified through the analysis of coded survey data (Dornyei, 2003). In the first instance of cyclical data analysis (Braun & Clarke, 2006), the themes identified for teacher needs from the survey data were used to inform interview questions for the first set of interviews with the three teachers.

4.3 Respondents’ self-identified needs

In one part of the survey, respondents were asked about their self-identified needs as teachers (see Appendix D for a full listing of survey items). It is important to note that this list of needs was not tied to the use of corpus tools, but rather to the respondents’ own self-identified concerns as practicing teachers. As mentioned above, having this illustrative list of current needs allowed me to build a more nuanced frame of reference when interviewing the participants of the study about their own needs.

4.3.1 Respondents’ development, curriculum, classroom, and student issues

Survey respondents were asked about specific needs related to four main areas: their development as language users, curriculum, the classroom, and student issues. A list was created for each category based on previous research on teacher’s “everyday problems and needs” (Römer, 2009) and on feedback provided during piloting of the survey. Teachers were first given a list of possible needs in each category and asked to determine the importance of each need in their own professional lives.

The item considered most important for development as a language user and teacher (see Table 6) was developing my own knowledge about best practices in teaching/learning (73% of respondents felt it was an extremely important need, and only 2% felt it was unimportant). The
second most important need in this category was *feeling confident in my own language knowledge*, with 59% of respondents seeing it as extremely important. Based on these responses, the concern about pedagogy rated above the other topics that focused more specifically on language knowledge.
Table 6 - Development as a language user and teacher (Survey Item 13)³

<table>
<thead>
<tr>
<th></th>
<th>I don’t see this as a need (1)</th>
<th>Not at all important for me (2)</th>
<th>Not very important for me (3)</th>
<th>An important need (4)</th>
<th>Extremely important need (5)</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing my own knowledge of best practices in teaching/learning (n=105)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.9%</td>
<td>24.8%</td>
<td>73.3%</td>
<td>4.71</td>
</tr>
<tr>
<td>Feeling confident in my own language knowledge (n=106)</td>
<td>3.8%</td>
<td>0.9%</td>
<td>5.7%</td>
<td>30.2%</td>
<td>59.4%</td>
<td>4.41</td>
</tr>
<tr>
<td>Developing my own knowledge of the language (n=106)</td>
<td>3.8%</td>
<td>0.0%</td>
<td>8.5%</td>
<td>37.7%</td>
<td>50.0%</td>
<td>4.30</td>
</tr>
<tr>
<td>Confirming/modifying my own intuition about language (n=106)</td>
<td>1.9%</td>
<td>0.9%</td>
<td>4.7%</td>
<td>52.8%</td>
<td>39.6%</td>
<td>4.27</td>
</tr>
</tbody>
</table>

As shown in Table 7, the two curriculum issues that were seen by most teachers as most important were *creating materials for students* and *prioritizing learning points in the curriculum*. The least critical curriculum issue according to the survey results was *selecting grammar points to focus on*.

³ For all tables describing survey data, if each item has the same number of respondents, the total number is given in the top left cell. If the number of respondents differs from item to item, they are given individually. In the interest of readability, an average rating is given for each item; however, the percentages are included because providing only an average rating of Likert items does not give a complete picture of the data (Robbins & Heiberger, 2011). Items in each table are listed in descending order of average rating (final column).
Table 7 - Curriculum issues (Survey Item 14)

<table>
<thead>
<tr>
<th>Item</th>
<th>I don’t see this as a need (1)</th>
<th>Not at all important for me (2)</th>
<th>Not very important for me (3)</th>
<th>An important need (4)</th>
<th>Extremely important need (5)</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating materials for students (n=104)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.0%</td>
<td>33.7%</td>
<td>65.4%</td>
<td>4.64</td>
</tr>
<tr>
<td>Prioritizing learning points in the curriculum (n=104)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.9%</td>
<td>44.2%</td>
<td>52.9%</td>
<td>4.50</td>
</tr>
<tr>
<td>Choosing textbooks and other materials (n=104)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>8.7%</td>
<td>54.8%</td>
<td>36.5%</td>
<td>4.28</td>
</tr>
<tr>
<td>Selecting vocabulary items to focus on (n=104)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>7.7%</td>
<td>58.7%</td>
<td>33.7%</td>
<td>4.26</td>
</tr>
<tr>
<td>Designing curriculum (n=104)</td>
<td>1.0%</td>
<td>0.0%</td>
<td>6.7%</td>
<td>56.7%</td>
<td>35.6%</td>
<td>4.26</td>
</tr>
<tr>
<td>Selecting grammar points to focus on (n=103)</td>
<td>0.0%</td>
<td>1.0%</td>
<td>11.7%</td>
<td>59.2%</td>
<td>28.2%</td>
<td>4.15</td>
</tr>
</tbody>
</table>

The key classroom issue, shown in Table 8, was managing time, with 42% identifying this as extremely important. Grading was seen as the least important of the items, with only 17% of respondents identifying it as extremely important and 20% stating it is not very important. An interesting item, especially in light of the technology component of some corpus tools, was that over 20% of respondents viewed using technology in the classroom as unimportant. A distinction should be made, however, between technology in the classroom and technology outside the classroom as part of a teacher’s preparation of lessons.
Table 8 - Classroom issues (Survey Item 15)

<table>
<thead>
<tr>
<th></th>
<th>I don’t see this as a need (1)</th>
<th>Not at all important for me (2)</th>
<th>Not very important for me (3)</th>
<th>An important need (4)</th>
<th>Extremely important need (5)</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing my own time</td>
<td>1.9%</td>
<td>0.0%</td>
<td>6.8%</td>
<td>49.5%</td>
<td>41.7%</td>
<td>4.29</td>
</tr>
<tr>
<td>Using technology in the classroom</td>
<td>1.0%</td>
<td>1.9%</td>
<td>21.4%</td>
<td>43.7%</td>
<td>32.0%</td>
<td>4.04</td>
</tr>
<tr>
<td>Classroom management issues</td>
<td>3.9%</td>
<td>0.0%</td>
<td>16.5%</td>
<td>53.4%</td>
<td>26.2%</td>
<td>3.98</td>
</tr>
<tr>
<td>Grading</td>
<td>3.9%</td>
<td>1.0%</td>
<td>19.4%</td>
<td>59.2%</td>
<td>16.5%</td>
<td>3.83</td>
</tr>
</tbody>
</table>

Finally, regarding student issues (Table 9), three issues that teachers identified as most important were being able to answer students’ questions about language, connecting the classroom to the student’s world outside the class, and providing feedback to student writing.

Table 9 - Student issues (Survey Item 16)

<table>
<thead>
<tr>
<th></th>
<th>I don’t see this as a need (1)</th>
<th>Not at all important for me (2)</th>
<th>Not very important for me (3)</th>
<th>An important need (4)</th>
<th>Extremely important need (5)</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being able to answer students' questions about language</td>
<td>1.0%</td>
<td>0.0%</td>
<td>1.9%</td>
<td>25.7%</td>
<td>71.4%</td>
<td>4.67</td>
</tr>
<tr>
<td>Connecting our classroom to the students’ real world</td>
<td>1.9%</td>
<td>0.0%</td>
<td>3.8%</td>
<td>22.9%</td>
<td>71.4%</td>
<td>4.62</td>
</tr>
<tr>
<td>Providing feedback to student writing</td>
<td>0.0%</td>
<td>1.9%</td>
<td>2.9%</td>
<td>34.3%</td>
<td>61.0%</td>
<td>4.54</td>
</tr>
<tr>
<td>Providing feedback to student speaking</td>
<td>1.9%</td>
<td>1.0%</td>
<td>10.5%</td>
<td>33.3%</td>
<td>53.3%</td>
<td>4.35</td>
</tr>
<tr>
<td>Assigning optimal homework assignments</td>
<td>0.0%</td>
<td>1.9%</td>
<td>10.5%</td>
<td>49.5%</td>
<td>38.1%</td>
<td>4.24</td>
</tr>
</tbody>
</table>
4.3.2 Teachers’ prioritized needs

Teachers were also asked to create a list of their own specific top three needs (Survey item 18). These prioritized needs could be selected from the possible needs provided or written in by respondents. While the resulting list can only be illustrative, it does allow for a preliminary development of a possible set of themes related to teacher needs. Several important themes emerged from this descriptive data provided by the teachers in the survey: student needs, classroom and administrative issues, the teachers’ own development of knowledge and skills, and language issues. The most frequent topics within each category are listed in Table 10.

Table 10 - Categories for respondents’ self-identified prioritized needs

<table>
<thead>
<tr>
<th>Student needs</th>
<th>Classroom and administrative issues</th>
<th>Teachers’ development of knowledge and skills</th>
<th>Language issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Real world connection</td>
<td>1.Feedback</td>
<td>1. Language knowledge</td>
<td>1. Writing</td>
</tr>
<tr>
<td>5.Student interaction</td>
<td>5.Lesson planning</td>
<td>5. Time management</td>
<td>5. Pronunciation</td>
</tr>
<tr>
<td>7.Student responsibility</td>
<td>7.Technology use Administration</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These needs are linked and often overlap; for example, a teacher’s self-identified need to provide students with meaningful classroom experiences may fall into several categories: it is affected by the teacher’s knowledge base and classroom management skills, while also including issues of student affect and interaction. The identification of these needs is valuable because they are the respondents’ perceived needs as teachers, without taking into account the role of corpus tools. Teachers do not base their needs on the tools available, but rather on the goals that they have based on their class learning outcomes, their unique groups of students, and their own
issues as professionals. In the following subsections (4.3.3 to 4.3.6), I describe categories of teacher needs which required more detailed explanations, leading to a fuller sense of these self-identified needs. The respondents’ experience with and views on corpus tools are then described in Section 4.4.

4.3.3 Student needs

The first category, student needs, can be divided into three key areas: student engagement in class and with the target language, affective issues, and building connections to the students’ world outside the classroom. As I reviewed the data, it seemed to me that one takeaway might be that teachers realize that student engagement is a critical component to a successful class.

4.3.3.1 Student engagement

Student engagement is the degree to which students interact with the teacher, other students, the materials, and the activities of a class. Respondents saw this issue in several ways: within the classroom, with other students, and outside the classroom. One teacher’s concern was to have a “small enough classroom to give generous one-on-one time with the student[s]” while other teachers valued “paying attention to every student” and “talking face to face.” Another issue was providing effective experiences in the classroom while also “promoting interaction between students in the classroom.” One teacher’s self-identified need was finding ways to “encourage students to use all their resources (library, writing center, dictionaries, Internet, other students, campus facilities, etc.)” and another’s was to “equip students with long-term meaningful learning strategies.” One respondent was concerned about “providing just enough challenge to keep students interested” and another saw the need for “preparing effective, stimulating lessons.” One possible way to do this might be by “selecting textbooks to raise
students’ interest, motivation, and engagement.” One teacher’s priority was to connect more with students’ needs and interests, and provide “practical and interesting topics for the students.”

4.3.3.2 Student affective issues

The issue of student engagement mentioned above may be driven in part by students’ affective issues, also seen as a pressing need by some respondents. One teacher saw a critical need in dealing with “having to teach English to a student who just does not enjoy learning it as he/she just takes the subject because it is given.” Teachers also expressed concern about creating a classroom that would be “a safe place for students to practice and learn” and having a “comfortable learning environment.” Concerns were raised about how students could “develop self-esteem in relation to performing in a foreign language” and “develop confidence and ownership of their foreign/second language.” Motivation is also a major concern for some teachers. One teacher wanted to identify ways to encourage the use of English outside of class, and others saw a need to develop better ways to motivate students to work hard and keep them interested in learning.

4.3.3.3 Connections to the real world

Respondents’ most frequent need related to their students was related to the real world. Many wanted to make relevant connections between classroom materials/activities and the students’ world outside the language classroom. One teacher explained that she wanted to help “students develop cognitive and meta-cognitive skills to adapt and thrive in future situations.” Another need was to find ways to “inspire learners to seek practice opportunities in the real world.” More specific needs were identified as well: “creating assignments that are useful in the real world,” “developing curriculum that gives students exposure to real college expectations,” and “connecting grammar topics to ‘real world’ situations based on students’ proficiency level.”
What many teachers identified as a pressing need was finding out and then teaching content that is useful for the students to be successful outside the classroom.

4.3.4 Classroom and administrative needs

A second major area of needs that teachers identified centers around administrative and classroom issues. This central aspect of a language teacher’s professional life includes a wide variety of themes, such as working with the institution’s administration, knowing how to create and use materials and assessment tools, dealing with lesson planning and curriculum issues, using technology, managing students in the classroom, and providing effective feedback.

4.3.4.1 Administration

Respondents identified several issues concerning administration. One respondent expressed a need to have effective channels of communication between administrators, teachers, and students about the program and the process of language learning. Another need was providing “strong administrative support for non-classroom needs.” In some cases, respondents’ needs were quite specific, as in one teacher’s need for a special classroom dedicated for English classes, and another teacher’s concerns about the limitations of being a part-time instructor. Several teachers saw smaller class size as a pressing need, in order to allow teachers to provide more individualized attention to students. One final concern in this area was the question of being able to maintain “common standards among colleagues.”

Another administrative issue raised was regarding technology, especially having access to technology in the classroom. Respondents did not identify training about technology as a need, but rather simply identified the need to have technology available for use during and outside of class.
4.3.4.2 Materials and assessment tools

Other classroom needs are connected to knowing how to create and use materials and assessment tools. This is an area of major concern for many of the teachers who responded to the survey, with many respondents identifying the design and implementation of materials and assessment tools as a major need. In addition to the many teachers who listed the creation of materials and activities as a need, some teachers provided more specific concerns. One teacher wanted to create materials that “raise students’ awareness of disciplinary discourses,” another was concerned about being able to provide “student-centered lessons and materials,” and a third saw a need to be able to create effective vocabulary tasks. Assessment and grading are also important needs for the teachers who responded to the survey. Teacher needs included ways to become clearer and more efficient in grading, creating authentic ‘real world’ assessment tools, and creating assessment tools that encourage as well as measure learning.

4.3.4.3 Lesson planning and curriculum issues

Respondents described the need to be able to create lesson plans that would be relevant, effective, stimulating, clear, interactive, and practical. One teacher emphasized needing more strategies to get students from a wide range of levels to work together in class. Prioritizing learning points and creating activities that addressed them were also seen as needs. As one teacher stated, she felt she needed to “make every lesson count.” Addressing curriculum development, some teachers identified as needs the ability to design curriculum that effectively addresses student needs and that could be modified if necessary.

4.3.4.4 Effective feedback

A number of teachers identified providing feedback to student writing as a primary need, while others saw providing feedback to student speaking as critical. Another group of teachers
was concerned about how to give individualized feedback, and for one teacher, the concern was “giving just the right feedback.” Several teachers were concerned about how to manage time when dealing with student feedback. As one teacher noted, his goal was to work on his “personal time management to improve timely feedback.”

4.3.5 Teachers’ development of knowledge and skills

The main areas teachers identified related to the development of their own knowledge and skills were opportunities for professional development, setting priorities, dealing with issues of time, and building their pedagogical and content (language) knowledge base. Each one of these areas is addressed in turn below.

4.3.5.1 Professional development

Teachers identified concerns regarding professional development in both language-as-content and teaching techniques. Some saw a need for ongoing training focused on students’ language awareness and teachers’ continual improvement, including learning about best practices, in using and teaching the target language. One teacher wanted more assessment and feedback of her teaching, while another felt that learning about how to become a ‘more dynamic teacher’ was a priority.

4.3.5.2 Setting priorities

Some teachers also saw being able to better set priorities as important. A number of teachers wanted to be able to identify and prioritize the most important learning points to focus on in class. One teacher saw “prioritiz[ing] instruction in high frequency university language” as important, while another identified “prioritizing aspects of the curriculum to best suit students’ needs.” Another need for some respondents was developing reflective teaching habits. One
teacher wanted to “harmonize course objectives & content with ESL students’ expectations & abilities” while others put it more simply— they need time to think, study, and reflect.

4.3.5.3 Time

The issue of time was a recurring theme for many teachers. One time-related issue was, as one teacher states “managing time inside and outside the classroom.” Not surprisingly, however, many teachers simply felt that there just was not enough of it. Teachers mentioned needing more time to “keep up with the assignments,” “provide a lot of time [for students] to just practice, as opposed to focusing on me,” “meet learner objectives,” “provide timely feedback to students,” “find and prepare materials,” and finally, “enjoy the language with the students.”

4.3.5.4 Knowledge base

Some teachers also included issues related to increasing their own knowledge base. One aspect raised by a number of teachers was, as mentioned earlier, learning more about best practices in language teaching, including building knowledge in “teaching/learning practices” and what one teacher identifies as the “language learning process.” Another teacher emphasized the importance of “sound decision-making in materials design for specific language teaching issues.” Finally, teachers wanted to build their knowledge about various areas of the target language. One teacher wanted a “better understanding of discipline-specific discourses (genres, vocabulary, etc.)” while another teacher hoped to be “able to answer students’ questions about language.”
4.3.6 Language issues

Surprisingly perhaps, language is the area that had the fewest identified priority needs for these teachers. The most frequently identified needs were related to writing. Topics included the use of grammar in writing, grading student writing, teaching students how to write summaries, and teaching students how to write short stories. The writing issue that came up most often was providing feedback on student writing. Less frequently, teachers saw vocabulary as a top need, with some teachers concerned about how to choose vocabulary items to focus on. Several wanted to develop better understanding of academic and genre-specific vocabulary. One teacher saw teaching how to explain word choice as important. Grammar needs identified by individual teachers were best practices in teaching grammar, L1 grammar issues, connecting grammar topics to communicating in the real world, and connecting grammar to the skill areas of writing and speaking. In all, however, when teachers were asked to identify their top three needs, very few focused on language issues; most were concerned more about student issues, administrative issues, classroom management, and their own development as professionals.

As previously mentioned, the purpose of gathering this information from teachers and then identifying themes was to gain a broader perspective of teacher needs prior to working with Cecilia, Simone, and Lorraine as they went through the process of reflecting on their own needs for a specific group of students in a specific class and then trying out a corpus tool as a way to enhance their class. Relying solely on survey data has limitations when examining teacher cognition, but, as discussed in Borg (2006), when taken as part of a broader investigation, it can provide additional valuable information on teacher perceptions of their work.
4.4 Survey respondents’ past experience with corpus linguistics

Following up on Tribble’s (2008) broadly-based survey of teacher knowledge of corpus topics, another part of the survey examined teachers’ experience and knowledge of corpus tools. In examining the survey respondents’ past experience with corpus linguistics, just over half of the teachers had taken a course, participated in professional development or had some other exposure to corpus linguistics (52%, 55/106). Out of this group of teachers, 34% (19/56) had taken a course in corpus linguistics, with nine teachers having taken the course within the past three years. Twelve teachers had taken only one corpus linguistics course, and the other seven had taken multiple courses. While some teachers could not recall the names of the courses they took, five identified the course as simply Corpus Linguistics with other courses including Development Professional [sic], General Linguistics, Discourse and Grammar, and Technology, Techniques, and Differentiated Instruction.

About 20% of the teachers reported having taken some kind of professional development training programs in corpus linguistics, with only nine having taken more than one. For some teachers, this training occurred in the form of sessions focused specifically on corpus use. For some teachers, this training was part of a program with a broader focus, while for others it was part of a targeted session on a specific issue. The topics of the training sessions for each category are listed in Table 11.
### Table 11 - Topics of professional development training programs (Survey item 26)

<table>
<thead>
<tr>
<th>Corpus use</th>
<th>Broader focus</th>
<th>Targeted sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corpus linguistics and the EFL classroom</td>
<td>Effective business communication in ESL</td>
<td>Achieving objectives during professional activities</td>
</tr>
<tr>
<td>Corpus linguistics and technology applied to ESL/EFL</td>
<td>Second language acquisition</td>
<td>Collocational awareness in writing</td>
</tr>
<tr>
<td>Corpus linguistics in grammar</td>
<td>Technology and differentiated instruction</td>
<td>Using conditional clauses <em>(if clauses)</em> for describing problems</td>
</tr>
<tr>
<td>Using a corpus to aid student writing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using a corpus to develop vocabulary (collocations)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using corpora in the language learning classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using/implementing corpus resources in the classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using MICASE in the language classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using corpus in classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web tools for corpus research</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What is perhaps most striking about these responses about training related to language corpora is what is not there: almost half the teachers in the survey have had no exposure to corpus linguistics, and of the teachers who have had some exposure, most have only had professional development sessions rather than coursework. This may be explained in part by the high number of older teachers who did their coursework before corpus linguistics was even being offered as content in the curriculum. However, even considering this factor, it is clear that most teachers have only a peripheral relationship, if any, with training in corpus linguistics.
Forty-one percent (43/105) of the teachers reported that they had used corpus linguistics tools or methods in their classes. The most common corpus “topics or tools” mentioned were the Corpus of Contemporary American English (COCA) (10), the Compleat Lexical Tutor (also called Lextutor) (6), the Academic Word List (5), MICASE (4), Google (4), MICUSP (2), and the *Real Grammar* textbook (2). Other tools mentioned were AntConc, the British National Corpus (BNC), Collins Cobuild, ForBetterEnglish, the Longman Grammar, MonoConc, Ngram, *Real Reading* textbooks, Stringnet, Webcorp, and WordCount (for detailed information about these and similar tools, see Bennett, 2010; O'Keefe et al., 2007; Tribble, 2008).

In addition to the specific tools, teachers identified several strategies that they used which they felt had a corpus component. Some teachers had students work directly with a concordancer to “see words in a corpus in context (collocations)” or “to make students aware of collocations, so as to improve the lexical cohesion of their written texts.” Another teacher used COCA “mostly as a demonstration tool. I show my high-level writing students how they can use it to look up words to find collocations/grammar patterns. I give them exercises to use the tools and encourage them to use it on their own.” Another way in which one teacher used corpus tools in her class was with “BNC teacher-modified output in the form of handouts,” a process that allows students to use corpus tools while eliminating the need for computers in the classroom. Some teachers also identified the kinds of texts that they focused on during corpus analysis for their classes. One teacher stated that she used corpus tools with “newspaper articles describing the cultural & economic condition of Bangladesh,” while other teachers focused on such areas as the language of negotiation, the language used in the US Court System, or academic texts related to music, engineering, and medicine. While difficult to analyze the scope or success of these uses,
their use suggests that some teachers are moving forward with corpus tools despite limited training opportunities.

Only three teachers identified using corpus tools for material and curriculum development. One teacher used corpus tools to analyze language by using “Compleat Lexical Tutor to download texts and check word frequencies, lexical bundles, etc.” A second teacher explained that “I primarily use corpora to inform my development of curricula and classroom material. For example, I focus my time on teaching those grammatical structures most common to academic writing--a result of my own research of academic writing corpora.” A third teacher used corpus-based research to build her own language knowledge to inform her interaction with students, through a process in which she uses “studies that analyzed and summarized corpus studies when telling students what is most common for a given grammatical situation or vocabulary situation.”

When asked to assess their own knowledge of specific tasks associated with corpus linguistics in language teaching (Table 12), most teachers stated that they had little or no knowledge of these topics: using corpus tools directly with students (69%), analysis of corpora (69%), creating a corpus (76%), evaluating corpus-based or corpus-informed textbooks and other materials (73%), and the use of corpus tools to develop their own language knowledge (67%). From that starting point, however, the two areas in which teachers claim to have more knowledge are in the analysis of corpora (11% claim extensive or expert knowledge) and the use of corpus tools to build their own language knowledge (14% claim extensive or expert knowledge). Interestingly, these two areas, while essential in understanding corpora, do not have the same direct link to the classroom that the other categories do.
Table 12 - Teacher knowledge: self-identified knowledge of corpus topics (Survey item 29)

<table>
<thead>
<tr>
<th>No knowledge (1)</th>
<th>A little knowledge (2)</th>
<th>Some knowledge (3)</th>
<th>Extensive knowledge (4)</th>
<th>Expert knowledge (5)</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Using corpus tools to build my own language knowledge (n=100)</strong></td>
<td>37.0%</td>
<td>30.0%</td>
<td>19.0%</td>
<td>10.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td><strong>Analyzing corpora (n=100)</strong></td>
<td>38.0%</td>
<td>31.0%</td>
<td>20.0%</td>
<td>8.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td><strong>Using corpus tools directly with students (n=100)</strong></td>
<td>42.0%</td>
<td>27.0%</td>
<td>27.0%</td>
<td>4.0%</td>
<td>7.0%</td>
</tr>
<tr>
<td><strong>Evaluating corpus-based or corpus-informed textbooks and other materials (n=100)</strong></td>
<td>51.0%</td>
<td>22.0%</td>
<td>19.0%</td>
<td>6.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td><strong>Creating corpora (n=99)</strong></td>
<td>52.5%</td>
<td>24.2%</td>
<td>15.2%</td>
<td>5.1%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

When asked about their knowledge about analyzing and using concordance lines (Table 13), few teachers felt that they had much knowledge in learning about language, with 67% of the teachers claiming either little or no knowledge, creating classroom materials (70%), or using concordance lines directly with their students (73%). Again, the response was slightly higher for the more general topic of learning about language, with 17% of the teachers claiming either extensive or expert knowledge in that area, compared with 11% and 12% in the creation of classroom materials and working directly with students, respectively. Learning about language is, as in the discussion above about general corpus information, less directly tied to pedagogy and more to broader language knowledge.
Teachers’ self-identified knowledge about specific corpus tools (Table 14), whether
corpus analysis software or online corpus analysis tools, was even bleaker, with 85% of teachers
claiming little or no knowledge of corpus analysis programs such as AntConc and Wordsmith
Tools, and 71% claiming little or no knowledge of online corpus analysis tools such as COCA
and Compleat Lexical Tutor. There were slightly more teachers claiming extensive or expert
knowledge of the online tools, perhaps in part due to societal shifts towards online cloud-based
technology use and away from more traditional stand-alone programs.

| Table 13 - Teacher knowledge: analyzing and using concordance lines (Survey item 30) |
|-----------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                                | No knowledge  (1) | A little knowledge  (2) | Some knowledge  (3) | Extensive knowledge  (4) | Expert knowledge  (5) | Average rating |
| To learn about language                        | 47.5% | 19.2% | 16.2% | 12.1% | 5.1% | 2.08 |
| To create classroom material                   | 49.5% | 20.2% | 19.2% | 8.1% | 3.0% | 1.95 |
| Directly with my students                      | 57.6% | 15.2% | 15.2% | 10.1% | 2.0% | 1.84 |

| Table 14 - Teacher knowledge: learning about and using corpus tools (Survey item 31) |
|-----------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                                | No knowledge  (1) | A little knowledge  (2) | Some knowledge  (3) | Extensive knowledge  (4) | Expert knowledge  (5) | Average rating |
| Online corpus tools (e.g., COCA, lexical tutor) (n=100) | 54.0% | 17.0% | 15.0% | 11.0% | 3.0% | 1.92 |
| Corpus software programs (e.g., AntConc, Wordsmith Tools) (n=99) | 74.7% | 10.1% | 8.1% | 4.0% | 3.0% | 1.51 |
Self-identified knowledge of ways to use corpus-based teaching methodologies to help students improve was slightly greater in the areas of vocabulary and grammar than in other areas of language (Table 15). Only 36% of teachers claimed no knowledge whatsoever, compared with much higher rates for reading, writing, listening, speaking, and genre awareness.

Table 15 - Teacher knowledge: using corpus-based methodologies to improve your students' learning of... (Survey item 32)

<table>
<thead>
<tr>
<th>Topic</th>
<th>No knowledge (1)</th>
<th>A little knowledge (2)</th>
<th>Some knowledge (3)</th>
<th>Extensive knowledge (4)</th>
<th>Expert knowledge (5)</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary (n=98)</td>
<td>35.7%</td>
<td>22.4%</td>
<td>31.6%</td>
<td>9.2%</td>
<td>1.0%</td>
<td>2.17</td>
</tr>
<tr>
<td>Grammar (n=99)</td>
<td>41.4%</td>
<td>21.2%</td>
<td>29.3%</td>
<td>8.1%</td>
<td>0.0%</td>
<td>2.04</td>
</tr>
<tr>
<td>Writing (n=99)</td>
<td>48.5%</td>
<td>18.2%</td>
<td>22.2%</td>
<td>9.1%</td>
<td>2.0%</td>
<td>1.98</td>
</tr>
<tr>
<td>Genre awareness (n=98)</td>
<td>55.1%</td>
<td>18.4%</td>
<td>15.3%</td>
<td>8.2%</td>
<td>3.1%</td>
<td>1.86</td>
</tr>
<tr>
<td>Reading (n=99)</td>
<td>48.5%</td>
<td>25.3%</td>
<td>19.2%</td>
<td>7.1%</td>
<td>0.0%</td>
<td>1.85</td>
</tr>
<tr>
<td>Speaking (n=99)</td>
<td>58.6%</td>
<td>22.2%</td>
<td>13.1%</td>
<td>6.1%</td>
<td>0.0%</td>
<td>1.67</td>
</tr>
<tr>
<td>Listening (n=98)</td>
<td>59.2%</td>
<td>24.5%</td>
<td>12.2%</td>
<td>4.1%</td>
<td>0.0%</td>
<td>1.61</td>
</tr>
</tbody>
</table>

In addition to responding about their knowledge of corpus-related topics, teachers were also asked for their opinion of the value of these items (Table 16). For topics related to their roles as classroom teachers, those respondents who had at least some knowledge of the topics were least enthusiastic about the importance of creating a corpus. Over half of the fifty-one teachers with knowledge of the topic stated that it had no importance at all, a number more than double the responses for all other topics. The topic using corpus tools to build my own language knowledge had more teachers (30% of all teachers) identifying it as important or very important.
Table 16 - Importance of corpus-related topics (Survey item 33)\(^4\)

<table>
<thead>
<tr>
<th>(n=93)</th>
<th>Don’t know the topic</th>
<th>Not at all important (1)</th>
<th>Somewhat important (2)</th>
<th>Important (3)</th>
<th>Very important (4)</th>
<th>Average rating (for those with knowledge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using corpus tools to build my own language knowledge</td>
<td>38.7% 8.6% 22.6% 21.5% 8.6%</td>
<td>2.49 (n=57)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluating corpus-based or corpus-informed textbooks and other materials</td>
<td>39.8% 9.7% 28.0% 12.9% 9.7%</td>
<td>2.38 (n=56)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyzing corpora</td>
<td>45.2% 11.8% 22.6% 10.8% 9.7%</td>
<td>2.33 (n=51)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using corpus tools directly with students (also called data-driven learning, or DDL)</td>
<td>43.0% 14.0% 23.7% 14.0% 5.4%</td>
<td>2.19 (n=53)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creating a corpus</td>
<td>45.2% 29.0% 11.8% 8.6% 5.4%</td>
<td>1.82 (n=51)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With regard to using concordance lines, among the teachers with knowledge of the topics learning about language (teachers with knowledge n=51) and to create classroom materials (teachers with knowledge n=49), 53% identified both topics as important or very important. Only

\(^4\) Survey items with a ‘don’t know’ option have that option excluded from the average score because it does not measure degree of importance (Patten, 2001). The number of respondents who expressed an opinion is listed below the average rating score for each item in the final column. For example, in the first item in this table, there were 93 total respondents, but 36 did not know the topic, so the final number for the average rating is n=57.
45% of teachers with knowledge (n=47) identified *using concordance lines directly with students* as important or very important (Table 17).

**Table 17 - Importance of concordancing topics (Survey item 34)**

<table>
<thead>
<tr>
<th>(n=92)</th>
<th>Don’t know the topic</th>
<th>Not at all important (1)</th>
<th>Somewhat important (2)</th>
<th>Important (3)</th>
<th>Very important (4)</th>
<th>Average rating (for those with knowledge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To create classroom material</td>
<td>46.7%</td>
<td>4.3%</td>
<td>20.7%</td>
<td>14.1%</td>
<td>14.1%</td>
<td>2.71 (n=49)</td>
</tr>
<tr>
<td>To learn about language</td>
<td>44.6%</td>
<td>4.3%</td>
<td>21.7%</td>
<td>16.3%</td>
<td>13.0%</td>
<td>2.69 (n=51)</td>
</tr>
<tr>
<td>To work directly with my students</td>
<td>48.9%</td>
<td>10.9%</td>
<td>17.4%</td>
<td>13.0%</td>
<td>9.8%</td>
<td>2.43 (n=47)</td>
</tr>
</tbody>
</table>

In considering the role of *corpus software* and *online corpus tools*, for those teachers with knowledge of the topics (n=44 and n=51 respectively), 45% felt that the online tools were important or very important, but only 36% felt similarly about the non-Internet-based software programs (Table 18).

**Table 18 - Importance of corpus software and online corpus tools (Survey item 35)**

<table>
<thead>
<tr>
<th>(n=91)</th>
<th>Don’t know the topic</th>
<th>Not at all important (1)</th>
<th>Somewhat important (2)</th>
<th>Important (3)</th>
<th>Very important (4)</th>
<th>Average rating (for those with knowledge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning about and using online corpus tools (e.g., COCA) (n=91)</td>
<td>44.0%</td>
<td>5.5%</td>
<td>25.3%</td>
<td>14.3%</td>
<td>11.0%</td>
<td>2.55 (n=51)</td>
</tr>
<tr>
<td>Corpus software programs (e.g., AntConc) (n=93)</td>
<td>52.7%</td>
<td>6.5%</td>
<td>23.7%</td>
<td>8.6%</td>
<td>8.6%</td>
<td>2.41 (n=44)</td>
</tr>
</tbody>
</table>
When teachers considered corpus-based teaching methodologies as a way to improve student skill areas, more teachers believed that these methodologies could play a role in improving students’ vocabulary and grammar skills, followed by writing, reading, and genre awareness (Table 19). The areas in which teachers felt less convinced of the benefit of using corpus-based teaching methodologies were listening and speaking. These results make sense, considering that the teachers’ self-identified knowledge of corpus tools was greater in vocabulary and grammar.

**Table 19 - Importance of using corpus-based teaching methodologies to improve your students' learning of... (Survey item 36)**

<table>
<thead>
<tr>
<th></th>
<th>Don’t know the topic</th>
<th>Not at all important (1)</th>
<th>Somewhat important (2)</th>
<th>Important (3)</th>
<th>Very important (4)</th>
<th>Average rating (for those with knowledge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary (n=91)</td>
<td>27.5%</td>
<td>1.1%</td>
<td>26.4%</td>
<td>25.3%</td>
<td>19.8%</td>
<td>2.88 (n=66)</td>
</tr>
<tr>
<td>Grammar (n=91)</td>
<td>28.6%</td>
<td>4.4%</td>
<td>25.3%</td>
<td>25.3%</td>
<td>16.5%</td>
<td>2.75 (n=65)</td>
</tr>
<tr>
<td>Genre awareness (n=90)</td>
<td>37.8%</td>
<td>8.9%</td>
<td>17.8%</td>
<td>18.9%</td>
<td>16.7%</td>
<td>2.70 (n=56)</td>
</tr>
<tr>
<td>Writing (n=91)</td>
<td>31.9%</td>
<td>5.5%</td>
<td>25.3%</td>
<td>22.0%</td>
<td>15.4%</td>
<td>2.69 (n=62)</td>
</tr>
<tr>
<td>Reading (n=91)</td>
<td>30.8%</td>
<td>4.4%</td>
<td>31.9%</td>
<td>18.7%</td>
<td>14.3%</td>
<td>2.62 (n=63)</td>
</tr>
<tr>
<td>Speaking (n=91)</td>
<td>36.3%</td>
<td>7.7%</td>
<td>28.6%</td>
<td>16.5%</td>
<td>11.0%</td>
<td>2.48 (n=58)</td>
</tr>
<tr>
<td>Listening (n=90)</td>
<td>36.7%</td>
<td>7.8%</td>
<td>28.9%</td>
<td>15.6%</td>
<td>11.1%</td>
<td>2.47 (n=57)</td>
</tr>
</tbody>
</table>

Finally, for those teachers who had experience with corpus tools (n=54, Survey item 37), the following are their most useful corpus-related topics. The highest ranked topic was *using corpus-based teaching methodologies to improve vocabulary* (13%), followed by *analyzing corpora* (11%), *using corpus tool to build their own knowledge* (11%); *learning about and using*
online corpus tools (9%), using corpus-based teaching methodologies to improve grammar (9%), and using corpus-based teaching methodologies to improve writing (9%).

The most frequent reasons teachers gave for using corpus tools (Survey item 38) were the tools could be applied directly to classroom teaching (71% of respondents), and the tools helped developing classroom materials (52% of respondents). The least frequently cited reasons were concepts were easy to understand and energized students, at 23% and 25%, respectively. These last two items suggest that a perceived negative impact of corpus tools on students might play a role in teacher decision-making. However, when asked about topics that they would like to learn more about (Survey item 39), the highest number of teachers (39%) wanted to learn how to use corpus tools directly with students, followed by 25% of teachers, who wanted to learn to analyze and use concordance lines to create classroom materials, and 22%, who wanted to learn how to use corpus-based teaching methodologies to improve student writing.

Teachers appear to relate more positively to possible professional development topics that address needs directly and specifically. Topics that did not include any mention of corpus tools, regardless of whether they focused on language development (learning about language in use, finding patterns in language) or pedagogy (creating better materials for students), all scored much higher with teachers (see Table 20). Once the topics included direct reference to corpus tools (learning how to create a corpus, learning to work with a corpus, analyzing concordance lines, learning to teach using corpus tools directly with students, and understanding data-driven learning), teachers seemed much more ambivalent about their value.
Table 20 - Views on the benefits for practicing teachers (Survey item 40)

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree (1)</th>
<th>Disagree (2)</th>
<th>Not sure (3)</th>
<th>Agree (4)</th>
<th>Strongly agree (5)</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning about language in use (n=88)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>4.5%</td>
<td>30.7%</td>
<td>64.8%</td>
<td>4.60</td>
</tr>
<tr>
<td>Creating better materials for students (n=87)</td>
<td>0.0%</td>
<td>1.1%</td>
<td>6.9%</td>
<td>29.9%</td>
<td>62.1%</td>
<td>4.53</td>
</tr>
<tr>
<td>Finding patterns of language (n=86)</td>
<td>0.0%</td>
<td>2.3%</td>
<td>9.3%</td>
<td>46.5%</td>
<td>41.9%</td>
<td>4.28</td>
</tr>
<tr>
<td>Learning how to work with a corpus (n=86)</td>
<td>0.0%</td>
<td>2.3%</td>
<td>34.9%</td>
<td>43.0%</td>
<td>19.8%</td>
<td>3.80</td>
</tr>
<tr>
<td>Understanding data-driven learning (n=85)</td>
<td>1.2%</td>
<td>4.7%</td>
<td>38.8%</td>
<td>34.1%</td>
<td>21.2%</td>
<td>3.69</td>
</tr>
<tr>
<td>Learning how to teach using corpus tools directly with students (n=86)</td>
<td>0.0%</td>
<td>9.3%</td>
<td>43.0%</td>
<td>26.7%</td>
<td>20.9%</td>
<td>3.59</td>
</tr>
<tr>
<td>Analyzing concordance lines (n=88)</td>
<td>0.0%</td>
<td>4.5%</td>
<td>51.1%</td>
<td>28.4%</td>
<td>15.9%</td>
<td>3.56</td>
</tr>
<tr>
<td>Learning how to create a corpus (n=85)</td>
<td>0.0%</td>
<td>8.2%</td>
<td>57.6%</td>
<td>23.5%</td>
<td>10.6%</td>
<td>3.36</td>
</tr>
</tbody>
</table>

Teachers in the survey also stated that corpus linguistics training had thus far had little impact on their own development and on the development of teachers in general (Survey item 41). For their own situations, only 26% felt that corpus training had helped them meet their needs as classroom teachers, though 59% believed future corpus training would do so. In a more general view, 20% felt such training had been useful for most classroom teachers, but 58% felt that future training would benefit teachers. An overwhelming majority of teachers felt that corpus linguistics professional development training should be practical or at least balance theory
and practice, with only three teachers interested in a stronger emphasis on theoretical knowledge (Survey item 42).

When asked for further thoughts on corpus tools, many teachers were eager to provide their perspectives. Some were enthusiastic. “I am very interested in learning more about how to apply corpus linguistics in language teaching, especially with getting the students to use it to improve their skills (especially in writing).” Others noted that even though they might not be versed in the terminology, they felt they were already using corpus-based teaching methodologies, as shown in these responses.

I may have used corpus linguistics and concordance lines but may not have called it by those names. I haven't had any formal training or taken any classes that focused on those terms.

I really don't know anything about corpus linguistics. 10 years ago when I was in school, we were not using this term. However, I have seen a little bit what this is talking about, and I notice that my own approach has much in common with what I understand corpus linguistics to be about. Eager to know more… I am a teacher trainer, too, so I am training people with these practical methods.

Some teachers reflected on the role that pre-service education should play in this area: “I wish that at least one course in Corpus Linguistics was included in standard MA TESOL curricula. The courses are available in my university but they are not required for teachers - considered more a research specialty in SLA.” Because corpus linguistics may be perceived either rightly or wrongly as strictly research-oriented methodology, not all pre-service teacher training programs offer courses in corpus linguistics.

One respondent expressed what may be a common sentiment for many teachers. “I am neither eager to use new technology, nor resistant. I see the benefits, but technology is not readily available in my program, and I don't seek it out.” In other words, it might require a significant and perhaps unreasonable amount of effort for a teacher to single-handedly integrate corpus knowledge and tools into his/her working life. That concern may be compounded by
administrative uncertainty in some cases. Another teacher pointed out that “my institution has never showed any interest in providing training in corpus linguistics [but] I would be very much interested in participating in one.”

Another teacher identified a frustration that others may share when working with corpus tools. Despite being “…interested in using corpus linguistics to teach my students… I really don't know how. I've tried going to various corpi (?) [sic], but I don't understand how to get the info and/or it's too complicated and time-consuming. I think I'd prefer textbooks based on corpus research.” Here a teacher has made the effort to research the topic and try out the tools, but was daunted by the complexity of what was available. This teacher chose the strategy of using textbooks, rather than working directly with the data, as a work-around solution.

One teacher clearly had reservations about the use of corpus linguistics in language teaching and learning.

While I've seen a groundswell in this direction, I fear that sometimes it goes too far, as in a new Grammar textbook series. If all materials are based on a corpus, it becomes so prescriptive that the language may lose some of its richness. The lesser used language may not be less important…..just more appropriate in fewer circumstances. I prefer not to allow a data-driven approach to take over some of my instincts. Language doesn't have to be all in %.

This teacher articulated a concern over a perceived loss of creativity or instinct following a potential shift to a ‘data-driven approach,’ however that may be defined. This teacher also raised a paradoxical issue that the oft-criticized prescriptiveness of traditional approaches to language might be re-emerging in a different form through the use of frequency-based corpus data to determine language ‘correctness.’

In summary, the survey data have provided useful information about how teachers from many different programs perceive their most pressing needs and the possible role of corpus tools in their professional lives. Teachers approach both issues from a range of perspectives, and these
data indicate that teachers are interested in corpus tools provided they address real needs in their classes.

Teacher needs are complex, evolving, and locally situated (Childs, 2011). As such, making sweeping claims about specific needs is problematic. However, having this current survey data on teachers’ self-identified needs as well as their views and experience with corpus tools has allowed me to approach the main component of the study with a broader perspective. In the group surveyed, the teachers identified critical needs related to their students, administrative issues, their classrooms, and their own development as professionals. Issues of language are not strongly identified as top needs. While this identification of current teacher needs comprises one starting point for discussion with the three participants in the study, it is not an a priori limiting factor. As we shall see in Chapters 5, 6, and 7, each teacher presents an overlapping yet unique set of factors and needs.

Teachers respond to new tools that they perceive to have value for their classrooms. This is highlighted by the teachers’ responses to possible topics that relate directly to corpus tools. Teachers overwhelmingly favored those topics that appear to directly focus on their needs rather than the development of corpus linguistics expertise.

The data also suggest that many teachers have little or no knowledge of corpus tools, with from 27% to 75% of teachers having no knowledge of the topics raised (Survey items 29-39). This highlights the gap between the potential role of corpus tools claimed by researchers and the actual number of teachers who use them. A lack of knowledge of corpus tools would necessarily limit teachers from being able to use them or integrate them into their teaching practices.
5 RESULTS: CECILIA

Cecilia, Lorraine, and Simone, the three teachers who participated in the study, agreed to explore the possibility of using corpus tools either with their students or in some other aspect of their lesson-planning, such as material selection or creation. Their experiences are shared in the next three chapters. As they describe what they went through, their ideas are expressed as much as possible in their own voices, as a way to examine their cognitive processes, including belief systems, knowledge base, and affective issues (see Section 2.2.1 in Chapter 2 for a discussion of teacher cognition). Each chapter attempts to capture the narrative of each teacher, acknowledging that ‘story’ plays an important role in examining teacher cognition, and that “narratives connect phenomena, infuse them with interpretation, and thus uncover teachers’ interpretations of the activities they engage in” (K. Johnson, 2006, p. 242). This chapter presents Cecilia’s story.

As mentioned in Chapter 3, Cecilia taught an intermediate structure and composition class during the period while she considered, developed, used, and reflected on corpus tools for the study. In Section 5.1, Cecilia’s background is discussed, touching upon her entry into teaching, her self-identified strengths and weaknesses, her teaching beliefs, and her view of her knowledge base. Section 5.2 describes Cecilia’s intermediate structure and composition course in greater detail, its stated learning outcomes, and this semester’s specific group of students. In Section 5.3, Cecilia’s decision-making process is examined as she considered possible corpus tools that might be useful to address her needs for this specific group of students in this specific class. This section also includes a description of the corpus tool that Cecilia used. A summary of the class session in which the corpus tool was used is laid out and discussed in Section 5.4. The final section of the chapter, Section 5.5, addresses Cecilia’s views, both immediately and after a
period of reflection, about the selected corpus tool and the use of corpus tools in general in her teaching.

Direct quotes from Cecilia are identified by her initial and the interview number (C1, C2, C3, C4) or corpus working session (CWS) followed by the interview exchange number (i.e., exchanges extracted from the transcribed interviews), so C1-38 refers to the 38th exchange in Cecilia’s first interview.

5.1 Cecilia’s background

Cecilia had already received her MBA and had been working in business when she began teaching over twenty years ago. She had traveled abroad and circumstances led her to teach a class to migrants in Australia. She described the initial decision to start teaching as a series of serendipitous events.

It was entirely by accident that I became an ESL teacher. Prior to teaching ESL I worked as an executive in an advertising agency and when my husband was invited to be a visiting professor overseas, I thought that would be a good opportunity to travel to that country and work in advertising and marketing…because it was the country around which my previous graduate work revolved. However, when we got [there] the country was experiencing a recession and the promised opportunity to work in my company there did not materialize. Several people there suggested that I tutor students in English, apparently because there were lots of international students there. (C1-03)

However, as Cecilia began to prepare to start tutoring in that new environment, several teachers left the program, and the administrators turned to Cecilia.

Because I was sort of game for anything at the time and I had nothing better to do, I decided I had nothing to lose by doing this and I entered the classroom not even knowing which side of the teacher’s book to look at. But I had such an enjoyable and engaging hour or two- whatever it was- with the students in the class that I decided to go back for more, and that’s the way it all began about twenty something years ago. Twenty two years ago. (C1-05)

That first encounter seemed to set the tone for Cecilia’s warm, caring approach to teaching and interacting with students. She returned to the US and realized that she was
interested in continuing in language teaching. Cecilia had doubts about being in the classroom, feeling a sense of ‘imposterism’ (C1-11) due to her lack of formal training, so she took classes in linguistics and started to learn about language teaching methodology. Perhaps because she had a strong business background, however, when she started to work in a non-academic IEP in the US, Cecilia “basically imposed a marketing model on [her] teaching” (C1-10) and “approached the classroom as though [she] were the product manager and the product was that these people had to improve their language- their English language proficiency- for some reason or other” (C1-11). After several years of teaching, Cecilia earned another master’s degree, this time in Applied Linguistics. She has been working in her current position in an academically-focused IEP for eight years.

5.1.1 Cecilia’s preferences and strengths

Cecilia enjoys teaching all levels except true beginners and, due to her many years in a program that taught integrated skills, she still feels more comfortable with an integrated-skills approach rather than having classes that focus only on individual skill areas. She has realized that one element of teaching that most energizes her is the cross-cultural aspect of her language classes. She also likes being able to provide students with what she describes as “transformational” learning experiences.

[I love] how one person who may know one thing can lead another person who doesn't know that thing to something that makes them happy, fulfilled or that moves them toward their goal, and I love the fact that a whole bunch of people from different cultures can magically experience that together, without necessarily having thought about that part of the experience when they signed up for it. (C1-26)

Cecilia finds the record-keeping component of teaching (e.g., tracking attendance, marking homework as on time or late) less appealing, or as she bluntly puts it “I don’t like rules” (C1-28), particularly when she sees them as making teachers’ lives easier at a cost of students
missing out on one-on-one experiences. “I seem unable to break out of that mode of operation that [each student’s] experience… is unique from this other student’s experience and I should accommodate yours this way and theirs that way” (C1-28). Cecilia values building rapport with students and encouraging student engagement in her classes.

Cecilia’s self-identified strengths as a teacher include being approachable for students, analyzing why students might not understand certain language points, understanding and explaining language, and “making a group of people work together nicely,” which is perhaps more important than often considered; “maybe we don’t talk about it that much, but it’s a requirement in our job that we can make that happen” (C1-30). This last strength plays an important role in how Cecilia considers the integration of new practices with her students. Her self-perceived weaknesses, however, are dealing with a mixed-proficiency group of students, and being easily distracted from other students when focusing on one student or group of students.

5.1.2 Cecilia’s beliefs as a teacher

Borg (2011) stated that teachers should examine their own belief systems and should also be encouraged to challenge those beliefs as well. When talking about her beliefs, Cecilia described the process that she has gone through and continues to go through. After finishing her Applied Linguistics master’s degree, she held to a belief that there was “some universal best practice in language instruction” that included “learner-centered notions and communicative methodology notions, maybe collaborative learning notions…somehow all bundled up together in opposition to older or more traditional methods of grammar translation or audio-lingual methodology and any of the others’”(C1-38). This view was shaken as she saw different ways that seemed to produce results, though not through methods she would endorse.
In her own classroom, Cecilia believes in making learning fun, as a way to engage students, and creating a show of sorts “I think of it as putting on a show, to some degree, and it has a beginning, a middle and an end…and I have to hook the group in as best I can at the beginning and make everybody feel comfortable as much as I can” (C1-38). She also believes in providing explanations to students about the tasks she asks them to do. She wants to provide explanations for several reasons.

I guess it’s to develop buy-in from them on whatever we are doing, and also to sort of subtly challenge me on my reasoning for doing things. So if I say I'm doing this peer review because research has been done that shows that people learn more about their own writing by looking at someone else's writing, and that someone else would be someone of similar proficiency level, someone that they see day to day, someone that they trust, and that they stand to learn more from that- from spending their time at that task than maybe from taking a look at teacher feedback, [then] I will tell them that before I ask them to do [the peer review]. (C1-40)

As can be seen here, Cecilia is concerned about ‘buy-in’ from students but also she wants to inform students of her reasoning before she asks them to undertake unusual or unclear tasks through rapport-building and engaging the students in their own learning (see, for example, Gatbonton, 1999, for an extensive explanation of this kind of engagement). As shown in her comment about “subtly challenging her own reasoning” she wants to feel certain that she is also ‘buying in’ before asking students to do something new. Cecilia takes a perspective about students that is realistic and oriented towards students’ long-term goals. In her view, “most of our students are not learning English because they love learning languages- they are learning it because it’s an unfortunate stepping stone to where they want to go” (C1-57).

Cecilia also believes that learners’ “particular attributes” (Breen et al., 2001, p. 484) play a role in the classroom so she tries to “provide people different avenues for learning” (C1-40). She also does not believe in trying to be threatening or intimidating to students, despite the fact that she has seen such intimidation used in different language classroom settings. Cecilia feels
that “if I tried that, it would look false, it would come across as false, and it wouldn't have the same impact or desired successes maybe one of my colleagues…might have [in] taking a more authoritative approach to teaching” (C1-40). This insight connects to K. Johnson’s (2006) claim that language teachers work “within complex socially, culturally, and historically situated contexts” (p. 239).

5.1.3 Cecilia’s knowledge base

As previously noted, a teacher’s knowledge base includes knowledge from formal education and self-generated knowledge based on a teacher’s own experiences and interpretations of those experiences (Borg, 2003). Cecilia has a very reflective view of her own knowledge base. One insight she discussed about the ongoing process of building and refining her knowledge base is that she has a sense that, due to her extensive teaching experience, her knowledge might perhaps be greater than she initially believed. She felt it had been easy to overlook that until “new teachers are asking [me] questions about it and I realize that... certain things that are second nature to me are not necessarily naturally known, but have to be learned through experience” (C1-46). In considering how to manage learning more about new approaches to teaching and learning, she acknowledges “feeling overwhelmed by the options and lack of time…to make use of those options” to expand her knowledge base beyond what she learns in the classroom.

I think 15 years ago I thought I had a lot of knowledge about language learning and language instruction, and now I feel like I have hardly any knowledge about language learning and language instruction, because there’s been so much more exploration of it, so much more scholarly exploration of it, and frankly I haven't been able to keep up with it because I've been doing it, you know, spending so much time just doing it, I don't really have a lot of time left over to keep up with inroads that have been made. (C1-46)

Cecilia’s concern here is twofold: she feels overwhelmed by the sheer volume of research on issues relevant to language teachers, and she also spends so much time teaching and preparing
to teach that being able to select appropriate research, read it, and then determine ways to integrate it into her teaching is unrealistic. This issue of time for language teachers seems to be a constant, as explained by Borg (2010), who noted that language teachers need time and resources, among other factors, to be able to fruitfully engage with research.

5.1.4 Cecilia and L2 writing

In reflecting upon her views about L2 writing, Cecilia seems to have reservations about working within a prescribed program, seeing it as limiting. “There are a lot of requirements that are imposed on our instruction in the program in which we teach, so I spend a lot of time trying to fit in, you know, fit my lessons into... a framework that's... not all that flexible. I think I would do things differently if I didn't need to fit it into a flexible framework” (C1-50). Perhaps based partly on that concern, she remains slightly dissatisfied with her writing classes because much of the curriculum is required rather than something she chooses to include (C1-52). She gives an example of one less-structured instance in which she felt her students’ writing flourished, which illuminates not only a successful series of lessons but also how, for Cecilia, the factors that lead to success are not always easily isolated.

The most improvement I've ever seen among a group of students was when I was a real beginner at teaching academic writing, and I wasn't really sure how to do it, and I had been assigned a textbook that was way too difficult for the sort of pre-intermediate group of students that I had, and...I had them three hours a day every day, with textbooks that were inappropriate for the level, and maybe in addition to being for higher proficiency students than these students were, they were more academically oriented than these students were, so...I started taking a question out of the book of 100 questions, which is a lot of 'what-if' questions, and someone each day would just pick one randomly, and then the students would freewrite for quite a long period of time, maybe it was fifteen minutes or twenty minutes or something like that. But we did it every single day. And there were students, one in particular who was an older student, a gentleman I think he was a Chinese speaker or he might have been a Korean speaker, and he definitely was not university-coursework-bound, and he was absolutely unintelligible in his writing and his speaking, and one day magically he began to make sense in his writing, and I think doing that practice every day for a long period of time, day after day after day, without
imposing a lot of requirements on it, had the desired effect. I didn't really understand why it happened, but I saw it happen. (C1-48)

In addressing concerns specifically for academic writing, Cecilia identifies several areas. First, she is concerned that some tasks might not be possible given the students’ overall language proficiency. As she explains, related to vocabulary, “some of my students don't have enough vocabulary to say very much, so to ask them to say more when they don't really have the vocabulary to say it is an exercise in futility” (C1-55). She also sees frustration increase for students who already have university degrees, when they are asked to do “dumbed-down tasks [and] they get frustrated and disenchanted with the whole enterprise of writing instruction” (C1-55). Finally, for the other main group of students who are just out of high school in their home countries, the content of the academically-focused instruction is uninspiring.

When [intermediate] students are asked to do something creative with writing or to talk about themselves, to do something that isn't qualified as an academic task, they get much more practice in writing, so basically we are often asking them to do [academically-oriented] things that are very prescribed, minimalist, safe and they do them. But doing those tasks doesn't really improve their writing. It may improve their academic writing behavior but it doesn't improve their writing. (C1-55)

Here Cecilia identifies a tension that exists in her class between a group of mature, academically focused students and a group of younger students who are not yet ready to enter into such a highly focused academic program. Addressing this tension and creating appropriate activities that engage both groups is a practical as well as pedagogical need in Cecilia’s teaching.

5.1.5 Cecilia’s approach to new methodologies

Cecilia has a long history of providing professional development opportunities for her colleagues, pre-service teachers in the Applied Linguistics graduate program, teachers abroad, and the profession in general at a range of conferences and workshops both nationally and internationally. She is also open and even eager to investigate new methodologies, yet, like many
teachers, has some reservations regarding technology (see Lam, 2000, p. for a broader discussion of this resistance to technology in the classroom). She approaches all new methodologies with a fair amount of practicality-based skepticism, but especially when “they usually have something to do with using a computer or a computer program or something that takes a whole lot longer to do than the traditional way of doing it, for what I perceive to be very little gain” (C1-57).

Cecilia is also aware of dealing with steep learning curves, especially for something she wants to do in class. “I do not ever feel really comfortable introducing anything to students unless it’s something I feel I myself can manage” (C1-81). This is particularly keenly felt with technology issues because, as Cecilia recalls, “I don't have a really good track record for interaction with machines, even the simplest machines, which seem to [laughs] in my vicinity go wrong- Yes, I'm telling you I think I swallowed a magnet as a child and sort of like I don't know radiating gamma rays or something- I make machines unhappy, and there's nothing worse than people sitting around waiting for the machine to work when you could be doing something constructive” (C1-81).

Finally, Cecilia is also skeptical of embracing technology simply for its own sake, leaning more toward the perspective that Ertmer et al. (2012) voiced that “before teachers will be persuaded to attempt new student-centered practices, however, it will be important to provide evidence that these practices result in meaningful learning outcomes” (p. 434). Cecilia’s views specifically about corpus linguistics and corpus tools are described below in Section 5.3.1.

5.2 Cecilia’s course, learning outcomes, and students

The primary course objective of Cecilia’s intermediate structure and composition course was for students to “learn about different types of academic writing and about the grammar of academic writing [and] through writing, revising, and editing of academic papers, students will
practice the features that make for successful writing in university courses” (Cecilia’s course syllabus). The class met for 100-minute sessions three times a week in a classroom that had student computer stations, with three stations at each of eight tables, and a teacher computer station with an overhead projector (OHP) linked to a document camera (docucam) and the computer.

5.2.1 Learning outcomes for Cecilia’s class

The learning outcomes established by the program are clearly defined and periodically reviewed and updated as needed by the entire full-time faculty of the IEP. Individual teachers do not create or modify these learning outcomes. For the semester we worked together, the learning outcomes for this course are listed in Table 21.
Table 21 - Learning outcomes for Cecilia's class

<table>
<thead>
<tr>
<th>Learning Outcomes for Level 3 Intermediate Structure &amp; Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrate idea invention through interviews/group discussion, graphic organizers, brainstorming, and freewriting.</td>
</tr>
<tr>
<td>2. Demonstrate organization of ideas using graphic organizers or basic outlines.</td>
</tr>
<tr>
<td>3. Produce organized paragraphs (8 sentence minimum) with topic sentences, supporting details, and concluding sentences using a variety of sentence types (e.g. simple, compound, and complex) through a process of drafting and revision.</td>
</tr>
<tr>
<td>4. Use the language of description, process, comparison/contrast, cause/effect, classification, and definition.</td>
</tr>
<tr>
<td>5. Develop supporting ideas with examples, explanations, or facts.</td>
</tr>
<tr>
<td>6. <strong>Demonstrate coherence using repetition of keywords, pronouns, synonyms, signal words, and transitions.</strong></td>
</tr>
<tr>
<td>7. Demonstrate fluency by communicating ideas through paragraph and multi-paragraph timed writing assignments.</td>
</tr>
<tr>
<td>8. Express ideas in multi-paragraph academic essay assignments with an introductory paragraph, body paragraphs, and a concluding paragraph through a process of drafting and revision.</td>
</tr>
<tr>
<td>9. <strong>Evaluate and edit writing for content, organization, grammar, and academic vocabulary.</strong></td>
</tr>
<tr>
<td>10. Refer to teacher-chosen published sources appropriately.</td>
</tr>
<tr>
<td>11. Detect problems with, correct, and express ideas with structures, editing, and grammar corresponding to intermediate level.</td>
</tr>
</tbody>
</table>

*Learning outcomes Cecilia identified as most relevant for our study are in **bold**.

This class is considered a transitional one for students in the IEP. For the levels before this, there is no explicit focus on academic writing. In this class, students use an academic writing textbook, described more fully in Section 5.2.3. More complex issues in grammar, vocabulary, and organization are addressed in this level. Students also begin to write full essays for the first time. In previous semesters their longest writing assignments were paragraphs. In addition, they are introduced to various academic forms, such as citation of sources.

Student progress is assessed in several ways in this class, with the most important assessment being a series of edited-writing assignments, starting in the beginning of the semester.
with paragraph writing and moving to full essays later in the semester. These assignments are 60% of the final grade, and are used rather than traditional tests as the major assessment tool. In addition, students are assessed through the use of in-class timed-writing assignments, typically with one timed-writing assignment usually connected thematically to the topic of the edited-writing assignment.

For this class, Cecilia identified several learning outcomes from the list in Table 21 that could be usefully addressed by the application of corpus tools. The first one was transitions in Learning Outcome 6. Cecilia saw a real need in having better materials to describe and work with transition words; “it’s my opinion that there is no good presentation of transitions anywhere, and I’ve looked everywhere, and what people default to is some kind of a grid which shows addition, concession, and so on- categories, but it’s never fully explained for students or for me… I [have never] seen it fully explained anywhere in a teacher-accessible text” (C2-03). The second possible choice Cecilia initially suggested was to address Learning Outcome 9, Evaluate and edit writing for content, organization, grammar, and academic vocabulary, by using a corpus tool to help students “detect problems with their writing or maybe even detect problems with a peer, something a peer has written” (C2-03). This identification of relevant learning outcomes was the first step in Cecilia’s determination of how corpus tools might be used to address the needs she identified for the class.

5.2.2 Students in Cecilia’s class

The students in the IEP classes are predominantly international students who hold student visas and move from the IEP into a graduate or undergraduate program either at the same university or at another university. On occasion, there are also visiting international scholars who attend the IEP for one or two semesters and then return to their home universities. Another small
group includes students who take IEP courses concurrently with undergraduate or graduate courses, and then move out of the IEP into a fully matriculated course schedule. Finally, there are immigrant students who attend the IEP to meet language requirements for higher education or to improve their language skills for non-academic purposes.

There were 13 students in Cecilia’s class, nine male and four female, with a variety of first languages (including Arabic, Thai, Korean, Spanish, Turkish, Vietnamese, and French). Ten of the students in this class were more typical IEP students, in that they had finished high school or an undergraduate degree in their home countries and were now preparing to enter undergraduate or graduate programs after completing the IEP. The other three students were in the IEP as part of an international program that brought mid-level Turkish academics to the US to study and work with researchers for 1-2 semesters, so they were working on research with their peers at the university while also taking the IEP courses. Students’ ages ranged from the late teens to the mid-thirties.

In comparing these students to those of previous semesters, Cecilia saw them as less “fun-and-games oriented” and more willing to challenge her about the purposefulness of classroom activities.

I think they are more “yeah, yeah, yeah, we get how to write a paragraph.” and you can tell that [the students] are kind of chomping at the bit to go beyond that because they’re all trying to get an acceptable TOEFL score to get into graduate school, or something along those lines. (C2-05)

The progression of this course typically moves from working on individual paragraphs for the better part of the first half of the semester before moving into essay writing, but Cecilia could see that, for this particular group of students, frustration was building.

They are, by in large, a crowd of people whose eyes are bigger than their stomach, if you know what I mean, and so my strength was in ascertaining that and then deciding at some point after we hadn’t gone too far into the writing of paragraphs that this is an exercise in
frustration— we should just start writing essays because they are all trying to write them in the paragraph format. (C2-05)

Because Cecilia had extensive experience in teaching this course, she made a mid-semester modification based on the needs of this group of students. Instead of spending another chapter on paragraph writing, she skipped ahead about 5 weeks into the semester, moving to the first chapter that focuses on essays rather than paragraphs. She also modified her plan for writing tasks, which led to more work for Cecilia as she planned her lesson, but a better fit for the class, even though she acknowledged that the mid-semester modification “could [have been] perceived as a weakness but it just seemed like the right thing to do” for this group of students (C2-05).

This modification highlights how Cecilia, as an experienced teacher, knows how to integrate change into her syllabus and is comfortable moving outside of her established practices.

When I asked her if she had any concerns about student engagement, Cecilia said that “it’s kind of hard to light a fire under them... there are no behavior problems... just a [laughs] general malaise. I think mostly frustration with themselves... [so I try] to balance being encouraging with giving them feedback that is going to direct them where their particular personal problem areas are” (C2-15). Another concern Cecilia raised was about some students thinking that they had done as much as they needed, so the students “start texting someone now because I’m finished and I don’t have anything else to do, and I’m not going to ask for anything else to do because I feel like texting instead” (C2-17). Like many teachers, including Simone and Lorraine, as discussed below in Chapters 6 and 7, Cecilia has to deal with new technology, such as texting and social media, which can impact student engagement.

Cecilia has several language concerns for this group of students, specifically in sentence-level grammatical issues. “Several of them have issues with word forms and I really don’t know beyond presenting them with the concept of different forms and how to analyze what you need.
When they’re writing, I just don’t think they take all the time that you’d have to take, which is probably unreasonable to begin with” (C2-09). She also expressed concern about students’ use of mixed verb tenses, and whether they would be ready to address the learning outcomes at the upper-intermediate level in the next semester. To address these language concerns, Cecilia identified time as an important factor, as she feels that any class time spent on non-essential tasks would be difficult to justify to herself and to her students.

5.2.3 The book in Cecilia’s class

The book in this class is *From Great Paragraphs to Great Essays* (Folse, Solomon, & Clabeaux, 2010), a non-corpus-based textbook which is divided into seven units. The first three units focus on paragraph writing, and the final four units focus on different types of essays: descriptive essays, comparison essays, cause-effect essays, and classification essays. During the time that Cecilia was considering the use of corpus tools, the class was working on Unit 6: Cause and Effect Essays.

Cecilia feels that the book is, overall, a good text, but she is concerned about several critical elements that are missing. It is important to recall that in the IEP there is some room for individual teacher choices, but it is unusual for a teacher to abandon the book that has been ordered for the students, with that choice typically being made at least six months prior to the current semester. Cecilia voiced her concerns about the lack of argumentative essay writing in the book.

I think the book works fairly well but for example I want them to start writing opinion essays, which could be called argumentative, and the book doesn’t present an opinion essay. I think that a lot of academic writing is giving your opinion. If you’re writing comparison/contrast, that is probably a test question, or an exercise for rhetoric class or composition class. Maybe you’d compare armies in two wars if you’re doing a history class, but I don’t think you write a research paper... I don’t know... what they need to become more familiar with and practiced with is giving an opinion and supporting it. So I
wish that there were more activities that ask them to practice that in the materials and that there were models for opinion essays. (C2-11)

Cecilia’s view about argumentative essays is based in part on her understanding of what students would need in order to be successful in the next level of the IEP, as well as her perceptions about the skills necessary to be a successful writer. One of Cecilia’s decisions during this class was to add an argumentative essay component that she felt was missing from the book. This focus on opinion essay writing was the topic she selected as the target for the class session incorporating corpus tools.

5.2.4 Special considerations for Cecilia’s class

One factor that was unique about Cecilia’s teaching style is the close relationship she develops with Applied Linguistics master’s students who observe and participate in her classes most semesters. These students observe an entire semester of one teacher’s course as part of the Practicum class in the Applied Linguistics MA program. Because the present study examined Cecilia’s perspective on the class in its entirety, all aspects of the class, including the role of the master’s student, played a part in the study. The practicum student during the semester of the study, Maxine, observed and/or participated by working with one or two students in each class session. Though Maxine did not participate in lesson planning or in the corpus working session, she was a constant positive presence in the classroom.

5.3 Cecilia’s decision-making process for the corpus tool

This section includes Cecilia’s reflections on her previous experiences with corpus linguistics and corpus tools. That is followed by a description of the process she went through to identify ways to use corpus tools based on the specific needs she had identified for this group of students. Finally, the corpus tool that she decided upon is explained.
5.3.1 Cecilia’s initial approach to corpus tools

When I first asked Cecilia about corpus linguistics, she gave a sigh and began to laugh.

“Buzzword, buzzword, buzzword. That's what I think- buzzword. And I'm tired of that buzzword- I'd like a new one, thank you very much. I know it's a method... thank goodness we have a methodology or a tool for discourse analysis- when I hear lectures that are very scholarly... or let's say less applied, less about application, more about findings, that are the result of the application of corpus linguistics tools, you lose me after the first ten minutes. And I'm pretty interested in language and I'm just not THAT interested in language. (C1-59)

One of her concerns was the possible disconnect between what is understood from corpus data by native speakers and by non-native speakers. Another concern, also noted by O’Keefe and Farr (2003), is the way that results are presented in the online corpus tools she had seen previously: “I don't like the way they look, I don't like the way the results are presented; they're too overwhelming, they don't show enough context” (C1-59). This harkens back to Cecilia’s concerns for her students. If she is feeling overwhelmed by these tools, then what must it be like for her students? She reflected on ways to engage students with these kinds of tools. “Maybe if [the tools] were applied to movie scripts or something that gave students access to a fun aspect of their improved language, [it] might encourage them to use them” (C1-59).

Years earlier, Cecilia was first introduced to corpus linguistics in her Applied Linguistics master’s program just before she graduated, so “having been among the graduate student cohort who was first introduced to using corpora for teaching and for learning...I’m thrilled that the technology has enabled us to know much more about WHAT we should be teaching in terms of usage and vocabulary to students, and it allows us to really fine-tune, especially for ESP, what we should be teaching and what students need to know, and I'm thrilled with that” (C1-57). Cecilia was excited by that initial sense that corpus linguistics could address her needs as a teacher that were related to language.
However, her enthusiasm for its integration into teaching and learning remained muted at best, especially in working directly with students using DDL because in her view it requires much greater student autonomy and motivation, which can be problematic because even though students might appreciate more independence in learning, they might not want that much (C1-57).

In terms of using [corpus linguistics] in the classroom or showing students how to use it there’s this element of Emperor’s-New-Clothes-ness about it where I kind of don’t see what all the fuss is about because I don't think most of our students are…so interested that they'll spend so much more time on a word, for example, or on research, which is really what we are asking them to do- is use these tools as research. (C1-57)

In contrast to John’s (1991) early enthusiasm of DDL’s emphasis on the learner-as-researcher or language detective, Cecilia felt the opposite. Cecilia acknowledged that using corpus tools for finding examples of target vocabulary could be useful, but she expressed concern that even though corpus tools could help students “teach [themselves] academic vocabulary in a decontextualized way [which would] certainly allow students to get a 100% on a matching quiz…it doesn't give them very much exposure to the usage of the words... but I just don't think they have the time, energy, or interest to invest doing that” (C1-57).

I asked Cecilia to describe her experience with corpus linguistics and corpus tools in four categories: as a language user who might have questions about her native language, as a language learner when she was in a situation similar to that of her students, as a pre-service teacher or during her coursework, and finally as a practicing teacher. Cecilia’s prior experience with corpus tools has been relatively limited. She has rarely used corpus tools to investigate language for her own use of language in non-pedagogical contexts. When she was learning a second language many years ago, there were no corpus tools available. Even during her training to become a teacher, the use was very limited. She had already been teaching for years when she went back to school to get her Applied Linguistics master’s degree. Prior to that, she had no
experience with corpus linguistics. She remembered thinking when she was introduced to corpus
linguistics that, “oh yeah, this is pretty cool because I was always suspect of how a lot of the
language that was presented in textbooks had ever been chosen for presentation” (C1-69). She
felt early on that the potential of corpus-based research for material development was great.

She did have experience with corpus tools as a practicing teacher, though she was not
sure that it would be considered using corpus tools. She gave an example of having students
choose an important word and then complete a search of the word.

I think there are simple ways... of showing students how to try to find examples of usage
and I don't know if you would call that corpus linguistics, but let's say we do- I can give
you an example of what I suggest to them to do and what I have suggested to my upper
intermediate students in a reading/listening class when we are learning general academic
vocabulary is in addition to seeing the example in the text that we're reading, from which
the target word came, I ask them to take a look at USA Today- one line and plug the
word in and come up with several short articles ... something simpler for them to access
than the New York Times, let's say. And take a look at four or five incidents of usage of
that word, and what were the other words around it, and could you guess the meaning in
those different contexts. (C1-71)

Throughout her experiences with this rudimentary search activity, Cecilia remained
concerned about student motivation. “If they were even ... interested to do that, I'd be surprised-
I'd say there are one or two students out of twenty who'd probably be motivated enough to do
that, but if they did even that, I'd be happy” (C1-71). This example highlights how much of
teachers’ awareness of corpus methodologies is frequently vocabulary-driven, as suggested by
the survey data in which teacher knowledge as well as perceived importance of vocabulary were
higher than all other areas (Section 4.3 in Chapter 4 discusses these survey results).

Much material produced for teachers focuses on sentence- and phrase-level vocabulary or
lexicogrammatical issues (e.g., Cobb, n.d.; Coxhead, 2006; Coxhead & Byrd, 2007; Diniz &
Bunting, 2012; Diniz & Moran, 2005; Donley & Reppen, 2001; Horst, Cobb, & Nicolae, 2005;
McCarten, 2007; Rundell & Granger, 2007; Salsbury & Crummer, 2008; Schmitt & Schmitt,
2005; Shaw, 2011b; along with corpus-based dictionaries and grammars). Other uses move beyond sentence-level issues (e.g., Cortes, 2011). These uses may require the acquisition of skills that could result in a steeper learning curve, as the methods of analysis used may not resemble those of popular search engines, such as Google Search, which teachers may be better acquainted with.

Before our interviews, Cecilia had some limited knowledge of corpus tools. She was familiar with two free online resources; she had used a few aspects of the Compleat Lexical Tutor website (Cobb, n.d.) and had heard about MICUSP ("Michigan Corpus of Upper-Level Student Papers (MICUSP)," 2013) as a possible source of student writing. She also mentioned that she thought that there were also larger corpora available that could be accessed for a fee.

5.3.2 Planning out possible corpus tools

Cecilia initially identified three needs she wanted to address in our collaborative project; she wanted students to be able to (i) identify problems in their own writing (self-editing), (ii) build academic vocabulary in their writing, and (iii) understand and use transition words well. She wanted students to master transitions because she felt that “they go so far in presenting ideas in a fluid way, especially for testing- trying to prepare for testing, that’s going to be rated by people who are going pretty quickly... that facility with the formulae... presents [the students] as being fairly facile with the language” (C2-27). She put the transition word problem into two categories: using the wrong ones and using the same ones too often.

I suggested to Cecilia that we could consider creating small corpora of student writing to identify the transition words that appear most frequently. However, Cecilia reasoned that there were two issues that bothered her. First, if there is only a small amount of writing it might not be that useful for the students. Second, as I was explaining the process, she questioned the relative
benefit for the students: “it just seems like a lot of work on their part for not much return” (C2-33). As we discussed these ideas, she hit upon a key issue for her:

It’s what I always stop and say when I think about using these things- [my students] are not linguistics students, and the fact that some of them are taking English is anathema to them- so to get them to be so introspective or reflective about what they’re doing is a hard sell... [and] if it’s an hour long process to find out how often they use the word ‘but,’ I don’t know if they’ll do it, cause they’ll say what am I supposed to do with it? (C2-35-39)

As the interview continued, Cecilia began to wonder how useful it would be to try to have this particular group of students focus on a perceived overuse of words, if those words were still being used effectively to create meaning. I asked her if she would tell students at this intermediate level that they are using specific words too much. She hesitated, and considered the goals she has for the students. If the overuse is within a context of clear writing, she would first consider student affective issues.

It depends... first we go for clarity and then we go for style... if they’re getting to the point where they’re becoming clearer but they’re using certain words over and over again- I don’t want to screw them up - send them backwards by putting that other pressure on them to start throwing style issues in. You can say to them- try to use more vivid words than ‘big’ or ‘nice’ or ‘good’ and they will attempt to do that, especially on a revision... but there are some [students], in a timed situation, that’s all you are going to get, so it’s only [appropriate] when they have a chance to edit things. (C2-41)

Cecilia decided that looking at transition words might not be the best fit for this group of students at that moment in the semester, but she did express interest in having students use corpus tools to seek out and notice academic vocabulary in their writing. As we worked on this idea, the issue of time came up often. She did not want to have something that would require a lot of class time just to learn how to use the tool, and when I raised the topic of looking for keywords and noticing the patterns around those words through the use of Lexchecker (www.lexchecker.org), an online tool that would allow a quick display of patterns for a target word, she expressed concern that she didn’t “know if they’d be able to do that... in any kind of
fast and productive way” (C2-60) and that it would have to be integrated into the larger planning stage of writing the essay. She was also concerned about the time it might take to ensure that words chosen by students would all be available in Lexchecker, a task that she would want to complete herself before she would feel comfortable introducing it to her students.

Cecilia also expressed concern whether introducing this new process and taking valuable class time to do it would have tangible results. She wanted to know if research had shown that students had actually learned vocabulary patterns, and what the value of the activity would be if there was no long-term gain for students. She also expressed concern that she would have to be the ‘expert’ in front of her students about a tool that she did not feel she had expertise with, an issue of teacher ‘face.’ Without seeing that there was clear benefit to the students, and concerned about her role in presenting the tool, she remained unconvinced about using Lexchecker and this option was abandoned. She was, however, interested in considering other ways to help students notice and use academic vocabulary.

Cecilia and I talked about ways to get her students to notice academic vocabulary in readings as well as in their own writing. We decided to modify an activity presented at a recent TESOL conference (Diniz & Bunting, 2012) to fit the content, objectives, and level of her class. The activity allows students to analyze vocabulary from their own writing, using the Compleat Lexical Tutor (Cobb, n.d.) website’s VocabProfile tool to show percentages of the 1000 most frequent words (1K words), the second 1000 most frequent words (2K words), Academic Word List (AWL) words (Coxhead, 2000), and any remaining (off-list) words in the text. The Compleat Lexical Tutor VocabProfile tool also provides a color-coded list of each set of words. To prepare for the activity, Cecilia revised a reading from the current unit to make it more appropriate as a model to use to show how the Compleat Lexical Tutor website works. The
Compleat Lexical Tutor website and VocabProfile tool are described in greater detail in Section 5.3.3 below.

One concern Cecilia had was student motivation if they were to see that their AWL percentages were especially low, so she began to prepare strategies for dealing with that possibility. She expressed concern about one specific student, saying “I don't know if [the student] would be able to do it or not- he's kind of bored with everything from now on in, and hoping that he just gets into school, and texting. [It’s] where he's at, at the moment, but he might, he might...” (CWS-115). Cecilia also noted that the activity could be of particular, practical use to the three visiting academics in the class, who would benefit more directly from seeing how academic language could be used in their writing for their other activities on-campus.

Cecilia reviewed her upcoming lesson plans for the current unit, and felt satisfied that the activity would be appropriate for her students. It would take time away from other activities in the class, but she felt that it would be “reasonable with whatever they end up writing on Monday” (CWS-57) and also fit into her overall plan for the unit.

Okay, I think we've figured out a good plan because this will be like, okay everybody, now you've learned how to write a paragraph, you've learned how to write an essay, you've learned how to [organize] ideas… and now we're going to talk about how do you make it sound more academic (CWS-111-113).

As a key part of Cecilia’s decision-making process, she calculated the time needed, the amount of work required, the new information and (especially) the technology she would have to feel comfortable working with in class, along with potential student engagement issues. Once she felt reasonably comfortable with those issues, she decided to move forward with the activity.

5.3.3  Cecilia’s corpus tool: the Compleat Lexical Tutor’s VocabProfile

As mentioned above, Cecilia decided to focus on student awareness of academic vocabulary in texts that they were reading as well as in their own writing. The tool she used was
VocabProfile (http://www.lextutor.ca/vp/), one of a suite of tools freely available online through the Compleat Lexical Tutor website (Cobb, n.d.). This tool was recommended in the teacher textbooks Using corpora in the language classroom (Reppen, 2010) and Using corpora in the language learning classroom (Bennett, 2010). As its name suggests, the Compleat Lexical Tutor focuses on vocabulary, and has been identified as especially useful for EAP teachers (Sevier, 2004).

The basic premise behind the VocabProfile tool is that it analyzes whatever text the user submits for four lexical categories. The tool “break texts down by word frequencies in the language at large” (Cobb, n.d.). Vocabulary is classified as 1K, 2K, AWL, or off-list. 1K words are words from a list of the 1000 most frequent words from a corpus of general English, 2k words are from the next 1000 most common words, the AWL includes common academic vocabulary, and off-list words generally include less common words, proper names, and misspellings. The 1K and 2K word lists are from the General Service List (West, 1953) and the AWL list is from Coxhead’s (2000) research of academic vocabulary writing.

The website identifies a typical native-speaker breakdown as 70% 1K, 10% 2K, 10% AWL, and 10% off-list. While this is an overly general categorization, as it does not identify register (for example, academic writing and everyday conversation are two registers that would have different breakdowns), it can serve a useful purpose in providing general guidelines.

Features of the VocabProfile tool are its ease of use, its interactivity (the user can upload any text), and its colorful display, which provides several visual representations of the results. The results screen includes a table with types (different words), tokens (the overall number of occurrences of each word or each of the four groups), and percentages (see Figure 8). It also contains the text as inputted, alongside the same text with words color-coded for the four groups.
(see Figure 9). It then also shows color-coded collections of the words within each group (see Figure 10). For example, the AWL words, all in yellow, are listed in alphabetical order broken down further by the various sublists of the AWL. These sublists are determined by frequency of the AWL words within a corpus of academic journal articles (Coxhead, 2000). The user’s individual results are not saved on the Compleat Lexical Tutor website, so the information is lost once the browser is closed. After students view the results on the screen, they could either make notes about them, or copy/paste them electronically.

![Figure 8 - VocabProfile output summary (screenshot used with permission)](image)
During the corpus working session, Cecilia and I worked together to see how she could integrate the VocabProfile tool in her class. She decided to begin the lesson with an activity that introduced elements of academic writing, as this was still a relatively new topic for the students. Because she was not enthusiastic about students sitting in isolation at their computers the entire
class, she devised an activity that got them moving and interacting with each other (a ‘read-and-run’) before moving to more computer-focused activities.

Some corpus-based applications to teaching have been conducted in a non-computer environment with students working with paper copies of concordancing lines (Boulton, 2010). Therefore, Cecilia and I contemplated making the entire process paper-based; however, she decided that she wanted the students to experience the individual interaction with the online tools and texts. She felt this was especially relevant for the three visiting mid-career scholars whom she felt could most benefit from the process because they had all expressed interest in improving their academic writing directly related to their current positions. Cecilia was not certain that the other students, who had not chosen an academic career path, would fully participate, but she wanted to try. She created several handouts, and we worked through one of her main concerns, which was that she might make a mistake using the website, or the website might freeze or have some other technical issue.

Another issue that teachers have perceived as having great importance in examining the potential use of corpus tools is the appropriateness of the tools for the level of their students (Römer, 2011). Cecilia expressed the same concern. She asked if other teachers in her program had gone through a similar experience, so that she could talk with them about their use of the tools. This information-gathering aspect of Cecilia’s teaching extended to the role that the other “teacher presence” in the classroom (her practicum student Maxine and me) would play during the class. She wanted to be clear about how she would be able to use our presence as she worked with the students.

For the lesson which included the VocabProfile corpus tool described above in Section 5.3.3, the students brought in their own essays on one of several topics that require giving and
supporting their opinions. Cecilia started the class by showing a PowerPoint presentation entitled *Is it Academic Enough?* She began the class by engaging students in a discussion of different aspects of academic writing. As students began to provide suggestions, Cecilia engaged the class in a whole-group conversation, introducing the terminology of academic writing. She then showed them a slide highlighting different elements of academic writing (See Figure 11). The final point that Cecilia raised in this first part of the class was the role of vocabulary in academic writing.

![Academic Writing](image)

**Figure 11 - Cecilia's introductory slide**

Cecilia then shifted to academic vocabulary and asked students the following questions: “How do you know if your paper “sounds” academic to your reader? In other words, how do you know if you are using academic vocabulary? How do you know if you are using *enough* academic vocabulary?”

After students discussed these questions, Cecilia gave them their first task, shown here on the “Focus on Vocabulary” slide in Figure 12. The students formed groups, and a student from...
each group had to go to a different area of the classroom to read the following questions about the AWL that were posted on the classroom walls:

1. What is the AWL?
2. Who created the list?
3. How many words are on the list?
4. How did the list’s creator choose the words on the list?
5. How are the words on the list organized/grouped?
6. Why should I learn these words?
7. How can I learn these words?

Figure 12 – Instructions for small group activity in Cecilia’s classroom

That student then returned to the group and repeated the question to another student in the group, who wrote it down. This was repeated with other students going to read other questions, until each group had all the questions. This activity, which Cecilia called a Read-and-Run and
had been used with this group before for other topics, gave students opportunities to interact in English about the topic of academic vocabulary and also get them moving around and away from the computers. When all the questions were written down, the students then went online to Gerry’s AWL Website (http://www.englishvocabularyexercises.com/AWL/) to find answers to the questions, which were about the AWL. Then Cecilia provided the students with a handout describing the AWL (see Appendix B.1) and the entire class went over the questions together and discussed the answers. In this way, Cecilia had the students reading, writing, speaking and listening while they learned about the AWL.

The student then received a handout with two texts (Appendix B.2), and they were asked to note the differences between them. Students worked together to discuss the differences that they noticed. Cecilia showed them the different vocabulary choices that could be considered more academic, such as sufficient instead of enough, institutions instead of places, and founded instead of set up. Cecilia then modeled how to use the VocabProfile tool, using an essay Everybody is talking and no one is listening that the students were already familiar with (see Appendix B.3 for the document Cecilia displayed on the overhead projector to the class). After doing that, Cecilia gave the students another handout “Analyzing your essay” (Appendix B.4) and had them begin to analyze their own essays.

When students worked with the website, they were able to handle the technical components of it well. Cecilia asked her practicum student to help answer individual student questions as she went around the room, talking with students about their results. Students completed the analysis handout, and then Cecilia gave them one final handout for homework, which required the students to select academic vocabulary from their essays and complete a set of tasks for each one (Appendix B.5). Finally, as part of the closing for the class session, Cecilia
asked the students to reflect on the possibility of their use of this tool independently outside of class.

### 5.5 Cecilia’s response to the lesson

For the most part, Cecilia reported that she was satisfied with the lesson. She felt it achieved the goals she set out for it: introducing the academic word list, using the corpus tool VocabProfile to give students one way to find out more about it online, and to get them interested in finding out about how they used academic vocabulary in their own writing (C3-015). In our third interview, she identified several areas for reflection: student buy-in, student writing, integration into the course syllabus, her own comfort level with the material, and her role in dealing with the VocabProfile corpus tool.

#### 5.5.1 Student buy-in

One area of concern that Cecilia reflected on was how students would react to the use of the tools in the class. As mentioned earlier, she typically works to remain aware of how students perceive every aspect of the class. One concern was the benefit for the three visiting scholars who were in the program for only one semester and who were not taking the IEP reading/listening class and therefore would not have had other explicit instruction about academic vocabulary. One of these scholars questioned the statistical aspect of the online tool and, in Cecilia’s view, “he sort of saw some of the flaws with the program right away…but…they told me what they thought about [using the VocabProfile tool]- they would look at it, they would use it in the future to check to see if they were using some words too frequently” (C3-005).

Cecilia felt that for these three visiting scholars, “…it was helpful for them to have one thing to take away that they might be able to plug into [and] at least they know about the AWL
and they can search, because they haven't had the reading that the other [more traditional IEP] students have had” (C3-007). Her concern was that, due to their limited time (one semester) in the IEP, they might not be able to get any other exposure to noticing and using academic vocabulary so explicitly.

For the more traditional IEP students, who were studying English fulltime and moving through to the completion of Level 5 in the IEP, Cecilia felt that the class was a success as well. “It wasn't the feared 'so what- who cares?’ I think they did care. They did find it in varying degrees enlightening” (C3-022). Because throughout the semester she had already noticed the specific dynamic of this group of students, she anticipated that not all students would be completely engaged. However, she felt that, by starting with the dynamic read-and-run task, the students became energized, and it started them thinking and talking about the topics of academic writing and academic vocabulary.

I think [the read-and-run] worked well to involve them in the topic, yeah. I liked that a lot and I think they were engaged; they found the answers; that was a good way to involve them in the topic. That worked really well. My goal was achieved with them- taking a look at the two paragraphs - one having more academic language than the other, and their trying to decipher which one did. …they did it in pairs, and they took turns reading, so one person read one and one read the other. My hope was that they would hear that one was more academic or formal than the other, and I think everybody got that right. (C-037-039)

After getting them warmed up, she felt that the students were able to follow her as she modeled the VocabProfile using a sample essay that they were familiar with. Then the students moved on to using the vocabulary profiler with their own essays. Overall, Cecilia had the impression that students “thought it was a pretty well designed lesson” (C3-042). She identified part of its success with the hands-on aspect of the corpus tool. She felt students enjoyed the lesson in part because “even though they are a quiet group, they will after a while get going. I think they much prefer hands-on tasks than teacher-fronted tasks” (C3-044). This identification
of these students as preferring a hands-on approach is in contrast to other groups of her students
in previous semesters, and this awareness of student differences played a role in how she
planned, used, and then evaluated the corpus tool. It is useful to note, as well, that Cecilia felt it
was too late in the semester for her to spend too much time asking students about their views on
the specific lesson because “they’re kind of spent at this point” (C3-052).

5.5.2 Student writing

The one main concern that Cecilia mentioned in our interview immediately after the class
was the choice of final task to close the lesson. She was dissatisfied with the decontextualized
vocabulary homework assignment she gave them (See Appendix B.5), and felt that there should
have been a writing task linked to the end of the lesson instead. “My only issue is I would have
liked there to have been either another way to resolve [the lesson] or some other writing activity-
there was no writing activity afterwards- that's it’” (C3-42). Based in part on her analysis of how
the students were progressing during the semester, having such an extended part of one class
session without an explicit writing component troubled her.

I would have felt better if I'd had more of a resolution task for them, other than the
vocabulary task, because when I got that back, and only four or five people did [it], I got
back words they should have known already or I know that they know already. So I think
if I do it again, I want another final task that gives it more closure, or maybe even asks
them their opinion about it. Or require them to give their opinion, require them to
freewrite about it- I don't know what it would be. But I feel like it wasn't a total void of
resolution, but I felt it was a little bit unresolved. I think they were game, I think they did
really well with the overwhelming visual nature of what we showed them. (C3-015)

5.5.3 Integration into the syllabus

Cecilia noted that using this tool filled an important gap regarding academic vocabulary
because “I think that it's hard for them to otherwise be aware- they only know the words they
know- they don't know the words they don't know. So how else would they find out the words
they don't know” (C3-054).
Cecilia is an experienced teacher and can add new components to her lessons with comparative ease. However, she felt that it took her a long time to understand and prepare the material before going into the classroom with it. She also remained unconvinced of having a more thorough integration into her syllabus, as she weighed whether having it as a more frequently used component might be useful. “I'd have to think long and hard how to make it more than a one-shot thing. Maybe it's only valuable as a one-shot thing, but I don't think they would remember the value of it if we just looked at it once” (C3-048).

5.5.4 Her own comfort level

Cecilia readily acknowledged that she does not see herself as being enthusiastic about using technology in her class. Her comfort level increased in part because I was there in the class while she did this lesson, and she also had a collaborative relationship with her practicum student, Maxine, who was observing and participating in the class during that semester. This collaborative component played a role in how well she perceived the lesson went, in part because it allowed more one-on-one interaction with students and she felt that she could direct questions and interact with us as the class moved through the lesson. Finally, she felt that the less-engaged students were more likely to feel pressure to participate with this larger ‘teacher presence’ in the room.

I do feel like [the students] understood, especially since they had three teachers there to help them understand it. Having a practicum student, especially a very competent practicum student, in addition to two lecturers, went a long way, I think. It also put enough pressure on [the students] to keep on task, too. (C3-024)

In her view, the lesson went according to her lesson plan, and she did not feel that she had to rush during the class, noting that “it took up the time that I had to spend, so I don't think I could have fit anything else in. I don't think I could have done it any faster” (C3-060). This could be considered a success because Cecilia had mentioned her concern about delays when using
technology previously. This same issue, however, might explain her reluctance to fully embrace this tool moving forward, since it seems that all technology tools eventually have some hiccups (as will be exemplified in Chapter 7 on Lorraine’s class) that could disrupt the flow of the lesson. For Cecilia, dealing with the technology during class is a negative factor.

The hardest thing for me at a point like this is I have several windows open [on the computer], and finding the window and getting the right window to open- so I remember scrambling to find that [essay as a Word document], even though I had opened it up already and minimized it and it was in theory laying down there. (C3-103)

She was also concerned about the amount of time she envisioned it would take to create such a lesson, and in that sense she was pleasantly surprised, though still with reservations. “It took me a few days to put it together instead of a week [and] I didn't have to spend too much time with the technology first in order to present it, so it makes me less dismissive of that particular website” (C3-065).

5.5.5 Would she change anything?

If she could, Cecilia would prefer to have something that dealt more with common problems for intermediate students. One recurring hope would be to find tools that help students identify errors (grammatical and organizational as well as lexical) that they make in their writing and, in essence, reduce the amount of repetitive explicit feedback that Cecilia needs to provide on those errors. From Cecilia’s perspective, it would be even better if such tools could simultaneously promote student autonomy.

“Anything that would help reveal to them where their errors are before they give it to the teacher, and it would put some constraint on getting back so much teacher feedback” (C3-054).

In fact, she described her corpus ‘dream tool’ as something where “maybe if they wrote a paper and they could plug that paper into a tool, and the tool told them that they should put a transition in somewhere- that would be good. In other words, it would be giving them feedback that I
would be giving them, but they would be figuring that out for themselves” (C2-27). In describing this ideal tool, she addressed several important self-identified needs: making students more autonomous and reducing time-consuming tasks for teachers.

Another issue that Cecilia sees as important for intermediate-level students is improving their awareness and use of word forms. She would like to see if this could be part of future lessons using the VocabProfile or other corpus tools. “I wish there were some similar mechanism to help them learn word forms. I think learning morphology, over the long term, helps them, but I think they really have trouble at this level with accurate word forms, and it really often obscures the meaning in their writing” (C3-054).

In considering how well the VocabProfile tool worked in class, Cecilia took issue with the way it was presented visually. Of particular concern was the use of the four different colors used to identify words from the different vocabulary groups (1K, 2K, AWL, and off-list). Her first issue was the jarring effect of the colors.

It's very busy, it's scary-looking because you don't know where you're supposed to look first. They [Cecilia's students] have at minimum the information that they have in the previous half an hour to wrap their arms around it, whereas you and I know exactly where this guy's head is at. And even still, it's daunting. There are many different colors, I don't know- it looks like it's going to blow up if you do the wrong thing, so- it looks like something from a sci-fi movie of the early 60s or something like that. So I want to acknowledge that, instead of pretending that this is just the simplest thing in the world to use. It isn't. But now that we know it isn't, we know it's not great- it's still useable. I just want to acknowledge the truth. (C3-108)

Cecilia sees this as having a distracting effect on the students as well as on her. Because she raised this aesthetic issue several times, it is possible that it could be a factor in continuing to use the website. Her second concern about the presentation of the website was that the off-list words were shown in red, and she felt that this could also have a negative impact on students.

Some of them were asking- oh, does that mean that those other words- those red words- are bad words? .... And that's exactly what you don't want them to feel like is ‘oh, most of
the words I used in my paper are bad words.' So I guess I would like to have thought of that potential effect in advance, to ward it off some. (C3-058)

Recognizing this during the class, Cecilia would modify the lesson plan to “add a component to this lesson which makes them understand that there is nothing wrong with words that they [already] use” (C4-05). This seems to show Cecilia’s priorities for student affective issues, by not wanting to overly dampen the students’ enthusiasm for the improvements that they have already made or by setting unrealistic expectations for them as intermediate-level writers.

5.5.6 Would she use it?

Cecilia continues to have reservations about having students use corpus tools in general, as well as this specific tool. As she sees it, its appeal is limited to certain kinds of students.

It's just… in most cases, there is something unresolved about the technology that is out there. When people figure out how to put together corpus or how to do concordances, but what exactly are we going to do with that next, and what's general enough that would be useful to the students who don't fall into the category of meticulous nitpickers, obsessive compulsive perfectionist types, or people who are above-averagely interested in linguistics, which is like maybe one student per class. (C3-056)

However, she likes the degree to which the VocabProfile activity engaged students while not overwhelming them with tasks that take them from being language students to budding corpus linguists.

On a more practical level, having this lesson plan already in hand makes it more likely that she will continue to use it. “I probably wouldn't dismiss it entirely out of hand, because I have an already established lesson, so I would use it again because it exists” (C3-065). She makes clear that she would use it for the specific goal of building awareness of academic vocabulary, saying that “I might only use it in order to do that pedagogical task [but] I think if we got into collocations or, just other picayune areas of uses of corpora, I don't know if I would do it. That's about as pointed or as picky as I would ever want to get with them” (C3-065).
Cecilia is setting limits on how far she wants to venture into corpus linguistics, at least with materials that she has seen thus far.

As Cecilia reflected on the lesson, she mentioned again how the specific dynamic of each group of students plays a role in how she might incorporate the vocabulary profiler in the future. According to Cecilia, this group of students “need a lot of time to process... [and] they are not a 'yell-out-answer' kind of crowd; they're sort of antithetical to the last semester's group [who were] the same level [and] those students would have been all over this, yelling out answers” (C3-076). Unlike in other semesters, “they are just a very quiet group so you have to kind of eek it out of them” (C3-090). Her evaluation of how each group of students would respond plays a role in her decision-making regarding what to introduce and how to introduce it.

Cecilia has concerns that students might not see the benefit of using corpus tools, and especially spending time learning to use the tools. When she was finishing the class session, she tried to provide students with her perspective of how they might use the corpus tool.

(Cecilia speaking to students) The real question is do you think you can use this? At least it's a tool...The big question I have is would you be willing to do this with your academic papers in the future. I can see that if you guys, like [the visiting scholars] are doing a paper, you're sending in a paper for journal review- you want it to be published in a journal that's in English, I can see you might want to use this to see how academic your paper sounds, if you're using too many simple words, you're probably going to use someone else to advise you, but you guys [addressing the other more typical IEP students], you guys who are going to go to university classes, would you take the time to input your paper in this first? I don't expect you to say yes or no right now. I just want you to think about it- if it's worth knowing about this, and how you yourself might use this for your writing. (C3-115)

Cecilia acknowledges that “I'm projecting my own response to it, onto them, but I think that's fair... [because] many of the students in the class would feel that way about it [so] it's a fair assessment [because] it's a pretty whacked out website” (C3-111). This negative response to the visual appeal of the website is not universal; Simone, one of the other teachers in the study,
comments in Chapter 6 on how visually attractive she finds the use of color in the Compleat Lexical Tutor suite of tools.

Cecilia wanted to get student feedback but also felt that asking students for feedback could easily result in false enthusiasm- a response like “‘yeah, this is great’ [or] whatever they thought I wanted to hear” (C3-119). Based on this concern, Cecilia noted that “I tried not to put forward the position that I thought this was the greatest thing since sliced bread, and if they did not think it was terrific, too, they must not know what they are talking about. I tried not to position it that way, so they would feel I was actually looking for real feedback from them… trying to say, I'm not sure if this is valuable to you- you tell me” (C3-119). This is another example of how Cecilia tries to build rapport with her students.

5.5.7 Using corpus tools in the future

One way to categorize Cecilia’s approach moving forward is muted interest. Despite feeling that the class session went well and that students understood and enjoyed it, she continues to carefully weigh the benefits of devoting preparation time and class time to this kind of activity without having more thorough curricular follow-through appropriate for intermediate level students.

There is a little bit of a 'yeah-so' element to it. And I guess how you frame this task can temper that 'yeah-so' response. So they find out that they have a smaller percentage of academic words in their writing than they should have, and the ‘yeah-so’ aspect of it is…for some people, they already know that. So we're just telling them again that they have this so-called problem, or at least that's what they would read it as, but we're not really telling them enough about what they can do about it. (C4-05-07)

She has several ideas about how to achieve this more thorough integration. She would introduce it earlier in the semester, and make it much less of a special event and more of just another activity in their lessons. She would also try to reduce the sense of “this is going to solve all your problems kind of presentation of it, but just present it as another tool that they can use,
as something that they can be aware of” (C4-09). This concern is in part due to the research aspect of the activity, with my presence during lesson planning and in class, as well as the audio-recording of the class sessions.

Cecilia would also like to have more confidence in the tools and her own knowledge of them. As mentioned earlier, her preference would be for an online tool that has less visual noise than the VocabProfile tool. She would also like to have other options that do not include such prominent placement of the statistics; as noted by O’Keefe et al. (2007), the inclusion of statistical data can become a distraction for students. “I would rather have an assortment of tools that did something similar and be able to show them, and then they can figure out which ones they like to use” (C4-24).

A recurring concern for Cecilia that plays a major role in her decision-making process is trying to nail down what students’ actual goals are rather than our (teachers’ and researchers’) projections of their goals.

Let’s be bold and say that most of the students in that room who are planning on enrolling in a bachelor’s program are probably planning on something along the lines of computer science or business. And they’re not thinking in terms of, as I said before, their writing style so much as being able to be- just passing the course- that’s where their head is at- how do I pass the course? Or how do I know enough English so that in classes where, God forbid, I have to do a lot of writing I can pass the class. So, once again, I think going back to - something you said at the beginning when you first started to interview me, is with a lot of corpus tools and the introduction of the tools to the students, I think there is a disconnect between the level of interest that we [teachers and researchers] have in language and the level of interest that [students] have in the second language. (C4-13, emphasis added)

In considering her future use of corpus tools, having corpus tools that address her students’ specific needs at this level, such as conjunctive adverbs, would be useful. “I think the best way to begin to understand them - I think that's how native speakers begin to understand their usage- is just to see multiple exposures of examples of how they're used- to understand where they should be used” (C4-28).
She also envisions working with a corpus of her own students’ writing or accessing other corpora of student writing. The level of students’ language proficiency can be a factor in teacher decision-making regarding student use of corpus tools (Chambers, 2005). In Cecilia’s case, she stated that she would only consider such use for higher-level IEP students or international graduate students. “Yeah, I think I would use it, but I would really reserve the usage of it for more proficient students, unless I was using the academic word list or something” (C4-33).

For teachers in general, she felt that corpus tools could play a more important role in teaching English for Specific Purposes (ESP), especially for designing material and making curriculum choices. Even in this area, she remained uncertain of its benefit used directly with students in the classroom.

Cecilia’s self-identified needs for this group of students included addressing issues of student engagement, student autonomy, and the issues based on the range of levels and student goals (mid-career visiting scholars vs. aspiring graduate and undergraduate students). For language needs, Cecilia identified academic vocabulary, specific structures (transition words), and word forms. She also identified her own needs, which included being able to understand and use the tools, not losing face in front of students, not wasting time on unnecessary in-class tasks, and seeing the value of the tools over other approaches that she is already using.

The process that Cecilia went through helped her address several needs: students noticing academic vocabulary words and then using them in their writing, and students becoming more autonomous learners. It does not appear that this particular tool was transformative for Cecilia, though she appears open to learning about more tools, especially for her classes at higher levels. She was surprised that the lesson was relatively easy to plan and execute, and that students who often were unengaged participated fully, though she did note that it could have been that the ‘big
event’ factor played a role. Cecilia saw how corpus tools could be integrated into her lesson plan and become one component of a dynamic student-centered class session. She gained more awareness of some corpus tools, but her perceptions did not appear to change dramatically after this process.
6 RESULTS: SIMONE

The second teacher in the study, Simone, is experienced and enthusiastic, bringing humor and energy to her classes. Over her more than twenty years of experience, she has taught all levels of structure and composition in the IEP, as well as almost all other courses offered. She is innovative and has presented numerous times at national and international conferences on such topics as teacher observation, peer mentoring, and the use of new methods in the classroom. In the semester that the study took place, she taught an upper-intermediate structure and composition class and worked closely with the teacher who taught the other section of the class, collaborating to prepare lesson plans and create new materials to fit these particular students.

In this chapter, Section 6.1 is on Simone’s background, addressing how she first started teaching, her self-identified strengths and weaknesses, her beliefs, and several comments on her knowledge base. Section 6.2 has a description of her course, including learning outcomes and this semester’s specific group of students. Then Section 6.3 addresses how Simone considers possible corpus tools to meet her self-identified needs for these students in this specific class. It also includes a description of the corpus tool that Simone decided to use. The decisions behind the class session which incorporates the corpus tool are then discussed in Section 6.4, along with a description of the class itself. The final section of the chapter, Section 6.5, addresses Simone’s perspective on the process of using the corpus tools in her class.

Direct quotes from Simone are identified by her initial and the interview number (S1, S2, S3, S4) or corpus working session (SWS) followed by the interview exchange number (i.e., exchanges extracted from the transcribed interviews), so S3-96 refers to the 96th exchange in
Simone’s third interview. Quotations of extended interaction are numbered when the following analysis requires it.

6.1 Simone’s background

Simone first began to teach “through the back door because I joined the Peace Corps and my assignment was teaching EFL in a high school” (S1-04). She enjoyed that experience but did not immediately pursue it after returning from her Peace Corps tour. Like Cecilia, Simone entered the ESL field after several years in another field, after which she decided to focus on teaching. She began tutoring for a language services company and then started a master’s degree in ESL at a local university, to “get into it the official way” (S1-04). After completing her master’s degree, she started working at the university, and has been there for over twenty years.

Simone has traveled extensively and feels that being the outsider in so many situations has been an important influence on how she approaches teaching ESL to international students because “I know what it's like to not understand what's going on, or learning a language and living in a different place,” (S1-06) which motivates her to be empathetic and to make her classroom a comfortable place for students. For Simone, another important aspect of her career in teaching has been collaboration.

The greatest influences? I think the people I work with, you know, the teachers I had [as a master’s student] and I think this department, collaborating with people, observing people, and …talking about it, having the people around to talk about teaching, you know, and sometimes they are casual conversations, but just having that environment that is very supportive and people like to talk about what they are doing. (S1-06)

Simone’s collaborative approach resembles the approach described by Breen et al. (2001), in which teachers work in groups as well as individually and these collective actions can have a powerful effect on teacher cognition and practices.
6.1.1 Simone’s preferences and strengths

Although trying to learn about grammar almost made Simone quit the master’s program in her first semester, she now feels most confident teaching grammar and writing.

I’ve become more comfortable with other skills over the years but, and it’s sort of funny because the first class I took in the master's program was [an intensive] grammar class, and I almost dropped out because it was way over my head... and another student and I were both- like, we can't do this- and [the professor] talked us out of the idea and we stuck it out. But now I feel like there... if there is something I don't understand about grammar I can figure it out, so I just, with experience, feel like I know it. And the same thing with writing- all the years of experience- I think I feel most comfortable. (S1-08)

Her reflection on this initial discomfort with learning grammar in her non-corpus-based grammar course over twenty years ago might have been one reason why she recently audited a course on corpus linguistics. Knowledge she gained from that course provided her with strategies to use sources of grammar based on language use (e.g., Biber et al., 1999) to confirm or at times challenge her own intuitions, thereby building a stronger knowledge base built on real language use.

Simone initially preferred to teach more proficient students, but now feels comfortable teaching at all levels within the IEP. That change occurred gradually in recent years as she taught more lower-level classes, which she found more challenging because it requires developing strategies to connect to students whose language is so limited. She also found that student engagement was greater in the lower levels because in the higher levels “there's a big mix of students who… know enough that they get bored [so] it's harder to engage them, and I think more and more, with phones and technology, it's really challenging... how to attract them to your class, how to keep them engaged” (S1-10). This concern for student engagement, especially when competing with technology-based distractions, such as smart phones and social media, is a recurring issue for Simone.
The most engaging aspect of teaching for Simone is getting to know students and figuring out what motivates them and what makes them laugh. “I think that then you know you've really connected so I think that that's fun for me. Every day is a different day, you know? And a bad day... [Well, the] next day is going to be a good day, we hope. Variety of teaching, variety of students... yeah... never a dull moment” (S1-12). This echoes what Gatbonton (1999) identified as teachers’ “awareness of the need to make contact with and have good rapport with students” (p. 43).

Her self-identified strengths are her organizational skills and approach to those times when students are not as attentive in class as she would like. Though she struggles with how to best deal with the onslaught of personal technology in the classroom, she believes her sense of perspective and patience are strengths.

Sometimes I let them not be attentive- not in every case, but this semester is a good example. You know, I have three students who are constantly on their phone or at the computer and they also don't do their homework, so I'm like... okay, that's their choice- I'm not nagging them about putting their phone down... tolerance, I guess, I've developed some tolerance- and trying to choose the right place for it. (S1-18)

6.1.2 Simone’s beliefs and knowledge base

When reflecting upon her belief system as a teacher, Simone identified several issues as important. She feels that her experience as a language learner and her coursework as a master’s student have both played a role in her belief that her classroom should be a place where students feel comfortable. More so than either Cecilia or Lorraine, she sees collaboration with colleagues as essential. In building and evaluating her knowledge base, Simone relies heavily on collaboration with other teachers; “even when I can [do] it myself, I often prefer to collaborate with somebody, and I feel like I get other ideas or I like talking about ideas with other people” (S1-32).
This collaborative approach plays an important role in how Simone incorporates new methods or tools in her class. For the present study, she asked that the teacher of the other section, Nancy, be involved in our corpus working session because they worked very effectively as a team and matched their lesson plans throughout the semester. She also saw students’ collaboration as an important part of her classroom and the learning process.

Simone’s most pressing needs as a teacher, as she identified them early in the study, are managing her own time, using effective materials in class, and establishing good student relationships, all highly ranked by the respondents to survey presented in Chapter 4. These needs lead her to several additional processes during her teaching. She constantly assesses the time each activity or assignment will take, in preparation, during class, and when grading or providing written feedback to her students. She also finds she often needs to modify or create new materials that supplement the textbook or, in some cases, replace sections of the textbook for individual lessons or even entire units. Finally, she works hard to develop positive, productive relationships with students, trying to build rapport and a sense of community by addressing each student’s motivation, engagement, and comprehension of the material.

6.1.3 Simone and L2 writing

Simone has extensive experience teaching L2 writing, and has worked during an evolution of the IEP, with the curriculum shifting from an almost exclusively grammar-focused set of courses to academic content-based courses that emphasize the writing process almost to the exclusion of explicit grammar teaching. “I’ve been in this program when we didn’t have a 'structure/composition' class- we just taught grammar and then we just sort of evolved to teaching structure/composition where there is very little grammar taught” (S1-41). Based on her experience, Simone sees several important aspects of effective L2 writing classes within the
structure of her IEP. These aspects include providing targeted, understandable feedback, providing useful models of the writing assignments for students to examine and integrate into their own writing process, and having students write extensively.

She describes the way she teaches L2 writing as breaking it down into manageable tasks, and trying to get students to connect to their previous knowledge of writing in their first language.

[I teach L2 writing by] taking it apart a little, piece by piece, like starting out with the organization and I also like to tell students to think about [how] the writing style in their own culture is probably not as linear as it is here, so I try to … present them with ‘this might be different than what you do in your own country, but in this American environment, a five-paragraph essay or freshman comp kind of writing which is what we do is basically very linear’ and then show them how to organize it just by taking apart an essay, the topic sentence, thesis statement, and work on it piece by piece and then put it together. So, in this class, for example, the first thing [they wrote] didn't even have an introduction. You know, it's just like- let's look at the body paragraphs, and how are you going to support that, like examples, and then have a lot of examples for them to see how it was done. (S1-36)

One of Simone’s needs as a teacher is managing time, with one important element being how to find the time to provide useful feedback to student work. In considering her writing classes specifically, she explained that time plays a critical role in deciding how much writing she assigns and the kind of feedback she provides. “I know I would have students write more if I had more time to read it … sometimes they write and I don't collect it, or I have them look at it, but it would be better if they could write more and I could look at it, so more time” (S1-38).

6.1.4 Simone’s approach to new methodologies

Simone is open to new technology; she identifies herself as someone who is eager to try new technology once a few of her peers have started using it. This is in part connected to her collaborative nature as a teacher, as mentioned previously. Simone commented that “I think I react openly, like maybe it's a better way, or how could I do that? And, again, talking to other
teachers- I think that's where you can find other ideas or hear what somebody else is doing” (S1-41).

Lam (2000) noted that many teachers have mixed feelings about the use of technology. Similarly, Simone also sees both positive and negative aspects to this, though she leans more towards seeing it as mostly positive. She sees her students as increasingly more connected to their mobile technology and social media, which at times distracts them from effective engagement with the teacher and other students. For Simone, the great benefits of technology, however, are in word processing, the potential for corpus analysis by students, class management systems such as Blackboard or Moodle, and the effective use of the Internet. She sees great benefit in using the Internet judiciously in class, as a source of information for students, a tool for building lexical and grammar knowledge, and a potential source for useful models of writing.

6.2 Simone’s course, learning outcomes, and students

In the semester this study took place, Simone taught an upper intermediate structure and composition course, in which “students learn about different types of academic writing and about the grammar of academic writing. Through writing, revising, and editing of academic papers, students will practice the features that make for successful writing in university courses” (Simone’s course syllabus). The class met three times a week for 100-minute sessions held in a classroom that had student computer stations, with three stations at each of eight tables, and a teacher computer station with an overhead projector (OHP) linked to a docucam and the computer.

6.2.1 The learning outcomes for Simone’s class

Simone’s course is the fourth of five levels in the structure and composition strand, and during this course, there is a major shift towards more academic writing, more extensive essay
writing, and appropriate use of academic sources. There are fourteen learning outcomes identified that students should reach by the end of the semester, as shown in Table 22.

Table 22- Learning outcomes in Simone's class

<table>
<thead>
<tr>
<th>Learning outcomes for Simone’s upper intermediate structure and composition course</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrate idea invention through brainstorming, freewriting, or group discussion</td>
</tr>
<tr>
<td>2. Demonstrate organization of ideas using graphic organizers or detailed outlines</td>
</tr>
<tr>
<td>3. Produce organized paragraphs (minimum 10 sentences) with topic sentences, main ideas, supporting details, and concluding sentences through a process of drafting and revision</td>
</tr>
<tr>
<td>4. Use the language of description, process, comparison/contrast, cause/effect, classification, and definition jointly</td>
</tr>
<tr>
<td>5. Develop supporting ideas with examples, explanations, facts, or analysis</td>
</tr>
<tr>
<td><strong>6. Demonstrate coherence using repetition of keywords, pronouns, synonyms, signal words, and transitions</strong>*</td>
</tr>
<tr>
<td>7. Demonstrate fluency by communicating ideas through paragraph and multi-paragraph timed writing assignments</td>
</tr>
<tr>
<td>8. Express ideas in multi-paragraph academic essay assignments with an introductory paragraph, body paragraphs, and a concluding paragraph through a process of drafting and revision</td>
</tr>
<tr>
<td>9. Write multi-paragraph expository, analytical, evaluative, objective, or summary assignments</td>
</tr>
<tr>
<td>10. Summarize, paraphrase, and synthesize a variety of credible (instructor-selected) Internet and library sources into multi-paragraph essay</td>
</tr>
<tr>
<td><strong>11. Evaluate and edit writing for content, organization, grammar, register, and academic vocabulary</strong>*</td>
</tr>
<tr>
<td>12. Use attribution language and APA citation skills for limited library or Internet sources</td>
</tr>
<tr>
<td>13. Perform instructor-guided Internet and library searches to find credible sources of research</td>
</tr>
<tr>
<td>14. Detect problems with, correct, and express ideas with structures, editing, and grammar corresponding to high-intermediate level</td>
</tr>
</tbody>
</table>

*Learning outcomes Simone identified as most relevant for our study are in **bold**.

Because Simone has extensive experience in teaching this course, she addresses some of the learning outcomes in a way that she describes as “sort of having internalized what the class is over time” that becomes almost an automatic process (S2-06). Many of the learning outcomes are related to the process of writing, but Simone identified these two areas which she felt needed more emphasis that could benefit from additional corpus tools: Outcome 6, *to demonstrate coherence using repetition of keywords, pronouns, synonyms, signal words, and transitions* and
Outcome 11, to evaluate and edit writing for content, organization, grammar, register, and academic vocabulary. She described how she operationalizes the first of these outcomes.

For [the learning outcome] 'demonstrate coherence using repetition, keywords, pronouns, signal words, transitions' we have different discrete activities that might have them working on transitions... or even by giving feedback you might focus on- between rough draft and final draft- doing an activity where they're writing, instead of 'first, second, third' you’re having them do transition sentences, so you create an activity that has them doing that item … and then when I'm giving the feedback I'll make sure I comment on that- whether or not they did that kind of strategy. (S2-10)

For the second targeted outcome, Simone wanted to provide students with additional tools that they could use, first in class and later on their own, that might help them in their analysis of their own writing, thereby addressing several needs. First, it could increase student engagement and autonomy if they felt that they were taking charge of their own learning. Second, if students were able to notice and address issues independently, it could reduce the time that Simone would need in providing feedback on those specific issues.

6.2.2 The students in Simone’s class

Simone’s class had twenty students, eleven male and nine female, from a wide range of language and cultural backgrounds (see Section 5.2.2 in chapter 5 for general information on IEP students). In Simone’s class, there were four French speakers from countries in Africa (Burkina Faso, Cote d’Ivoire, Gabon, and the Democratic Republic of Congo) and four Arabic speakers from Saudi Arabia. Other nationalities in the student population included Bulgarian, Chinese, Colombian, French, Honduran, Korean, Taiwanese, and Vietnamese. Students’ ages ranged from the late teens to the early forties.

Simone felt that the students in this class were perhaps less engaged than in other semesters, and noticed that it seemed more difficult to get students motivated to participate in
class, both in traditional lessons and in the few lessons in which she had tried to introduce corpus-based components earlier in the semester.

I have had the feeling before that the students [in earlier semesters] really liked it- this particular semester the one or two days we worked with it in class… I didn't have a feeling for how many of the students really engaged with it, but that's also a particular thing about this class… Three-quarters of the way through the semester almost, or two-thirds, and I'm still not- I don't feel like I have the pulse of the class... so it's an elusiveness, so... I don't know where they're at... on a daily basis, you know, with interest level. (S1-85)

In reflecting on this particular group of students, Simone identified three main groups within the class: a chatty group, who were always talking (though not necessarily on the day’s topic), a group of quiet students, and then a third group whose reliance on their mobile devices could become difficult to handle. She felt that this third group of students, more so than others, required a great deal of patience “because there are four students who don't do anything except play with their phone or look at the Internet, and then there are a handful of others who are always checking their phone... like they might get a text message that's life or death- and I don't understand why. Are they that bored? Is it me? Is it them? I don't know. So I'm trying to be patient and not admonish them” (S2-12).

Despite her concerns about students not engaging, she enjoyed the group, and worked hard to create relationships with each student.

I think I have a good connection with most of the students, on a one-on-one basis, when I talk to them or when we review. I've been trying to meet with them after every assignment. A quick five-minute meeting. I feel like they respond to the feedback I'm giving them on their writing in terms of how they revise… But I think in general, it's a quieter group, with a handful of 3-4 who will respond, so maybe the issue of student interaction is getting them to participate… in a group way. (S2-22)

Mullock (2006) identified teacher affect, specifically attitudes towards learners as “a crucial but perhaps underrated factor in TESOL teacher training and in becoming an effective TESOL teacher” (p. 63). Simone’s approach to dealing with trying to get this group of students
to participate has been primarily through humor. “It's been really frustrating. I don't feel like I have their attention … [so] I've used humor, a lot of humor. Not making fun of what they're doing- I don't mean that- but just trying to be light… maybe light, rather than humor” (S2-12). She questioned herself as a teacher because she considered her lessons not being interesting as one possible reason for this lack of engagement by students. However, she felt that their writing was still improving so the end product, their writing, was acceptable, but “it's like the mini-steps getting there are the ones that seem to be difficult” (S2-14). She illustrated her current group of students with this story.

Yesterday… we were introducing a new unit and so they did, individually, some research about a particular event or person from the 1960s- that's our topic. It's a unit that [another teacher] and I did four years ago that Nancy [current co-teacher] and I are doing again. In a similar way but with some revision, and I had everybody present the main idea, the key information about their event or person... and as they were doing it, I was like “why am I doing this?” It's excruciating for everyone to listen to nineteen other people, and some of it was good, and some wasn't, and that's part of the problem. But then they did a free-writing, and after that, when I was reading the freewriting, it actually seemed like maybe they took in more than I thought. (S2-14)

6.2.3 The book in Simone’s class

The textbook in Simone’s class was *College Writing 3* (Nuttall, 2006). One aspect of the IEP curriculum is that the textbooks are relatively uniform so that, in general, teachers of different sections use the same book, and often it is used repeatedly over many semesters. For Simone, this repeated use of the same book had both benefits and drawbacks. One benefit Simone perceived was that she had become very familiar with which units worked well and which units did not. With this experience, she made decisions about which units to use. For the current semester working with the other section instructor, Nancy, they made major revisions so, based on Nancy’s previous use of the book “one chapter that I'd used before is immediately out, so then we used two chapters, and the other two I've never liked” (S2-16).
This reworking of the material raised two issues that troubled Simone. First, it meant that they had to create more materials to replace the textbook material that they had determined did not work, taking up a considerable amount of time, which is one of Simone’s main concerns. Simone also worried about student reactions to the new material; “they might wonder ‘why am I only using two chapters out of this book?’ which in the end is what it's going to be” (S2-16). This connects to her concerns about student engagement. Despite her apprehension, they went ahead with the unit, which she felt had been very successful in prior semesters. While the class used the textbook for most of the semester, the unit used during the period of our study was a teacher-generated unit on the US in the 1960s, collaboratively created by Simone, Nancy, and another colleague who had taught the course in previous semesters.

6.3 Simone’s decision-making process for the corpus tool

In this section, Simone reflects on her previous experiences with corpus linguistics and corpus tools in her classes. She identifies specific ways to use corpus tools to address this set of learning outcomes and needs she has identified for these students. Then, our planning of the lesson during the corpus working session is laid out.

6.3.1 Simone’s initial approach to corpus tools

Unlike her colleagues Cecilia and Lorraine, Simone occasionally uses corpus tools as a language user herself, that is, to find out information that she needs outside of the L2 teaching/learning environment. “I might look up something if … I want to see some collocations for vocabulary, [so] instead of using a dictionary, I might have gone to Compleat Lexical Tutor” (S1-53). She also shares her knowledge about corpus linguistics with non-native speaking friends outside the field of teaching, “very proficient language learners [whom] I’ve told about it, and they think it's just amazing” (S1-53).
As a language learner (French and Arabic), she did not have any experience using corpus tools, nor during her coursework in applied linguistics. As mentioned above, she and another teacher audited one corpus linguistics course many years after receiving her master’s degree. She recalled that auditing the course “was [her colleague’s] idea, bless her heart, and it was like, ok, this is something that wasn't available when I was a student so let's take advantage of it, and it was really enlightening” (S1-61), and this was where she felt she finally began to consider ways to incorporate corpus tools in her teaching. Since then, she has worked with several colleagues to add a few corpus-based activities into her writing classes, though not to the degree that she would like.

Prior to our semester together, Simone had experience using the Compleat Lexical Tutor, COCA, and the Longman grammar books (Biber et al., 2002; Biber et al., 1999), which was the result of the use of these materials in the audited corpus linguistics class. She felt that the use of online corpus tools (e.g., COCA, the Compleat Lexical Tutor) were the most useful corpus topics related to her teaching for the following reasons: it could be applied directly to her classroom teaching, the concepts were easy to understand, she had a personal interest in the topic, it helped her develop classroom materials, and it energized students. She had been interested in trying to figure out how to incorporate the Longman student grammar book with her students, but has not been able to do that, citing lack of time and difficulty in fitting it in a prescriptive curriculum that downplays grammar in the structure and composition courses (S1-69). She has also presented papers with other teachers describing the results of her use of corpus tools in her writing classes at several teacher conferences over the past few years.

From Simone’s perspective, the IEP offers a neutral environment concerning teacher use of corpus tools. As she explained, “I think that [the IEP administration] might be open to it if
they were presented with something… [and] I think if … the administration were approached with a proposal to do x-y-z they would listen to it. I think they're definitely open to new ideas” regarding corpus tools (S1-77). Further, while she sees the program as open to using corpus tools, she does not see any real support there, other than offering an occasional workshop.

In general, prior to our study, Simone saw corpus tools in a positive light, especially in the areas of vocabulary, grammar, and fostering student autonomy (S1-71). Her outlook on how she can use corpus tools is optimistic, though she expressed concern that many of her colleagues do not receive enough knowledge or have opportunities to experiment with them.

I think, what a cool thing it is and, looking at how language is used with those tools that are available has been really interesting to me, and I also think there is so much more I don't know. I like it- I don't feel afraid of it. Again, I wish I had more time to play with it more, and this isn't really what you asked, but when I feel like I know enough about it to actually do something with it, and then I realize how- the opposite of it- how many [teachers] still have no idea what it is. (S1-51)

Perhaps in part for this reason, she is also eager to engage other teachers in her journey to learn more about using corpus tools. She sees collaboration as the most powerful component of learning about new approaches.

One of the weaknesses of anything [in teaching] is you get bored with it, so I think introducing anything new can be challenging and interesting, so yeah, I mean… with the right support it's great, even though it might take more time to incorporate that, but again, coming back to collaboration, if the person likes to collaborate and is able to learn about it and has the right support and can learn about what's - what are you actually asking teachers to do, I think it's fine. But I guess… for me, yeah, but there could be people that are not interested because they're afraid of doing something new. But I'm glad you're doing this collaboratively because I feel like every time I've done corpus stuff in class that … I do it … and then it's hard to get back to it. You know, it's hard to continue it, like what can we do next? How can I make it interesting for the students? (S1-83-85)

One issue that some researchers feel has been under-researched in language teacher cognition research is teacher affect (Childs, 2011; Mullock, 2006; Zembylas, 2005). Simone’s description here of fighting off boredom or feeling afraid about trying something new reflects
this concern. Simone also emphasizes two of her areas of concern as a teacher: creating a collaborative space with colleagues, and addressing issues of student engagement.

6.3.2 Planning out possible corpus tools

As we first began discussing using corpus tools in Simone’s class, she expressed interest that Nancy, her colleague who was teaching the other section of the course, be involved in the corpus working session to develop a plan and integrate it into the lesson. Because collaboration is such an integral part of Simone’s teaching practice and decision-making, it was agreed that including Nancy would be positive for the lesson plan and also for the study.

Simone identified several needs for this group of students at this point in the semester in this course. In considering ways to improve the classroom dynamic and to address their overall language needs, she wanted them to engage more with each other by generating real discussion about the topics that they would write about. Another important need that Simone identified was building their vocabulary during the planning/researching, drafting, and revising phases of the writing assignment. The assignment was the collaboratively-produced unit that focused on events and issues from the 1960s in the US, a relatively unknown topic for the students. Part of the reasoning behind choosing this set of possible topics was that it would require them to do library research on unfamiliar content, which was one of the learning outcomes. It also allowed for a focus on other learning outcomes, such as organizing ideas and providing examples and explanations in their writing.

The writing task is to describe a specific event or person from that decade and, specifically, the essay will be an introduction, background paragraph, overview of the 1960s in general, and then the connection to the particular event, let's say, the National Organization of Women was invented. Not just to describe the organization and everything about it, but more that AND what was the significance of it in that year? Whatever year it was, for example, 1967, so they have to make a connection to a few other things going on that year, and why was it instrumental that this happened then? So it's not just a description. If they took Martin Luther King or John Kennedy, it's not just a
biography but what was significant about those people in the year— in a specific year. So if they did John Kennedy's assassination, and they describe that event— well, what else happened connected to that? You know, Lyndon Johnson came in, legislation got changed which led to the end of the Vietnam War. So it's a little bit broader, and it's resource-based. Up until this point, we [teachers] have provided the sources, but we're going to the library for orientation tomorrow and [the students] are going to have to find their own sources and then… the other teacher and I will be doing summarizing and paraphrasing activities also. (S2-33)

I suggested that students could identify several AWL vocabulary items from their rough drafts and then seek out common patterns, and then use the lexicogrammatical patterns to write new sentences about their 1960s topic. Another suggestion was to consider creating a corpus of student-collected source readings, as suggested by Reppen (2010), or a corpus of the students’ essays as suggested by Bennett (2010).

Simone’s first idea, however, was to focus on keywords, which are those words within a text or groups of texts “whose frequency is unusually high in comparison with some norm” that can be useful in identifying important specialized vocabulary (O'Keefe et al., 2007, pp. 12-13). Using the Compleat Lexical Tutor’s “Keywords Extractor” tool (described below in Section 6.3.3), a keyword list is generated when the user inputs a text, and then the online software compares the frequency of words to the frequency within another corpus. An example keyword list, the top ten keywords from an overview article about the 1960s, is shown in Table 23. As Cobb (n.d.) explains on the results page of the website, “the number accompanying each word… represents the number of times more frequent that word is in your text than in… [a] general reference corpus, [which in the Compleat Lexical Tutor] is the 10-million word spoken section of the British National Corpus” (para. 1). In the list of keywords from the 1960s article in Table 23, antiwar has a ‘keyness’ of 1921.00 and Vietnam has 1601.00, and so on. This numerical information may be useful for researchers but could be confusing for learners and teachers.
Simone wanted to examine keywords so the students could “look at the resources they found and they [could try] to establish the vocabulary that would be useful in their essay” (S2-33). She was concerned that trying to create the corpus of either student readings or student writing would take too much time, and while she liked the idea of focusing on AWL words, she felt it was more important for students to build specific vocabulary for their topics, and that the best way to do that would be to focus on keywords.

As one way to address another of her identified needs, that students interact more with each other, Simone decided to make the activity collaborative for the students, requiring them to work in small groups on similar topics. This served the purpose of increasing oral communication while also allowing students to learn more key vocabulary about their topics. She also felt she could integrate keywords more smoothly into her lesson plan because the students had been working on gathering their source materials, so they would have texts that they could then take keywords from. She felt more comfortable with examining keywords because she had experience having students complete similar tasks individually in prior semesters. “It seemed to work pretty well- [the students] made lists and then I think we had them highlight words that
they actually used from the list in their rough draft, as I recall [and] in a different class I did a similar activity and some students got really into it” (SWS-021).

During our corpus working session, Simone and Nancy determined that the students would work in groups of three, and that each student would read one source article and prepare a written summary on it. They would present their summaries during discussion in their small groups. In that way, each student would have access to three sources on their topic to use in the activity. Simone noted during the corpus working session that time management, another of her concerns, would be an important factor during the lesson.

Simone: I was just writing down a couple of questions- potential complications and how to manage those- if they don't have an electronic copy, or if they're working alone, they just work alone, that's fine, but if they don't have a copy? They would have printed it out... I'm wondering if they would have saved it or sent themselves an email with it.

Nancy: So the complication would be the time taken to go back and try to find the article. (SWS-046-047)

Simone also wanted to take the students through the process of getting a keyword list from their source text, using the Keywords Extractor tool on their individual student computer work stations. She wanted students to have a clear understanding of the process while also providing a source text available in case some students did not complete the necessary homework for the activity. This preparation also would limit possible student disengagement for anyone who did not have the materials ready.

We could also put an article of something related to some topic and put it on [the online class management system], and if… there are those students who are not quite prepared, then they could still have access to something they could use in class to do the activity, whether it's for their topic or not. (SWS-052)

At that point, Nancy suggested that the model text that they would go over together as a group “could be one of those general things, and then that general source that we work on in class could be useful for their background paragraph” in order to make the modeling activity
useful for their final writing project (SWS-062). Simone and Nancy then considered topics from earlier writing assignments (culture, stress), other topics from the 1960s (such as the space race), and more general topics that might interest the students (the World Cup). They decided that they would start with keywords from a recent class reading on culture and then move to the topic of the World Cup.

Simone also tried to link the corpus-based activity to the broader goal of developing stronger vocabulary knowledge. “I just made a note 'looking at word forms' so that's sort of also a different way- a way of repeating the keywords but in different word forms” (SWS-076). For Simone, having this collaborative planning session allowed her to reflect on how to more fully integrate the activity into her lesson plan.

The teachers were trying to decide if they could focus on both keywords and AWL words in the same activity, because they felt both were important for the students. However, as they worked through the preparation for the class, they decided to focus solely on keywords, and look at AWL words in a later class. They planned to have students choose five words that they felt were important for their 1960s topic, and then create a list of 25 words from the Keywords Extractor tool. They would follow that with a discussion activity in which the students compare the two lists. The students would then make a new five-word list, incorporating the new information from the Keywords Extractor keyword list that they would use for later writing activities.

Okay, from that list [of 25 keywords from the Compleat Lexical Tutor program] they can compare so if there's any from the same list... maybe they choose five, and if they have any that are on the 25, that's great, but if they have none from their own list, then they're going to choose from the new list and then.... they choose five to go there [the list on handout for further work] and see how they're used and then do some of their own writing examples, yeah? (SWS-131)
The students would then write original sentences using the keywords they had chosen. At this point, Simone became concerned that we might be creating too many handouts and too many individual tasks, stating that “the difference in students doing this kind of thing, just checking it is probably enough [rather than writing on a new handout], but it seems like we often create more paper and more graphic organizers that really maybe aren't that necessary, depending on who it is, so I don't know” (SWS-133).

She was also concerned about the time students would spend to produce and keep track of the assignment, as well as the time the teachers would have to spend providing feedback to the students on activities that might not be that closely connected to their final writing assignment. She felt that the more handouts students had, the more likely some of the less well-organized students might lose them. One option she suggested was to have students post their new sentences using the keywords in an online class bulletin board. Simone also felt strongly that if students were going to put a lot of effort into this activity, then they should be getting clear feedback and points towards their grade. “If we spend time doing that in class, even if it's a brand new list, [we should give] them credit for having looked at the essay and identified the words” (SWS-169).

Nancy noted that the grading rubric for the final writing assignment already included points for descriptive academic vocabulary and word choice, and that one option would be to simply add keywords to that item on the rubric. Simone agreed, and it was clear that she felt it was important for students to see the value of the activity being reflected in the grade that they would receive on their final writing assignment.

After considering ways to introduce the concept of keyness, which would be new for these students, and ways to transition from one part of the activity to the next, Simone tried to
clarify how they would proceed with the main focus of the lesson, which was having students use the Keywords Extractor to find keywords in their source articles, and then connect it to their homework assignment.

You could say [to the students], ok, you're writing about your topic, what are some keywords- or just in general, so everyone can participate in the introduction- what are some keywords for the 1960s and then you make a list. And then, okay, we're going to come back to this. Let's work on the outline now. And they start working on their outline, and then we come to the end- but then? Ok, we have a stopping point at some point. And that's where I'm not sure I like it this way, only because that's going to be a homework assignment. I find it often hard- students are never at the same place... which I guess doesn't matter, because it's going to be homework, so does it matter if we stop them at 11[o’clock] and say, ok, now we're going back, let's look at your sources and let's use the keyword thing? (SWS-307)

Simone and Nancy needed to work out how to address the issue that the Keywords Extractor keyword lists include numbers that represent the likelihood of words occurring in the reading as compared to their occurrence in a general reference corpus (see Column 2 in Table 23). Simone was not sure if they really needed to share that information with students. She felt that overburdening them with unnecessary information might lead to student disengagement during the activity. The teachers were concerned that showing the students these numbers about relative frequency might make it more confusing for them. In this exchange during the corpus working session, Simone and Nancy reflected on whether to include them or not.

1 Simone: I never know what to say about [the relative frequency numbers] -is it important to say something?

John: I don't think it's that important. I would just say, when they see it on the screen, you can just say, the higher the number the stronger the keyness-

5 Nancy: well, I think sometimes it's useful to have cut-off points [based on the relative frequency numbers]

Simone: like what?

Nancy: like something less than this amount isn't key enough- but if we're capping at 25 [number of words] …
Simone: well look at the words below 16 are all double digit- 94 down to 41- that means even though they're in the top 25, they're not...

John: they're all useful- they're all important words for this topic, but these words are-

Nancy: often used other places-

John: yeah, more frequently used in other places in addition to here. This is much-

Simone: that word would not be usual-

John: in any context-

Simone: OK

John: so it only appears a few times here but it doesn't appear in much of any place- that's why unusual proper names are going to be way up there-

Simone: so subject-specific words are going to be at the top of the list?

John: usually…

Simone: usually, with a higher number because they may not be common in other places…

John: But it could be a word like ‘culture’ is very high because it's used so often- its frequency within this little text is much more, even though it's used a lot of other places, it's more frequent here than it is in the general-

Simone: I've usually kept the numbers the same- not eliminated them- and then I say something along those lines, and said you don't have to be an expert in the numbers. (SWS-324-341)

In Line 5 Nancy advocated for the use of what she described as ‘cut-off points’ for keyness as a way to help students see the importance of the keywords with higher values. In Line 22 Simone was reasoning out the kinds of words that students might have on their lists, and in Lines 24-25 she clarified the meaning of keywords as having higher relative frequency in the text than in the reference corpus. In Lines 29-31, she used her previous experience to explain to
Nancy how she had handled these numbers previously; this exchange shows a way to collaboratively come up with one common approach to handling this across both sections of the class. By the end of the corpus working session, they decided to keep the numbers in their materials in part because they realized that the students would see the numbers anyway when they did the online analysis of their articles, and also because some students might be able to use the numerical information to help them understand the concept of keyness.

During the corpus working session, Simone summarized the basic sequence that she and Nancy agreed upon for the structure of the class. They would explain to students “that we want to improve your language and your writing [by looking] at keywords and keyness, and say what it is. And then [we will] say let's look at something everyone is familiar with- soccer. And then we look at an academic topic that you just wrote about- culture. And then we'll say, now we're going to look at your topic” (SWS-353).

In doing this, she emphasized the real goal of the activity- not simply to find keywords, but rather to provide the students with another strategy (using the Keywords Extractor tool to identify keywords) to make their vocabulary stronger and thereby improving their writing for the specific topic. She also provided Nancy with the opportunity to question or modify Simone’s summary of the sequence.

To further link the activity to the larger course goals, Nancy reminded Simone that “the other thing [the students] will have done is write the summary, so they can already be in groups, and comparing those, and then move into this, so that will organize them already” (SWS-369). This is the jumping-off point to add a more communicative component of the activity, with students discussing each other’s article summaries in small groups.
As the teachers worked out the structure of the class, Simone returned to the topic of time when they started determining how many sentences using keywords the students should write. The students would also have to complete an outline for their essay, and the new keyword activity could have an impact on that task.

Simone: We can see, based on time- what time is left- how much time do you want for the outline? So really, even if they had 20 minutes, and then they're finishing it for homework-

Nancy: -The time for the outline for me is really more to be with troubled students.

Simone: I know, but we'll be looking at the outline with them in class, but they're finishing it for homework, so we have as much time as we need for this [keywords-in-sentences assignment].

Nancy: Exactly.

Simone: But you want more time in class on Monday because some students have a lot of trouble [with outlines] - you want to get them started on it correctly?

Nancy: Yes. (SWS-428-433)

Simone and Nancy worked collaboratively to create the lesson plan and the materials for the class session. Being able to talk about the different elements of the corpus tool and its integration into the syllabus played an important role in how confident Simone felt going into the class session. As she noted during the corpus working session when considering whether to collect all the student work or not, making these decisions was not easy to do alone when considering all the factors that go into the process: “Is it important to collect it? I think so, but why? These are the things we decide on in isolation, usually” (SWS-408). For Simone, working with her colleagues provided her with an effective way to confirm that she understands the corpus tools, and together they can figure out ways to make it work within the structure and learning objectives of the class.
### 6.3.3 Simone’s corpus tool: the Keywords Extractor tool

As mentioned in Section 6.3.2, Simone and Nancy decided to use the Keywords Extractor tool with their students. Both teachers had seen presentations about the use of this tool, and both had some experience using it in preparing material. In addition, two teacher textbooks on corpus tools (Bennett, 2010; Reppen, 2010) had recommended using the Keywords Extractor tool with students. The Keywords Extractor tool is a corpus tool because it compares vocabulary in a target text with a general corpus (a 10-million-word spoken section of the British National Corpus). One concern in using this tool is this reference corpus, which could only be changed to another British National Corpus section on medical texts. However, Simone determined that this drawback was outweighed by the tool’s relative ease of use, as well as its connection to the VocabProfile tool which she had used earlier in the semester.

The Keyword Extractor tool worked in the following way during Simone’s lesson. Students opened the website for the tool and received instructions on how to use the tool. Once each student selected a reading that could be pasted in as text, it was pasted into the text box shown in Figure 13. The student clicked on the ‘submit’ button and the tools analyzed the text and generated a list of keywords.
Simone had the students go through the process of using the tool together, as she completed the task twice using the teacher computer station and the projector. The top 25 keywords using the Keywords Extractor tool for the two sample topics that Simone shared with the students before they began their own use of the tool are shown in Table 24. Once the student submitted a text, the tool identified the keywords for that article.
### Table 24 - Keyword lists generated by the Keywords Extractor tool

<table>
<thead>
<tr>
<th>World Cup Keyword list</th>
<th>Culture Keyword list</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) 18596.00 fifa</td>
<td>(1) 3448.00 collectivist</td>
</tr>
<tr>
<td>(2) 3599.00 uruguay</td>
<td>(2) 1724.00 manipulating</td>
</tr>
<tr>
<td>(3) 2400.00 quarter-finalists</td>
<td>(3) 1149.33 nonverbal</td>
</tr>
<tr>
<td>(4) 1800.00 confederations</td>
<td>(4) 862.00 heterogeneous</td>
</tr>
<tr>
<td>(5) 1200.00 rimet</td>
<td>(5) 574.75 cultures</td>
</tr>
<tr>
<td>(6) 1200.00 hosted</td>
<td>(6) 541.89 context</td>
</tr>
<tr>
<td>(7) 1050.00 olympics</td>
<td>(7) 492.57 communicating</td>
</tr>
<tr>
<td>(8) 900.00 mascot</td>
<td>(8) 431.00 evolved</td>
</tr>
<tr>
<td>(9) 900.00 head-to-head</td>
<td>(9) 371.35 communication</td>
</tr>
<tr>
<td>(10) 900.00 knockout</td>
<td>(10) 328.43 indirect</td>
</tr>
<tr>
<td>(11) 900.00 third-place</td>
<td>(11) 265.23 convey</td>
</tr>
<tr>
<td>(12) 900.00 quarter-finals</td>
<td>(12) 265.23 rely</td>
</tr>
<tr>
<td>(13) 900.00 qualifying</td>
<td>(13) 215.50 messages</td>
</tr>
<tr>
<td>(14) 900.00 jules</td>
<td>(14) 208.09 culture</td>
</tr>
<tr>
<td>(15) 900.00 argentina</td>
<td>(15) 181.47 styles</td>
</tr>
<tr>
<td>(16) 779.80 tournaments</td>
<td>(16) 120.28 tend</td>
</tr>
<tr>
<td>(17) 719.85 tournament</td>
<td>(17) 94.04 cultural</td>
</tr>
<tr>
<td>(18) 674.75 winners</td>
<td>(18) 84.10 host</td>
</tr>
<tr>
<td>(19) 600.00 runners-up</td>
<td>(19) 69.89 send</td>
</tr>
<tr>
<td>(20) 600.00 hosting</td>
<td>(20) 66.31 content</td>
</tr>
<tr>
<td>(21) 600.00 seeded</td>
<td>(21) 57.47 goal</td>
</tr>
<tr>
<td>(22) 600.00 formats</td>
<td>(22) 54.44 style</td>
</tr>
<tr>
<td>(23) 600.00 gazzaniga</td>
<td>(23) 53.88 message</td>
</tr>
<tr>
<td>(24) 600.00 futsal</td>
<td>(24) 53.47 direct</td>
</tr>
<tr>
<td>(25) 600.00 semi-finalists</td>
<td>(25) 41.05 meaning</td>
</tr>
</tbody>
</table>

As described below in Section 6.4, the students first used their own knowledge based on reading the articles to select possible keywords, and then compared their list with the Keywords Extractor-generated list. The tool has an option to eliminate all non-sentence-initial capitalized words, as a way to reduce the impact of proper nouns. However, Simone and Nancy discussed this and opted to include those proper nouns (such as Johnson and Vietnam in the keyword list for the 1960s in Table 23), determining that the discussion of these proper nouns would benefit the students’ understanding of the topic that they would need to write about.
6.4 Simone’s lesson

The lesson that Simone planned with Nancy went according to their lesson plan, and both were pleased with the results of the lesson, as well as with how it fit into their broader syllabus for the unit. Because the two teachers collaborated very closely on their syllabus, they both used the same lesson plan that was generated in our corpus working session. While Nancy also followed the same lesson plan with her students, the focus here is solely on Simone and her class. One interesting development for this class session was that only fourteen of the twenty students were in class, an issue that Simone identified later as playing a role in the success of the class. Overall, Simone was pleased with the lesson.

I thought the lesson went well. It was organized well and we had the right materials, and the students received it well and did what they were supposed to. They understood the concept, they looked at keywords in their article, made their own list, and they found the list that came out from using the [Keywords Extractor] - and then they practiced, using [the keywords] with sentences. I thought every part of it worked well. (S3-003)

Based on the decision-making process during the corpus working session, Simone started the class by showing the students a list of words on the overhead projector without giving any specific context for them, thereby allowing the students to make deductions about the words and the activity. After several minutes of whole-group discussion about the words and how they might be related, students began to connect them to the topics of sports, then soccer, and finally the World Cup.

Simone then introduced the concept of keyness and explained that the words they were looking at came from an article about the World Cup. She then transitioned to another list of words. This time, with their new awareness of keyness, the students quickly identified words featured on this new list as keywords from their most recent writing assignment on culture. Simone then moved to a third list. At this point, the students even more quickly identified the list as being keywords for the topic of the 1960s in the US, the current writing topic for the class.
For each of the three illustrations of keywords in the whole-class setting, Simone had different students articulate their own definition of what keywords are. During this first part of the class, Simone noticed afterwards how different the class was with the smaller number of students (only fourteen of twenty). During the stimulated recall session, she also noted that the missing students would have likely made the class less successful, observing that “I started to feel at the time… the six students who aren't there… made a big difference because they're not always attentive” (S3-082). This shift in the classroom dynamic allowed Simone to spend more time with each student, and it also, in her view, made the students less likely as a group to disengage from the activity.

The students then moved into small groups to begin the corpus-based activity. The students were grouped based on their topics (e.g., Woodstock, John F. Kennedy) and spoke about the articles that they brought in as part of their homework. Simone showed them the process of creating a keyword list from a sample reading about the 1960s, using the Keyword Extractors tool, as described above in Section 6.3.3. After seeing that, the students then received the ‘Learning about Keywords” handout (Figure 14).
Figure 14 - Simone's handout on keywords

**0640 Learning about Keywords**

Make a list of 10 words that you think will be important to use in your essay

1.  
2.  
3.  
4.  
5.  
6.  
7.  
8.  
9.  
10.  

Now, with the help of Compleat Lextutor – find the top 25 keywords in your sources. (Follow your teacher’s instructions). Write them here.

1.  
2.  
3.  
4.  
5.  
6.  
7.  
8.  
9.  
10.  
11.  
12.  
13.  
14.  
15.  
16.  
17.  
18.  
19.  
20.  
21.  
22.  
23.  
24.  
25.  

Put a **Check** next to any that were on your list of 10.

**Circle** 5 of the new words (the ones not on your original list) that you now plan to use in your own essay.

On the back, write an example sentence for each of those words.
Each small group then discussed important words for their topics, with each student creating a list of ten words they would consider keywords for their topic, based on their reading and their classmates’ discussion of the other articles. Next, Simone worked with individual students as each one used Keywords Extractor to find the keywords from their articles, writing down the top 25 words on their handout below their original brainstormed list of words. They compared their original list with the Keywords Extractor-generated list, noting words that were on both lists. Once the lists were completed, the students were then instructed to choose five keywords and write new sentences connected to their 1960s topic using those words.

While most students did this assignment with little problem, they all required individual guidance from Simone, with two specific issues arising for several students. First, a few students had their documents as PDF files that had security measures that blocked copying and pasting into the Keywords Extractor program. Another student had a book for his first source, so there was no electronic version of the text. Rather than having the students manually copy the articles, which would have been frustrating and time-consuming, Simone decided during class to have the students either find another article through the university library’s online system or, barring that, use another student’s article that was on the same topic.

Once each student finished with the keywords handout, Simone instructed them to start sharing their thesis statements for the writing assignment with their peers and with Simone. Some students made this transition quickly, because they had been able to use the Keywords Extractor tool to find their keywords quickly. Other students, however, took up to fifteen minutes more to complete the keywords activity, so they had very little time during class to share their thesis statements and get feedback on them. At the end of the class, as part of the process writing approach that is emphasized in the IEP, Simone gave the students their homework assignment.
for the next class, a three-page outline handout to complete prior to writing their rough drafts. For each paragraph of the rough draft, she included a box on the outline handout with the heading “Keywords you will use in this paragraph” so the students could add words from their keyword lists to each paragraph.

6.5 Simone’s response to the lesson

In the post-class interview, Simone considered the class to be very successful. An important factor in this perceived success of the lesson could have been the fact that six students were absent. As Simone explained, “it had a huge impact that day. It made it much easier to have a class of 14 instead of 20, and the difference was remarkable” because she “was able to go one to one, and give people individual feedback so much easier- with 20 students, whatever I’m doing, it’s really hard to get to everybody adequately” (S3-015).

The missing students would be at a disadvantage because they would not have the keyword list for their reading and would have to try to make it up somehow. However, Simone did not seem overly concerned that those students would be lost in the subsequent class because she understood the dynamic in the class and noted that in the next class the missing students “all will have somebody they know- they’re going to watch somebody do it, and they’re going to know how to do it” (S3-015). Based on her knowledge of this group of students, Simone felt that they would work together to bring the absent students up to speed on the keyword concepts and the use of the Keywords Extractor component of the assignment.

6.5.1 Student buy-in

Simone felt that the students were engaged during the class, and the observation of this class compared to the earlier observed class certainly bore this out. Unlike in the previous observation, all the students were asking questions and there was no apparent ‘retreat’ into social
media or texting during the class session. This was likely due in part to the six absent students, no doubt, but Simone noted that the students “all seemed on task and motivated to do it, and even a couple of students who don’t often participate were following everything” (S3-028). One aspect of her decision-making process is determining how much students engage with the material and the activities during each class session; in this case she noticed that the students who were present “were paying attention, it felt like- And I never know what they’re doing… behind their computers, or what they’re looking at, but it felt like enough people were participating that they were with me” (S3-084). She noticed that specific students whose tendencies were to remain uninvolved during class both before and after the lesson were using the corpus tools. Simone commented on this as she watched the video recording of one section of the lesson during the stimulated recall session in Interview 3:

I think everyone was really engaged, really. I felt like that. And this guy [pointing to one student in the video] is usually on his iPhone constantly. Now maybe he wasn't that day because, I don't know, because of- who knows- maybe he was motivated by the class being videotaped [laughs] but he actually was on-task for a couple of days, and then he dropped the ball this week... [but] he was on-task [that day]. (S3-238)

Though Simone could not know with absolute certainty, based on her experience over the years and with this group during the semester, she identified a positive change in their attentiveness during the lesson, both in their understanding and their enjoyment of the activity. This perception of Simone’s could play a role in her decision-making regarding future use of corpus tools. She felt that she had done an effective job of linking the keywords activity to both student interests and their prior knowledge in the writing class: “I liked all the parts - introducing it with those different topics that were familiar: soccer, the culture and communication, that they had already written about [which] I think was a nice segue” (S3-021).

Simone also felt that having students act as researchers was an effective way to increase student buy-in, which is a key point raised by proponents of data-driven learning (DDL), though
with an emphasis on concordancing tools rather than the use of keyness (Cobb, 1997; Gaskell & Cobb, 2004; Johns, 1991). In Simone’s class the lists of keywords were “all student-generated, and when I did this once before we were all using the same material – from web design- same textbook, same article related to the essay, so it was teacher-provided, and that’s one thing we didn’t do here, but it seemed okay that they were producing from their own research sources” (S3-034). In contrast to her earlier attempts at working with keywords during previous semesters, she had students develop their language research skills in a way that she believed would make them more autonomous learners in the future.

6.5.2 Student autonomy

Simone saw the activity as empowering for students, by providing them with tools that they could use in their process writing during this course and in later semesters. As she reflected on the lesson, she continued to see ways to connect it to their current essay drafting. She envisioned additional ways to reinforce and use the Keywords Extractor tool during essay revision, and link it to other tools.

I hope to make [the usefulness of keywords] even more clear tomorrow [in class]. And it’s their rough draft, so they can always find ways to go back and include more keywords, or maybe they’ll take another source and upload it, and see what they get, so maybe they’ll experiment. And I’m also having them look at the academic word content- they’re going to upload it to the vocabulary profiler, so we’ll go back to that- we’ve done that- they’ll just write the percentage of vocabulary that is in their essay. (S3-032, emphasis added)

She also saw the benefit of highlighting the concept of keyness, and noticed while reflecting on the lesson that her views about how to discuss keywords and address the issue of proper nouns had shifted slightly. During the stimulated recall session, while students in the video recording of the lesson were creating their own lists of keywords from the Keywords
Extractor tool during the class, Simone commented on her own perspective on proper nouns in this exchange.

Simone: I think what happened there was they were randomly copying words down, I think. Or not - so that would be another thing to make sure it's clear- clearer than it was. Although if everyone is doing one way, except for a few, what does that mean? But, to make sure that they are doing the top [keywords].

John: I noticed too that you also mentioned something about names there-

Simone: The proper nouns. And then I'm realizing, oh, I'm thinking, there are a lot of - those may really not be important, but I'm not sure I knew what - what was I thinking? That I wanted them to look at other words, but also I guess pay attention, that maybe those are important for that reading because there are so many. But that's probably something to think about if you do it again, too. What do you do- maybe make a separate list of proper nouns? Because you have the names, because if they're doing something like this, those might be important. And so you have a separate list of them, and as they're doing their research and they're writing whatever they're writing, those names may come into play, and then they're familiar with them because they have them. And they may see them as they cross-reference different sources, because we made them use three sources for this assignment, so maybe they might see those names, or if they did a keyword analysis of each one, are these names important across everything we are looking at? So that could come up, too. And if it does, then maybe that's something that's important in their content. (S3-214-216)

This exchange emphasizes that Simone was reflecting on how students might see and use the data differently than she would. She noticed that students might see these proper nouns as additional vocabulary items, and make their own decisions about whether they are important to notice or to include in their own writing.

6.5.3 Integration into the syllabus

Simone reflected on how well the keyword activity fit into the larger course syllabus and the immediate goals of the present unit. In considering how well the keyword activity meshed with the activity on thesis statements that came immediately after it, she noted that there may have been a connection but that it could have been made more explicit.

Maybe not directly, but I think indirectly… they seemed separate activities; their thesis statements were posted [online], but I think there were ways you could say, well, look at
the keywords you have, are there any of those in the thesis statement? So I think they were indirectly- maybe I wasn’t directly talking about it, but I think indirectly the relationship is there. (S3-023)

Simone spent some time after the keywords activity lesson thinking about how to fit it more seamlessly into her overall syllabus. She envisioned new ways that she could have kept the topic going during later class sessions.

[In the next two classes], I think it would have been good to go back to the keywords and do something again with it, when… they’ve worked on their background paragraph, they wrote their introduction, and then maybe come back to the idea of ‘well did you use any keywords? Did you use the same article you used that day in class? Or do you need to upload another one? And they had to have three, so they should have- hopefully that is the one that they used. I am going to do that tomorrow, with the rough draft. (S3-011)

She expressed concern that absent students might fall behind, or some of the students present would not be able to keep all the materials from one class session to the next. However, despite her concerns about providing an atmosphere that encourages and engages the students, she saw this as an issue of student responsibility.

That’s the other thing. It’s the students’ responsibility to hold onto things and then on the outline we created a place for keywords, and they all have an outline, so there should be keywords on the outline, but not everyone did the outline. So some students won’t be able to do the pre-/post- review ‘did you include the keywords that you thought – that showed up in your research and that we think should be used?’ so the impact – I don’t think it’s a bad impact, I don’t think negative in terms of the activity. It just might be some confusion for some people. (S3-017)

6.5.4 Her own comfort level

Simone had been using corpus tools for several years and felt comfortable creating and implementing this lesson plan. One factor in her comfort level was her collaboration with Nancy, the teacher of the other section of the course. They worked together not only on this lesson plan but on many of the lesson plans throughout the semester, and provided a useful sounding board for each other regarding new ideas to address various curricular, classroom and student issues. That high level of collaboration along with Simone’s extensive experience in L2 writing and
with this class in particular provided her with a balanced perspective when, for example, during the class session the students could not copy from the PDFs.

As she mentioned in reflecting on the lesson, the PDF conversion “was a problem but it wasn’t a big problem [because the students] can go to the library... to practice the activity [and] find something else, so it was okay, and like we said before, now we know in advance- make sure everybody has something that is user-friendly” (S3-182). She saw the unexpected problem as not insurmountable and even put it in a positive light, noting that students having to go to the library website during class would add to their skill in using online academic resources, another of the course learning outcomes.

As noted above, however, Simone was concerned that only having fourteen students made the class session manageable, and that it would play a role in deciding whether to use this kind of activity again. She felt that it might be different with a larger group, especially when that group includes students that Simone sees as less engaged in the class and more willing to jump to their mobile devices or social media whenever the pace of the class slows.

6.5.5 Would she change anything?

Simone was already open to using corpus tools, and she remained enthusiastic about having students do this kind of activity in the future as a way to strengthen their academic vocabulary and promote autonomous learning.

I would do it again because I think that it helps students focus on vocabulary that they need to use in their essays, especially in a writing topic that they [knew] nothing about. They knew little about the 1960s, so there’s a lot of new [information]. There are a variety of topics, too, within the 1960s. So students could isolate for themselves their own list and it wasn't the same for everybody, so I think it made them feel more independent. And they also, I felt, like they were finding things they didn't know, like 'oh, okay, this could be valuable for another assignment' so applying it to something. (S4-07)
However, Simone identified issues that she would do differently related to how well students understood the purpose of the activity, and to make more explicit the importance of noticing keywords not only in readings but also in their own writing, while also dealing with time constraints and the larger goal of getting their writing assignment completed.

I think I would have liked to have made it clearer that I wanted them to follow up... and I think that should have happened more [the following] week than I addressed, because we got all wrapped up in coming back to class after we all had a longer or shorter break, and then diving into 'okay, now you've got to write this thing' and working on the specifics, but I think I would have liked to have done something that made them very, very conscious of including the keywords in their writing. I mean, I think it was explained and it was there, but I find that... students are overwhelmed with the other tasks so they are maybe not going to go back- even though it was on the outline- so I guess maybe, more attention to “what are ways you can include the keywords that you found”... So maybe for future I would think of ways to recycle that in the classes that follow, you know, closer [than after] two or three classes have gone by. (S3-040)

Simone was concerned about the time she spent introducing the topic of keywords. When reflecting on the section of the class on sharing examples of keywords for the topics of soccer, culture, and the 1960s, she felt her whole-class discussion of the keywords related to rights in the 1960s could have been shorter. “At this point I think it's too long. Okay? That was enough words. It just feels too long now, you know. I think it was good to do the third one, but maybe just pick out a few, and just move on. A couple of minutes less” (S3-144). This connects to Simone’s concern about managing time efficiently in order to stay on schedule and keep students engaged.

The issue of the copy-protected PDFs would need to be resolved but Simone did not seem to feel it would be too difficult to address. “The PDF problem, yeah, when they couldn't copy and paste, we couldn't work around that so for future, we'd have to be specific” to give them effective work-arounds (S3-038). Another element of the lesson that Simone would change is making it clearer that students should use their essay topic during the writing activity, because
while most students did this, some of the students’ sentences “were just random- using the words in random content” (S3-003).

Simone also considered ways to better incorporate the activity into the semester-long syllabus and use it in more writing assignments throughout the semester. “I would probably try to work on this sooner, and then have them applying it themselves earlier in the semester, so we can [use] it more than once, because we did this basically, this whole thing one time” (S4-07). Instead, she would make developing keyness awareness a multi-class series of connected tasks that are more fully integrated into the entire semester plan. Starting the process earlier in the semester would allow the students to use the tools with more essays throughout the semester as well as become more familiar with using the tools. The goals would be to gain a greater sense of student ownership of the process and see it as ‘relevant and not just an activity” (S3-048).

6.5.6 Using corpus tools in the future

Simone remains optimistic about her continued use of the keyword activity and other corpus tools so long as she sees them as useful for her students. In examining specific tools for students, she feels very positive about using the Compleat Lexical Tutor website. In stark contrast to Cecilia’s view about the website (see Chapter 5), Simone sees it as attractive, user-friendly, accessible and, especially important to Simone, reliable (S4-21-23). She was troubled by an earlier online concordancer that vanished from one day to the next, after she had developed materials and lessons incorporating it, so she is leery of assuming the permanence of any free online tools.

She noted that she had also used the Corpus of Contemporary American English (COCA), though the students encountered problems because they were required to create usernames and passwords after a certain number of searches. “I think I didn't realize that you had
to have a password after x number of times you used it... and I think that I thought that students
could explore with it more than they could before [needing] the password, and then some
students were frustrated, because it was not just ‘make a password’ [but also that the website
owners] want a bunch of information… [though] I think that I would use it again, knowing that I
had to spend some time [with students]” (S4-24-26). She saw the potential benefits of the COCA
website, but expressed concern about the issue of student frustration and possible disengagement.

After the semester ended, Simone contacted me to discuss another issue that had arisen
for her related to the use of corpus tools in her writing classes. In the same course in the next
semester, she had new co-teachers who were not as interested as Nancy had been in working
collaboratively to make the corpus component a part of the course. As Simone related it, they
would go along with activities that Simone created, but were not willing to work collaboratively
on the process of lesson planning. Simone discovered that losing this collaborative element had a
powerful negative impact on her motivation. Rather than working alone to integrate the corpus
tools, she decided to stick with the more traditional materials in the book for that semester,
although she plans to continue with her exploration of corpus tools in the future (Simone,
personal communication, November 11, 2012).

For Simone, this experience was positive, and it addressed the needs that she had
identified for this specific group of students and their learning outcomes. She identified the
following pressing needs for this writing class that this process had an impact on:

- keeping students engaged with the material and with each other, while also
  keeping them away from their mobile devices and social media during class,
- creating opportunities for students to become more autonomous learners,
- building students’ lexical awareness and use of keywords,
• collaborating effectively with her colleague (her co-teacher Nancy in this case),

and

• making the most efficient use of time during class and outside of class.

Simone felt that the process she undertook during the present study helped address these needs, and she is enthusiastic about continuing her use of corpus tools in her writing classes and with her students.
7 RESULTS: LORRAINE

Unlike her colleagues Cecilia and Simone, who work with pre-matriculated students in the Intensive English Program (IEP), Lorraine works directly with both graduate and undergraduate matriculated university students who are non-native speakers of English. She has been teaching at the university level for more than twenty years and has a calm, methodical approach to teaching and interacting with students. She spent a number of years as director of the university’s ESL program, oversaw the creation of the IEP, and was its first director. She was also instrumental in making the transition from general ESL to an EAP focus in both the IEP and the ESL program. Lorraine has played a fundamental role in raising awareness of language issues of non-native speakers of English in the university, increasing the visibility of the ESL program, and forging connections to other departments across the university.

This chapter includes five sections. Section 7.1 describes Lorraine’s background, and Section 7.2 describes the course, the students and the materials that she worked with during the study. Section 7.3 addresses issues of Lorraine’s decision-making processes related to incorporating corpus tools in her class, and includes a description of the corpus tool that Lorraine used. Section 7.4 describes the lesson and Section 7.5 provides Lorraine’s response to the lesson and her comments on possible future use of corpus tools. Direct quotes from Lorraine are identified by her initial and the interview number (L1, L2, L3, L4) or corpus working session (LWS) followed by the paragraph number, so L2-14 refers to the 14th exchange in Lorraine’s second interview.

Like her colleagues, Lorraine has had a wealth of professional development experience, presenting at numerous conferences and giving workshops nationally and internationally.
Lorraine has also worked with various overseas universities to help train teachers and develop EAP curricula and academic writing programs. She is a successful ESL textbook author, including two books that focus on academic writing. She typically teaches undergraduate English composition classes, graduate-level academic writing classes, graduate-level listening and speaking classes, and a course for international graduate teaching assistants. In the semester that the study took place, she taught a graduate academic writing class for master’s and doctoral students from a range of majors.

7.1 Lorraine’s background

Lorraine’s initial career focus was in business education, and she became interested in ESL when she began contemplating a move overseas with her husband. She went back to school to get her MA in TESOL at a large Midwestern university, and when the move overseas never materialized, she began to teach ESL in a US university. She identifies as her greatest influence “the opportunity to work and teach in a program that is connected to [an Applied Linguistics] program because… when I first started working here, I worked closely with several of the graduate faculty, and one in particular got me involved in writing, and that I think really influenced how I look at teaching” (L1-05). For Lorraine, being able to integrate research and best practices with her teaching has been a consistent component of her professional life.

7.1.1 Lorraine’s preferences and strengths

Lorraine sees herself primarily as an academic writing teacher, and she feels most confident teaching writing, reading, and grammar. Before moving into ESL, she taught business courses, and she sees those experiences being connected to many of the ideas she now emphasizes in academic writing. In those early business courses, she focused on analyzing genres of business writing and helping students identify elements of effective business writing in
each genre (L1-09). She also feels her strength as well as her preference is working with more advanced students, and she believes she effectively addresses their needs. She feels that because she can do this well, she enjoys it more, and vice versa.

If I'm working with more advanced writers- and I'll say writers because that's what I primarily work with, more advanced writers- I feel that I'm able to identify what they need to do to become more proficient and it's very apparent to me and to the student how they improve. I don't know if you could say I prefer doing that and so... I do that more and that feeds on how I feel I'm more skilled in doing that- they go back and forth. (L1-13)

Lorraine enjoys interacting with students and learning what their goals are. Identifying and cultivating their enthusiasm is one of the great joys that she derives from teaching. As she explained, “when I'm able to show them that what we're doing in class is going to be beneficial for them in their future, then there is that enthusiasm… [and] I'm excited to be able to kind of move them along their goals or their path toward their goals” (L1-15).

7.1.2 Lorraine’s beliefs as a teacher

Teachers carry with them a set of beliefs that inform and affect their in-service teaching experience (Borg, 2006). In Lorraine’s set of beliefs, one critical component is taking the time to be reflective in her teaching and her other professional tasks. She believes that she considers changes very carefully and takes time to reflect after almost every class.

I believe that as educators we have to continue to develop. Although I might have a similar plan for a course, I rarely will do the exact same thing... and so that comes from my belief that you need to reflect- and it could be informally, like after class when I'm walking back to my office, I'll reflect on what went well, what didn't go well, what I might change, and then I will write on my lesson plan, so that I don't forget, and then I often reflect on the drive home... you know, what- again, what was successful, why was it successful, what would I do- because I'll often teach a course more than once. So maybe on Monday, what could I change for Tuesday's [second section of the same] class? (L1-25)

This emphasis on reflection was apparent throughout the process of considering the integration of corpus tools in her class. She also believes that teachers need flexibility, especially
when considering the students’ perspective, so that “as the instructor, you have a plan but the student is the one that you're teaching to, and so you have to listen to what they're saying and you have to seek feedback from them and be willing to alter what your plan was” (L1-25). She further explores this belief that she improves as a teacher through active listening to her students.

I believe that you have to be flexible- I often will talk with my students about what works for me as a writer, but then I want to hear from them because I believe there's not just one [way] to approach something... and I think that may be an area where I've grown a bit. Maybe I try to be less, well, rigid I think is more negative- but I try to be more- I keep saying flexible, but realize that we can approach things in more than one way, and that can also be in explanations, descriptions of what we're trying to do, so I might explain it one way to one person and then another way to another person, and then I might ask them if- if it seems like they're not connecting with what we're doing or does it seem like what we're working on is something that might be something you might do in your field, and then hear from them so that I can kind of adjust and adapt. (L1-25)

For Lorraine, her reflective process requires identifying what was successful in a class and what was not, and then determining how to make it better. This can be done through the use of new tools and approaches, or by other means, and she may modify her approach for specific students or classes (L1-41). She also sees her needs as a teacher to include better understanding the writing skills expected in different fields, selecting vocabulary to focus on, and prioritizing language points.

7.1.3 Lorraine’s knowledge base

Lorraine has extensive experience as an L2 writing teacher, but she also identifies ongoing professional collaboration as a key component in building her knowledge base. Breen et al. (2001) noted that for many teachers “individual adaptation may be constrained within that collective pedagogy wherein certain principles predict specific practices and which the teacher shares with a group of practitioners of similar experience in a similar working environment” (p. 497). Like both Cecilia and Simone, Lorraine’s situation reflects such a collective pedagogy. In Lorraine’s case, however, working in a small program (there are only two full-time instructors)
has meant that collaboration has often come from outside the program. For Lorraine, two well-known L2 grammar and writing scholars in the field provided her with support early in her career, and they “were two people who I really feel mentored me in my approach to writing… and [one] would send me things to read that would relate to… projects we were working on, and then I would read it and we would have conference calls and so, it was almost like she was teaching me or mentoring me… I guess that is a belief- is that we always have to be educating ourselves” (L1-25). She felt that this experience forced her to explore research more thoroughly than she otherwise might have, and to consider new ideas (L1-29). She identified the authors of the textbook that she uses in her L2 graduate writing class (Swales & Feak, 2012) as also playing an important role in building her knowledge base for L2 writing at the graduate level.

An interesting aspect of Lorraine’s knowledge base that she feels is constantly developing is content-specific knowledge about genre and lexicogrammatical features in her students’ specific fields, which vary from semester to semester. She explained this to me by using the example of another class she often teaches, the International Teaching Assistant (ITA) course.

[The class] is for teaching assistants (TAs) and [the kinds of majors] depend on the semester- last time I taught it, it was all math and statistics students, so I had to educate myself on what kinds of classrooms those TAs might be assigned to teach, educate myself about the math lab because I knew a lot of them were tutoring and they were going to move into teaching, so I wanted to show them how that's [connected] to what they were doing- observe some classes... I had to build a knowledge base for that particular group of teaching assistants. (L1-31)

In this instance, Lorraine felt it important to build her knowledge base to adequately address the needs of specific groups of students. She had to be able to quickly find and then integrate new content into her courses. She reflected on a new group of students in her ITA course during the current semester.
For this semester I've [still] got quite a few math and statistics, but there are [also] computer science, communication, linguistics, history... so it's a different group- but there again some of them are [working as teaching assistants] in large seminar-type lectures where they might have 80 students and others are in a class of maybe 20- some are skills-based, some are lecture-based, so... I feel like I need to think more about pedagogy in general and how what we talk about- how I can adapt it or change the course of the discussion to meet the different needs of whoever's in the class. (L1-31)

This shows that, in addition to dealing with the demands of understanding the students’ different fields, for the ITA classes she also adapts her lessons to address the kinds of classes that the students will eventually teach: large or small, lectures or discussions, etc. In considering her specific graduate writing class, she felt she also needed to develop awareness of the students’ demands in their respective programs.

[In class] we had been talking about integrating outside sources into your own writing and I had some examples from different journals that fit what the disciplines were in the class, and one particular student kept questioning what we were talking about and then- I wasn't sure- I thought maybe he just didn't understand what we were doing but then I later reflected on it and we had a conversation and I asked him to bring in some journals, and I realized that in his field the way that, at least in that particular journal, the way that sources were cited went against anything that I ever thought would be done [laughs] and so it made me realize that there again I need to be continually educating myself about the expectations across the different disciplines, and the differences between master’s and doctoral level students. (L1-33)

Lorraine’s reflection here shows that one need that she identified was connected to several themes: building her contextual knowledge of the students’ varying needs as well as the importance of listening to students and making modifications or adjustments based on student concerns, which is another way of fostering student autonomy or control over their own learning.

**7.1.4 Lorraine’s approach to L2 writing**

Lorraine approaches L2 writing by focusing primarily on the writing process. She noted that for the graduate writing students, they're often surprised at how good writers- quote ‘good writers’- brainstorm, reflect, think a little bit about the ideas that they want to express and then maybe in whatever form they want- an outline or clustering, whatever- put those ideas down and organize
and then draft and then give some time and space, or what I tell my students, look at it with a fresh eye, and then read it again and revise. (L1-35)

She maintains this approach even when faced with occasional student resistance. She feels she brings students around to understanding the benefits of process writing through the use of portfolios and the use of “substantial revision [rather than] just editing” (L1-35).

She also has students analyze model texts, through the use of texts that are provided in the book, texts she or the students have selected, or the students’ own texts. In one unit on problem/solution writing, she explained her approach with her writing students, and how good writers should be able to talk about their own writing.

How can you [the students] introduce a solution? And then I'll have them go out and find writing; it could be a whole article that's a problem/solution article or it could be a piece of something where they're identifying a problem and then we'll analyze that… Going back to a point I made before about being flexible, frequently when I set up an activity they'll have done some kind of thinking or some kind of writing on their own and then they'll come back as a group and they'll share and they'll talk. I'll try to have some kind of guided activity where they talk about it and negotiate. And this could be paragraphs, this could be particular grammatical or lexical features that we are focusing on, and they'll negotiate. And then maybe that's all they'll do. We don't come back as a group. Or then they'll separate and they'll work on their own piece, so I guess you would say that's a belief about how I teach L2 writing. (L1-37)

In keeping with her reflective approach to teaching and learning, she also has students produce a reflective essay as part of their portfolio on their experiences as they develop as writers. Though she acknowledged that the students may sometimes include what they think she wants to hear in these reflective essays, she stated that “it’s always exciting to me to read how this [attention to process] has been beneficial to them, so if that's all they get out of the class- that they don't wait until the last minute to write- I feel like I've done something” (L1-35).

7.1.5 Lorraine’s approach to new methodologies

Lorraine does not classify herself as an innovator when considering new methodologies or new technology, but rather sees herself as more cautious. As she puts it, “I wouldn't jump in
just because someone wrote an article, or someone in [our] department said this is what I do; I would need to think about it, about how it would work for me and the classes I teach” (L1-43). However, she is open to new methodologies once other teachers she knows have expressed satisfaction with them. This openness to considering new approaches perhaps connects to her reflective nature and the questions she asks herself about each lesson and each course, “because it goes back to- I don't know if this was a belief, but- I feel like we always have to think- did something go well? What could we do differently to make it better? And maybe, maybe it would be something new that could make it better” (L1-41). This openness also extends to the use of corpus tools, as discussed later in this chapter.

Lorraine connects technology to specific teaching and learning environments. As an example, just prior to our project, Lorraine had worked with a group of teachers and teacher-trainers from an Iraqi university. She noted that, after learning about the Iraqi teaching context, the most critical technology used in many US settings may well be those that are so easily overlooked because of their ubiquity, such as word processing and online access to resources via university libraries or other Internet sources such as Google Scholar (Google, n. d.).

In considering technology use in her own classes, Lorraine tries to ensure that her writing classes meet in classrooms equipped with student computer stations whenever possible. She sees a teacher-station docucam connected to a projector as the most useful tool in her classroom. Her preference is for students, even when they are writing on computers, to create a printed copy of their in-class assignments or longer texts, so that she can share them with the entire class by using the docucam. She uses this set-up as well for whole-group analyses of model writing samples. In both cases, she handwrites comments on the documents while they are on the docucam.
She also uses a computer connected to the projector to show websites and to share word processing documents that she or her students will modify on the computer during class. Previous studies have reported that some teachers may seem fearful of technology and for that reason avoid using it (Ertmer et al., 2012; Lam, 2000). In Lorraine’s case, her reaction to technological advancements does not reflect fear but, while she seems comfortable with some admittedly ‘old school’ tools, she remains unconvinced of the need or benefit of introducing more technology in her classroom without clear-cut reasons to justify it.

7.2 **Lorraine’s course, learning outcomes, and students**

Lorraine’s course was a graduate level pass/fail three-credit writing course “designed to help graduate level non-native speakers of English improve their academic writing skills [by] discussing and analyzing writing genres (e.g., scholarly articles, student papers, e-mail) found in academic settings” (Lorraine’s course syllabus). The academic writing tasks included extended definitions, summaries, critiques, problem/solution analysis, and data commentary. Another important component of the course was learning to appropriately integrate secondary sources through paraphrasing, summarizing, and using academically acceptable documentation techniques.

The class met twice a week for 75-minute sessions held in a classroom that had student computer stations, with three stations at each of eight tables, and a teacher computer station with an OHP linked to a docucam and the computer. Using the textbook *Academic Writing for Graduate Students* (Swales & Feak, 2012), the class was gathering resources to write their own summary-response assignment during the period of the study.
### 7.2.1 Learning outcomes for Lorraine’s class

There are sixteen learning outcomes for the graduate writing class, which are reviewed periodically by the ESL faculty and revised as needed. These learning outcomes, shown in Table 25, can be classified in several categories: formatting and conventions, information gathering and citation, process writing, discipline-specific goals, grammar/vocabulary skills, and self-awareness'autonomy.

This list of learning outcomes is ambitious and Lorraine shared one of her self-identified major concerns that, as she put it, “the majority of [these] international students are not aware of and/or have not practiced the writing process, so that the idea that an academic writer needs to even draft and revise multiple times was quite surprising for them” (L2-05). This lack of awareness connects to a larger concern that Lorraine has for the graduate students in the ESL writing class, which is that one fifteen-week class is not enough for some of these students. A further concern is the range of student needs and levels within that one course.

[We have been] restricted by the curriculum, by the budget, by what other departments feel their students can do, but I’ve always been concerned that there’s no way that you can have one [graduate writing] class, and it will fit all the students’ needs and that after that class they will be successful [for] the different students within different programs... and [for] someone who is a master’s student and a doctoral student. (L2-11)

Because of this limitation, she is concerned about how to address the learning outcomes for students with such varied backgrounds, skills, and needs. She feels that success in meeting the learning outcomes is dependent on accurately assessing the needs and abilities of each particular group of students, which requires a great deal of flexibility in the teacher’s decision-making throughout the semester. Lorraine felt the learning outcomes in the categories of grammar/vocabulary, discipline-specific genre awareness, and autonomy and self-awareness could be addressed by using corpus tools.
Table 25 - Learning outcomes in Lorraine’s class

<table>
<thead>
<tr>
<th>Formatting and conventions</th>
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<tbody>
<tr>
<td>1. Develop a clearer understanding of the basic format of an academic paper</td>
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<tr>
<td>2. Increase your understanding of paraphrasing, summarizing, and synthesizing, along with how to avoid plagiarizing</td>
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<tr>
<td>3. Consider audience and tone when writing</td>
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<table>
<thead>
<tr>
<th>Information gathering and citation</th>
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<tr>
<td>4. Develop skills for gathering and organizing ideas (e.g., create an outline, draft a proposal)</td>
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<tr>
<td>5. Develop a clearer understanding of academic text organization (e.g., basic general-to-specific format, introduction/conclusion, use of cohesion to connect ideas, thesis statements/topic sentences)</td>
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<tr>
<td>6. Increase your understanding of ways to develop ideas (e.g., examples, application, analysis of components, important developments)</td>
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<tr>
<td>7. Understand the value of the process approach to writing</td>
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<tr>
<th>Process writing</th>
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<tbody>
<tr>
<td>8. Gain a clearer understanding of writing conventions in your discipline (e.g., use of certain verbs, use of citations)*</td>
</tr>
<tr>
<td>9. Develop a clearer understanding of academic writing genres in general and within your field (e.g., scholarly articles, class papers, academic e-mail) *</td>
</tr>
<tr>
<td>10. Develop skills to gather appropriate sources and cite those sources according to the style of your field</td>
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<tr>
<th>Discipline-specific genre awareness</th>
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<tbody>
<tr>
<td>11. Develop academic vocabulary and a greater understanding of the collocations within your field of discipline (e.g., Academic Word List, connecting words, definition structures, formal verbs vs. phrasal verbs, analysis of collocations)*</td>
</tr>
<tr>
<td>12. Develop skills in appropriately writing a variety of sentence types to express ideas (use of connecting words and punctuation)</td>
</tr>
<tr>
<td>13. Improve basic grammar understanding and use (e.g., generic nouns/articles, midposition adverbs)*</td>
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<tr>
<th>Grammar/vocabulary skills</th>
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<tbody>
<tr>
<td>14. Develop strategies for editing your own writing (e.g., read bottom up, read aloud)*</td>
</tr>
<tr>
<td>15. Increase knowledge and use of university resources (e.g., ESL tutoring lab, library staff, Endnotes)*</td>
</tr>
<tr>
<td>16. Increase understanding of writing strengths and areas in need of continued development, and develop strategies for growth*</td>
</tr>
</tbody>
</table>

*Learning outcomes Lorraine identified as most relevant for our study are in **bold**.
7.2.2 The students in Lorraine’s class

The students in Lorraine’s class were all graduate students at either the master’s or doctoral level. They were from a variety of language backgrounds, with the largest groups from Turkey and Indonesia. Other nationalities included Chinese, Korean, and Saudi. Of the fifteen students, eleven were master’s students and four were doctoral students. The fields of study for the master’s students were Economics (seven students), Nursing, Applied Linguistics, Instructional Design and Technology, and Actuarial Science (one student in each field). The fields for the doctoral students were Biological Science (two students), Learning and Teaching, and Physics (one student in each field).

Lorraine had come from an IEP background prior to teaching graduate level L2 writing, and one issue that she noticed was the mix of master’s and doctoral students in those classes.

So the first time I taught the class, I was trying to get a feel for the student audience. I knew that they were graduate students and I knew that they were from across the disciplines, and I knew that they were masters, potentially first semester master’s students, all the way to doctoral students- some working on their dissertations. So the thought of that was a little overwhelming, and the first time I taught the class, I didn’t think to focus on the basics, and then I learned pretty quickly that that was a mistake. (L2-03)

As her first semester with graduate students progressed, Lorraine was pleased with how students were working, but the issue of the range of student levels has continued to be a concern every semester, including the present semester.

I do think the majority [of the students] seem motivated, they enjoy working together, they do the work and meet the deadlines. There are some individual students that are really quite low [proficiency]. They struggle to even have conversations about their writing, about their discipline, and those are the students I worry about- there are three of them- because if they don’t pass the class, I wonder if repeating the class would be the best thing for them. (L2-32)
One concern that Lorraine perceived in teaching this class was addressing how her students learn to identify their audience, and then write for that audience. Some students identified their audience as solely their professors.

They were having a difficult time identifying audience, and through teaching the course I’ve come to realize that their goals are different, so some of them were writing to an audience of professors and they were struggling with the idea that ‘my professors already know this, so why do I need to explain it?’ And then that came into, I guess I should change the outcomes, so I should focus on some of the other characteristics like purpose and all that, because we had to talk about why are you writing- if you’re writing to your professor about a class, what is the purpose of that? What does the professor expect? So they came to understand that one of the reasons was to show or demonstrate their knowledge... [of] the topic, that they were trying to show that they also knew. (L2-03)

Other students realized that they needed to write beyond the audience of their professor and consider a broader audience of peers or the scientific community.

For some of the students, they weren’t thinking about writing to their professors, they were thinking about writing to their peers- they had a goal of publishing, and so of course when you look at all the characteristics, one impacted the other. So as I’ve taught the class, I’ve learned that I really have to be clear about all these as I create an assignment, and I have to tell them- this is your audience, this is why you’re writing to your audience, with [these] expectations. (L2-03)

One way that Lorraine addressed the range of authentic audiences within the class was to first bring all the students together to write for a common audience: undergraduates. For at least the first few assignments she chose to have them address an audience of undergraduates, using the rationale that many of the students would be dealing with undergraduates when working as graduate teaching assistants and they could work on more general writing strategies to address an educated but non-expert audience.

So we talked about what an undergrad audience would need to know. And that helped us all to come to the same place, and helped them understand how these things impact the way they write. And then I realized that when we can go pretty simplistic and focus on the basic format, that made the other pieces, as they become more complex- the other kinds of writing tasks- as they become more complex, they have that foundation. And I was able to then say, hey, remember this is how you develop an idea in English. Whereas before I felt like we jumped right into it and they were bombarded with ALL these different things- different genres, different citations, [etc.]. (L2-03)
One positive issue was the overall engagement of the students with language in their writing, though Lorraine, upon reflection, was concerned that time might not have always been wisely spent.

I think like any class, there will be times when a student or some students won’t be as engaged, and that can be with the cycle of the semester, the weather, other commitments, but by and large I think that they’re pretty interested. A funny thing happened last class. They as a whole- I would say even if there had been an observer looking at each one, they would have seen every student was very, very interested in something so trivial as transition words and putting them in the middle of a clause instead of [at the beginning or end]…They were asking questions, they were using [Compleat Lexical Tutor], they were calling me over. ‘Notice that the *however* is now at the end.’ ‘Comma, however, period’ and then noticing that [it] happened usually when this idea was very short. So they talked about why that might be. And … I left the class thinking I was happy- I had organized the lesson but I didn’t really think it was going to take that long and I was happy with how interested they were. But then I left the class thinking ‘was that a good use of time?’ when for some students maybe there are bigger issues [laughs] than putting ‘however’ in a unique place. Even students who I think are listening and they do their work, they even ask questions about that. (L2-38)

Lorraine appeared to second-guess her initial satisfaction with this section of that day’s lesson because, as she continued to reflect on the lesson, she began to wonder whether that degree of ‘noticing’ was actually the best choice for those precious minutes during class. This theme of time, and how to best use available class time is a powerful theme that Lorraine, like Cecilia and Simone, returns to frequently when reflecting on her teaching in general as well as on the use of corpus tools in class.

One issue in this class is that Lorraine had difficulty with some of the students’ fields which were new to her. This concern is connected to two of the categories of teacher concern that Breen (2001) identified: the concern regarding the particular attributes of learners and also the concern over the subject matter, which in this case included not only language but also the discourse of specific academic fields.

I think that I had a growth period this semester with this class, only because they asked a lot of questions, and by asking questions I started to feel as if, one, maybe I don’t quite understand the different expectations for the tasks we were working on within their fields,
and two, I feel like I tried- in my effort to fit all of the things I am trying to fit within 15 weeks, I feel like I cram too much and it would have been better to separate what I ask them to do into maybe two or three assignments. (L2-09)

As mentioned earlier, Lorraine feels that she becomes energized by her students’ enthusiasm, and the group of students in the semester we worked together was no different. In fact, she had several education students who told her that they were considering teaching classes similar to Lorraine’s class once they had returned to their home countries.

7.2.3 The book in Lorraine’s class

Lorraine used Academic Writing for Graduate Students: Essential Tasks and Skills (Swales & Feak, 2012) in her graduate writing class. She has used several editions of the book and has been satisfied, though she feels that the book does not provide enough full-length models for the kinds of writing that are being taught. One strategy Lorraine uses to address this gap is to supplement the book with a course pack that she created and then modifies after every semester, based on insights she gains each time she teaches the class. Here she reflected on trying to provide additional material about problem/solution writing, which is emphasized in the book as important for graduate student writing.

It’s good for the language that might be used for the different genres, but I do feel that a lot of the short models are really weak and it’s not only me. The students will say ‘why did the writer do this or that?’ which is exactly what I thought. It seems like, they’ll have two lines, for example, in the problem/solution- that identify the solution and I say go write a paper, and they see this example in the book. And it’s not explained, so that part is lacking and then I’ve tried to create a course pack but every semester I change it [and] I add to it. (L2-30)

The textbook is designed to be used selectively by teachers, and it has eight main units, which include one introductory chapter, a unit on moving from general to specific or specific to general, four units on different genres of academic writing (problem, process, and solution; data commentary; writing summaries; writing critiques), and two units on constructing research
papers. The current third edition of the book now uses, for the first time, data from the MICUSP corpus of student writing and has added several corpus-based activities (Swales & Feak, 2012, p. x).

One tool suggested in the textbook that Lorraine referred to when she discussed her own past use of corpus tools is Google Scholar (Google, n. d.). In one activity “Using Google Scholar to Identify Potentially Useful Words and Phrases” (Swales & Feak, 2012, pp. 28-30), the student is given directions on using this online tool to help build their vocabulary knowledge and collocational awareness. In addition to encouraging the use of Google Scholar, Swales and Feak go on to suggest that students investigate other online corpora and consider creating their own corpora as well. The fact that Lorraine has used Google Scholar rather than other corpus tools may illustrate the powerful role that textbooks can play in getting teachers to consider new activities. When the textbook includes corpus tools, teachers may feel that these tools have more permanence and play a more integrated role with the textbook activities in general.

In addition to the corpus-based activities in the textbook, under the heading of online resources in her syllabus, Lorraine had added a section entitled Using corpora with links to several websites that she had used in the past (Compleat Lexical Tutor and COCA) with a brief explanation of the terms corpus and concordancing: “A corpus is a collection of texts (e.g., articles, novels, journals). A concordance is an alphabetized list of important words” (Lorraine’s course syllabus). While these are incomplete definitions, they at least bring these terms to the attention of the students.

7.3 Lorraine’s decision-making process for the corpus tool

In this section, Lorraine describes her previous experiences with corpus linguistics and corpus tools in teaching and learning. She discusses how she could use corpus tools to address
learning outcomes and student needs for this class. Also described is how she and I planned the lesson that incorporated the corpus tool.

7.3.1 Lorraine’s initial approach to corpus tools

Lorraine did not have any experience with corpus tools as a language learner or as a student teacher. When asked whether she had used any corpus tools at that time, she laughed and wondered aloud if the term had even existed at that point! Part of the reason that she was excited about participating in the study was that she felt there was unrealized potential that she hoped to learn more about.

I think my first reaction [to the phrase corpus linguistics) is I don't really know how I would use it... I do think of like, creating corpus- I had mentioned that before- it would be wonderful to be able to show students how to do that, especially in the grad class, so that they could all be creating their own- I don't know- PDF files or whatever, so that's my first reaction... I've read things about it, I've talked to colleagues about it, but I don't really know how to utilize it in my class, within my fifteen weeks. (L1-51)

Prior to this project, Lorraine had limited experience using corpus tools in her teaching. Her primary exposure had been to have students explore some of the tools in the Compleat Lexical Tutor website (Cobb, n.d.), the textbook activities (discussed in Section 7.2.3 above) that had students search for words and phrases in Google Scholar (Google, n. d.), and some basic concordancing on the COCA website (Davies, 2008). However, Lorraine stressed that it had been “very, very minimal- it's kind of in-the-moment when a student will say ‘How do we use this word, or this phrase?’ and I'll say ‘well let's go check, let's look at [Compleat Lexical Tutor]’ and then they'll all go to [the website] and they'll say, ‘oh it looks like- this form of the word comes’- yeah- so I feel it's just in the moment, and... I don't really know how useful that is” (L1-67).
Her view on data-driven learning (DDL) and students’ analysis of concordance lines is that they could be useful tools for students in her classes and that teachers should understand them. She recounted one successful earlier experience using the Compleat Lexical Tutor.

There was one example that I ended up typing up and giving as a model to students. It's almost embarrassing to say. It was when they were in the writing process and it got to the end, and the feedback primarily was on vocabulary and grammar type issues. They had to choose two or three things- errors, let's say- that they wanted to learn more about. There was an example- a student had the word motivate, and she had used the wrong preposition and so I showed them how to use- I think it was [Compleat Lexical Tutor]- how they could go in and analyze a word that they weren't sure how to use. Then they were supposed to copy down three lines from [Compleat Lexical Tutor] and then revise their sentence. And it ended up she could revise hers too; based on the model, she changed one into a noun- 'a motivation for' and another one- she used 'to motivate' … And she had commented how empowering it was to her because she could analyze and she came up with a couple of ways to use that term. So, then I typed it up and I’ve given it out to students when we’ve done a similar task. So that was one way that I used it. (L1-59)

Though she had little experience other than that with the use of corpus tools directly with students in her own teaching, she initially felt that she would like to learn more about it because she believed it could be applied directly to her classroom teaching, it might energize students, the concepts would be easy to understand, and she had a personal interest in the topic. However, she expressed concern about the amount of time it would take for her to learn how to use it effectively and also teach it to her students in class. She expressed interest in using MICUSP ("Michigan Corpus of Upper-Level Student Papers (MICUSP)," 2013) for two reasons: i) she had attended a presentation about it during a previous semester, and ii) it had been added to the latest edition of the textbook, which gave it greater import and might be easier to integrate into the textbook-based syllabus.

I feel like we are always trying to cram so much into [the graduate writing] class, and someone had asked a question in class, and I had said, you know, this MICUSP would be a perfect place for you to analyze, but we didn't have time to show it in class and I said I'll email you the website and I'll try to make time for [it] in the next couple weeks. And a couple of students emailed back and said the website was great but I didn't really dialog
what they... I think it is pretty user-friendly, but I don’t really know what they did with it. So I think that would be one thing probably I could do more with. (L1-61)

She also stated that she would like to learn more about how to have students create a corpus and use corpus tools to improve writing and genre awareness. Finally, she felt that the most important factor in making corpus linguistics training effective for classroom teachers is making it practical. Specific institutional constraints also play a factor in how much time or energy teachers could spend on new methods or tools, because, Lorraine explained, “I don’t think anyone would say we [in her program] couldn't do anything, but I really don’t think anyone outside of [our program] is thinking about what we are doing [and] there is nothing in terms of course releases- anything we do as far as curriculum development we do while we are teaching the classes” (L1-73). In saying this, Lorraine acknowledged the isolation of being in a small program (two full-time instructors) with few funding opportunities to go beyond teaching into more substantial curriculum design or teacher-based research.

7.3.2 Planning out possible corpus tools

In the corpus working session, Lorraine and I worked on creating one aspect of her lesson plan that would incorporate corpus tools. Boulton (2010) has suggested that some corpus-based activities could be paper-based so students would not need to engage with the corpus tools directly. However, because Lorraine wanted to provide these students with skills that they could use beyond this class, she chose to incorporate a corpus-based activity that would require students to learn and use an online corpus tool that they would be able to use on their own. In other words, she wanted students to become researchers of the language that they would need in order to write academically in their fields.

One possible area to incorporate corpus tools that Lorraine felt might address several of the learning outcomes for this course was connected to summary writing, one of the units in her
textbook where she felt students needed more guidance. Lorraine’s textbook introduced summaries as an important writing skill, and “in an academic setting especially, summaries can form an essential part of our preparation for an exam, a class discussion, a research paper, a thesis, or a dissertation” (Swales & Feak, 2012, p. 188). For this course, Lorraine “had planned what we are calling the summary-response paper and my goal in doing that was to be able to talk about summarizing, not as summarizing something as support for a point you’re making but summarizing as a genre” (L2-16).

Lorraine also considered the use of attribution and reporting verbs when citing a source (e.g., state, report, suggest) and the use of the demonstratives this/these/that/those acting as either modifiers (e.g., these concerns were troubling) or as pronouns (e.g., this is never addressed). These decisions were based on her experience teaching multiple semesters of this course, her sense of the needs and personalities of her students, and her evolving understanding of the specific fields that these students were working in.

Another area of concern was that the students lacked the academic and specialized vocabulary necessary to write effectively in their fields, which was an area that Lorraine felt might be useful to address. She described one episode when doing database searches for articles was hampered by an apparent lack of vocabulary knowledge.

We went to the library database and I showed them how I search and how you can’t read all the articles and I looked at the titles that came up. Let’s say I don’t know a whole lot about my topic- I’m new to the field- I want to get background information, information about the problem, what others are saying about ways to resolve the issue...so they had it on the screen and they were doing it, too. All the articles, and then I realized they didn’t have the vocabulary to identify that an article [was] on different things so... ‘I’ll show you the vocabulary’ so we made a list [of words that reflected a problem, words that reflected a solution, etc.]...so one article used the word dilemma and [maybe] they didn’t want to respond, but no one responded when I said if you see dilemma do you think that’s going to focus on the situation, the problem, the solution, or the evaluation? Nobody responded. (L2-44)
Lorraine was enthusiastic about trying to have students create their own corpora of research articles because she felt that how wonderful [it would be] if I could show an example and they could go in their readings- that they’re reading for their other classes, and then they don’t have to be restricted by not understanding the vocabulary or the ideas that are being presented... and then for me, I kept saying, ‘in MY field, but your field might be different’ then they could go there and see it and talk about that.” (L2-70)

However, she began to feel hesitant because of the amount of time involved for students to learn the process. Rather reluctantly, she decided against having students create their own corpora due to time constraints, though she remained committed to trying to do that eventually (LWS-005-009). Once again the issue of time and her own degree of expertise limited her enthusiasm, “because I always feel like- I get stuck or I don’t know how to do it, and then I think- I’ve got other things to do- I don’t have time to figure this out right now- I’ll do it next semester [laughs]” (L2-68).

After considering various possibilities, Lorraine decided on focusing on summary words following this/these for several reasons. She felt it connected well with the summary-response genre that the class would be working on. She also saw this as being doable within the time constraints of her course and it could be easily integrated into her existing syllabus. She felt that it could provide students with both an actual and perceived sense that their vocabulary needs were being addressed. Finally, she perceived that it was a need for this group of students to work on to meet the learning outcomes.

That’s always an area - incorporating scholarly research and how you do that- I think it’s always crammed in at the end, so it would be nice to at least give them a tool - I don’t have to acknowledge that we didn’t do as much as I’d like to, but here’s a tool. (L2-88)

Once she decided on this area of focus, she reflected on the needs of the students, based in part on their level (master’s or doctoral) and their majors. One immediate issue was how to explain to the students what a corpus is and what the students would need to bring to the class.
Even though she had decided against focusing on having students create their own corpora, she still wanted them to start gathering articles from their field, in large part because she felt that each field is so specific. In other words, she wanted to lay the groundwork for the possible creation of student-generated corpora, even if not given that name. The benefits, as Lorraine saw it, would be twofold. First, the current students would have started the process of gathering a principled set of texts, one of the first steps in corpus creation. Second, Lorraine might also feel more confident integrating it into future syllabi, as she felt that it matched the other elements of the course, especially the portfolio.

[Doing this] would fit nicely with the portfolio idea because what I’ve told them throughout the semester: a one-semester writing class cannot fit everyone’s needs and we brainstorm and we talk about what they can do after the class is over... to continue to develop and become better writers.” (LWS-026)

During our corpus working session, Lorraine reflected on ways to connect the use of corpus tools to the students’ long-term needs as well as their immediate assignment requirements, noting that “the problem-solution paper is requiring them to use at least 3 credible sources, so chances are one of those three could be saved as a text file. And those are under topics, here’s one, excise taxes, [that are] very specific” to their academic interests (LWS-048).

After some discussion, she decided to use the online corpus tool MICUSP to help students notice and analyze writing that uses the demonstratives this and these acting as modifiers for nouns that summarize or refer back to an idea mentioned earlier in the text. Lorraine labeled these words summary words, as illustrated in Table 26. The MICUSP tool is discussed in more detail in Section 7.3.3 below. There were several factors that went into deciding to use this tool. While she expressed concerned that the student papers might not be the ideal model for writing, especially for doctoral students, she wanted students to have tools that they could use on their own. She felt that an online tool that they could easily access would allow
them more autonomy beyond the class. Perhaps most importantly, the textbook (Swales & Feak, 2012) made several references to MICUSP and used its data in several activities, which lent it more weight in her eyes and, she believed, in the eyes of her students.

Table 26 – Examples of this/these + summary word from MICUSP (used with permission)

<table>
<thead>
<tr>
<th>Target phrase</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>This + summary word</td>
<td>The percentage of part-time faculty in higher education has grown considerably over the last forty years. <strong>This trend</strong> has been especially steep at community colleges across the country. (MICUSP text EDU.G3.04.1,)</td>
</tr>
<tr>
<td>These + summary word</td>
<td>Citizenship education has historically been, in some shape or form, an overarching goal of public schooling in every society. In multicultural societies, however, this becomes even more of an imperative. Unlike ethnically homogenous societies where a shared genealogical lineage provides a common national anchor, multicultural societies typically rely on what Michael Ignatieff terms civic nationalism where national identity is based on the commitment to a set of common institutions and political rights. As such, school systems in these societies become even more important, bearing the mantle of bring together children from different backgrounds by developing this commitment. (MICUSP text EDU.G3.01.1)</td>
</tr>
</tbody>
</table>

She decided to focus on *this* and *these* in part to fit the limited time she felt was available for the students. She therefore opted not to include *that/those*, or reporting verbs, or any attempts to have students create or analyze their own corpora. Instead, she decided that they would notice the patterns using MICUSP and then use that awareness to complete a text-by-text analysis of their field-specific readings and their own writing.

Lorraine identified an earlier section in the textbook that focused on ‘Old-to-new Information Flow’ that stated “an old-to-new pattern can also be achieved by using *this/these* + a noun, which refers back to some or all of the preceding sentence” (Swales & Feak, 2012, p. 32). Lorraine considered having students find examples of *this/these* from MICUSP and write down the summary words that followed them, though she noted that it would not be just the preceding
sentence “because oftentimes it’s referring to more- the paragraph before” (LWS-097) or extratextual referents. Although Lorraine’s textbook emphasized the noticing and use of summary words after *this/these*, a concern raised by Gray and Cortes (2011) is that in some cases in published research articles no summary word was used because “restating the finding would be awkward, inefficient, and repetitive, and it is questionable whether a single-word nominalization can accurately portray the meaning of the antecedent” (p. 38). This corpus-based research runs counter to what Lorraine perceived as the textbook’s emphasis.

Lorraine also felt that this activity would connect to the current writing assignment because it “would work nicely with the problem-solution paper, too, because they’re referring back- this situation, this issue” (LWS-105), and that it would supplement the textbook in areas that she felt it was lacking (LWS-103), in part to its limitations on the length of model texts.

In creating materials for this lesson, Lorraine wanted to provide students with clear instructions and modeling in handouts, giving them opportunities to notice the patterns away from the computer, and then have them move to the computer-based activities. She was unsure of the amount of time students would need to complete the activity, so she had “another activity planned, giving them examples of other things that they could search for, and asking them to brainstorm and begin a search on a new thing” (LWS-198).

The MICUSP interface was causing some concern as we planned the class, because i) there were long delays after putting in search terms and ii) it was not easy to tell whether the program was working very slowly or if it had frozen. Lorraine also expressed concern as we prepared the materials that she might not be able to explain everything that appeared on the website, similar to the additional information Cecilia was uncertain about in the VocabProfile tool (See Section 5.5.5 in Chapter 5) and Simone was uncertain about for the KeyWords
Extractor tool (Section 6.3.2 in Chapter 6). Lorraine also debated how much detail she should share with her students. She decided to just use the aspects that she had identified as critical, and deal with any student questions about other elements of the webpage if they arose in class.

7.3.3 **Lorraine’s corpus tool: MICUSP**

Lorraine decided to use MICUSP based in part on its availability and in part on its focus on academic language, although she did express concerns about the kind of writing that was used. This focus on having tools that are accessible plays a role in teacher decision-making. The MICUSP tool was mentioned in several teacher textbooks (Bennett, 2010; Reppen, 2010) but more importantly, it was highlighted in the ESL textbook used in the class (Swales & Feak, 2012) as a useful tool to supplement the textbook. This connection to the textbook was a key factor in Lorraine’s decision to use this tool.

In contrast to the tools used by Cecilia and Simone (VocabProfile and Keywords Extractor, respectively) which used a ‘general’ corpus for comparison with user-submitted texts, the corpus that served as the basis for the MICUSP tool was a specific set of student-created academic texts. In addition, the tool could not be used with user-selected texts, unlike the Compleat Lexical Tutor tools.

MICUSP consists of around 830 papers (roughly 2.6 million words) of different types (e.g. essays, reports, response papers) from altogether 16 disciplines within four academic divisions (Humanities and Arts, Social Sciences, Biological and Health Sciences, and Physical Sciences). All papers included in MICUSP were written by final year undergraduate and [first, second, or third year] graduate students who obtained an A grade for their paper ("About MICUSP," 2013, para. 3).

Once the user opens the webpage, there are a range of choices for selecting a sub-corpus (a smaller portion of the overall corpus) to examine. For example, a user who does not want to examine undergraduate papers could filter the corpus so that only the graduate level papers are used. Likewise, the field of study, type of paper, nativeness (is the writer a native speaker of
English?), textual features, and paper types (e.g., creative writing or research papers) are all categories used to create a specific sub-corpus. This interface is shown in Figure 15.

![Figure 15 - MICUSP interface (screenshot used with permission)](image)

Once the target words or phrases are selected, and any filtering is put into place to limit the texts that will be examined, the tool provides a results page (see Figure 16) that provides context for each occurrence of the target word or phrase. Each occurrence is highlighted in yellow and there is a link to the entire paper for each entry.
For Lorraine’s class, the students used the filtering tools to narrow the search. Not surprisingly, for common words such as *this* and *these*, every paper had multiple occurrences, which produced potentially overwhelming results as well as slowing down the response time for processing queries. Students selected relevant fields and paper types as filters when they did their searches using the interface, so each student had a different set of text excerpts that showed occurrences of *this* and *these*. The lesson is described in the following section.

### 7.4 Lorraine’s lesson

The lesson that incorporated the corpus tool was a 75-minute lesson near the end of a unit from the textbook on problem-solution writing. Each student had a rough draft for an essay describing a problem in that student’s academic field and presenting a possible solution. The class was held in a computer classroom that had eight student tables, with three student computers at each table. There were a total of fourteen students, each working on a computer.
The students sat in groups of two or three at a table, and Lorraine used the teacher’s station computer and the projector to take them step by step through the activity.

After about five minutes during which Lorraine talked about an earlier assignment, she introduced the task for the first part of the class, which was to find patterns in academic writing containing the words *this* and *these* after reviewing the handout with her students. All three teachers, Lorraine, Simone, and Cecilia, were concerned about possible technological problems when using online corpus tools, such as websites freezing up or becoming extremely slow to respond. Therefore, Lorraine explained to her students at the start of the class session that they would be using the MICUSP website, which she had introduced to them the week before. She explained that the website was no longer being maintained so it might have some technical problems when they used it. This warning was prescient since the website almost immediately stopped working.

Lorraine noted in the interview after the class that “there was a little bit of panic when there was the technical problem, so I was thinking ‘okay, what can I do? What can I do?’ and that’s why you might have noticed I went to some [students] and said why don’t you do the “search and find” for your own essay, and then we can go back” (L3-003). To address the delay caused by the slowness of the website to respond to multiple requests, Lorraine modified her lesson plan by first having the students begin to notice *this* and *these* in their own rough draft using the “search and find” feature of Microsoft Word, rather than noticing it in the texts from MICUSP.

During the stimulated recall session in Interview 3 (the post-lesson interview), Lorraine reflected when she paused the video recording after the first few minutes of the lesson that it “was not working like I had wanted, so- but some students’ [websites] did come up, so then I
thought, okay, I’ll just go to the docucam and show the handout but now, thinking back, if they had never gone to the screen before, and it wasn’t working for them, I don’t know what this would mean to them. Do you know what I mean? If you had never looked at it before, and now…” (L3-130). Lorraine tried to identify which issues would be most confusing to the students: the delay itself, or Lorraine’s moving to material that some students would not know what to do with.

Per Lorraine’s suggestion, while waiting for the website to start working, some students began to use Microsoft Word’s ‘find’ feature to locate their own uses of this and these, and to notice how they were using them: were they acting as pronouns, or were they modifying other nouns, and if so, what nouns did they modify? Eventually, all the students were able to use the MICUSP website, and Lorraine gave them the instructions to complete the handout first using essays from MICUSP and then using their own essays.

Students spent the majority of the class completing the handout (See Appendix C) and discussing their findings with each other and with Lorraine. As Lorraine walked around, she noticed several issues for individual students. First, because she had the initial delay when opening the MICUSP website, students began to access the website on their own and started to skip some of the steps that she wanted them to follow, such as setting filters on the kinds of texts they would access. In the stimulated recall session, Lorraine noted that she had anticipated that this might occur, however, and did not feel it was a problem. She just continued to show her own model on the OHP, answering student questions as they came up.

I know that this particular group of students, they all work at their own speed. And I found that if I give them all the directions and try to do it in a clear manner, they are able to retain that and they follow through. But otherwise, if I don’t- if I give a piece, then as some students get to the second part, I’m repeating over and over. [Laughs] And I think- my memory was I forgot to do that, because then I interrupted them and showed them. (L3-013)
Lorraine ended the class by asking the students how they might use this tool in their own writing in the future, and one student commented that this tool, in contrast to the Compleat Lexical Tutor, which had been used briefly earlier in the semester, allowed them to access larger chunks of text which, in the case of finding referents for a summary word following *this* and *these*, would be useful when the referent is not immediately preceding it (within the character limit of a typical concordance line).

Lorraine then thanked them for their patience and mentioned that after the semester she would send them more information about creating their own corpus. The students seemed energized and continued talking about their discoveries for about ten minutes after the class had ended.

### 7.5 Lorraine’s response to the lesson

As mentioned earlier, each participant had a stimulated recall session during Interview 3. As she watched the video, Lorraine would pause the video recording and share her reaction to how she felt the lesson addressed her needs at the time, and then she also shared her thoughts on how or if she might use the corpus tool again.

#### 7.5.1 Student buy-in

Lorraine felt that the students enjoyed doing the activity on *this/these* and learning about this tool in general. She did note, however, that some students seemed frustrated by the website freezing up. During the stimulated recall session, Lorraine saw one student in particular “getting frustrated- physically, I could see- she was like making her body language and her facial expressions were of frustration, which made me a little bit more panicked because she’s very easygoing, so I started to think ‘oh gosh’” (L3-114). Perhaps because she was an experienced teacher who had dealt with technological hiccups before, Lorraine laughed off the delays, though
she was concerned and, in the midst of the website freeze-up, she accidentally told the students
to log off the computers instead of telling them to close the non-functioning browser window.

In a follow-up conversation in the next class, students expressed that they liked the
activity despite the delays, but Lorraine also mentioned that she cut that conversation short due
to new time constraints; their rough drafts required extensive revision and they all wanted to
spend the time available with Lorraine to talk about specific issues in the drafts.

7.5.2 Addressing issues for students’ specific fields of study

One of Lorraine’s major needs is to adequately address the students’ needs that are
specific to their field of study. In one instance, Lorraine commented during the stimulated recall
session about an Economics student’s repeated use of the phrase this solution.

Lorraine: There was one of the economics papers where [the student] made reference-
[he] identified a problem, and because of the problem, he had to give a lot of background
information to introduce the solution, so there was lots of text, actually three paragraphs,
I think, and then he said the solution. And it wasn’t clear to me what- I had to read it a
couple of times- it could have been that I didn't understand the content, but that was one
where I felt he could have done something more to elaborate, instead of saying 'this
solution’ It’s like he had to introduce the solution first.

John: So there was no referent?

Lorraine: Right. And it might have been his. ... I think it is! [pointing to the video] Look-
it’s way down there, and then he’s saying ‘this solution.’ These are his mentor’s
comments [in the student essay margins]. Actually, that’s another thing I’m going to
write down, because for this particular paper, because it’s a problem-solution, when they
say this solution it’s not always clear, even though they’re using this and in their minds
they might think that’s clear, but I don’t know. That might be something to do with this
activity, is to look not just at the word that comes after, but to look at the noun phrase that
comes after. (L3-168)

In this exchange, Lorraine identified several needs that she had when teaching this class.
She was able to integrate the field-specific issues with the student’s more general language issue
of maintaining cohesion through the effective use of this + summary word. Lorraine also made a
passing reference to another of her perceived needs when she stated that “it wasn’t clear to me
what- I had to read it a couple of times- it could have been that I didn't understand the content” (L3-164). She acknowledged that her understanding of each student’s specific fields was, understandably, incomplete. This is also an area where she hoped that the use of corpus tools might allow the students to adopt a more autonomous role in becoming more of the expert in their own development as writers.

Another element of this lesson that Lorraine noticed was relevant for her students’ individual fields of study comes in this excerpt during the stimulated recall session about an exchange with Sera, one of the masters’ students in education.

Lorraine: Sera called me over- she had used this kind of pedagogy- and then I don’t remember what I said, but maybe I said this kind of is not very scholarly. Then she did a search and she saw that on one of the papers they wrote this type of something, so then she changed it to type and [she] seemed kind of pleased with herself. And then [in the following lesson], one of the guys who sits up here, he pointed out, and he acknowledged, he had [written] kind of something, he said “I know this isn’t very formal but I don’t know how to do it.” And then I said, ask Sera, so she told him and then she was happy.

John: So she became the expert.

Lorraine: And now she knew- I’m sure we talked about it, and our book has a unit in the beginning about informal words. I think kind of is even in there. This, I bet, now she’s going to remember, because she found it. (L3-181-183)

This reflection by Lorraine also highlights the connection between student engagement and Lorraine’s conscious identification as a need that she should learn more about the students’ genre-specific language. Each of these students noticed and then used the vocabulary, building what Lorraine perceived as useful field-specific writing skills. In addition, Sera was able to share, with some confidence, her own conclusions about the formality of these phrases.
7.5.3 Student autonomy

For Lorraine an important need is to foster student autonomy. Despite the technical failings of the website, she noticed that, at least for one student, this class session provided him with a valuable way to take more control of his writing.

Something that I learned from the activity, something that came out of it, because I’ve never explicitly shown or taught the ‘search and find’ and one of these students came to see me yesterday, and he always has a problem with two types of verbs, one: after modals he’ll use can speaks, and verb forms after prepositions. He’ll often do weird things and we were looking at examples. And I was saying oftentimes it’s the -ing form, turn it into the noun form through learning- so, we talked about that. We were trying to figure out if… in his Bahasa language are modals used, and how are they used? Because I had noticed it in a lot of the other students who speak Bahasa. He said he couldn’t figure out why that was an issue, but then we had gone over editing strategies and I had been saying “it’s time-consuming but even if you go sentence by sentence and look for modals.” And he knew what a modal was. He could list them. And then consciously check the verb. But then, because of this lesson, I said- you know what? … I said, let me [pull] up your paper [electronically]. I think I said “might.” He said “oh no, we wouldn’t use might in my field.” Economics. “So what would you use?” He said, “we would use can or should.” So I did a search in his paper for can and there were like seven examples, and two of the seven had can with the wrong form of the verb. So he looked at it and it was almost like you could see a light bulb. He’s like “oh, I could do that after I write a paper.” But that wouldn’t have- I wouldn’t have thought about doing that because to me it’s sort of common sense, but it wasn’t common sense for him, but it came out of this activity. That idea came out of that. (L3-153-155)

While this was only one student, it was a powerful moment for Lorraine because she felt it had been an effective way to allow the student to determine a useful strategy that he could continue to use after the writing class was finished.

7.5.4 Integration into the syllabus

The activity seemed to integrate seamlessly with the other aspects of the lessons for this unit, in Lorraine's view. She also felt that it could be integrated even more fully by taking it to the syllabus level rather than just this one activity.

I was aware of it, but… I personally hadn’t done too much with it. I mean very limited - someone would ask a question and [I’d say] ‘let’s go to [Compleat Lexical Tutor] and see’ but I think I would do more with it. One thing I noticed- the feedback that I gave on
their last paper, the problem-solution paper, in the past I would often clarify, let’s say someone wrote *he responsible at something*, I might have highlighted this and said ‘the phrase- the group of words is *to be responsible for something*’ or I have a list in our course pack, so I might say “add this to the chart on page x” but the feedback that I gave for this last paper was “go to [Compleat Lexical Tutor] or another corpus and do a search for *responsible*, and analyze how that word is used.” And almost every paper had something like that, so I think I would do more of that from the very beginning. So if we’re integrating it throughout the course, then hopefully they would be doing that on their own. (L3-026)

Lorraine addresses several of her self-identified needs here. First, she wants to provide more relevant, accurate language knowledge. In addition, she wants students to become more autonomous.

### 7.5.5 Her own comfort level

Lorraine was concerned when, about ten minutes into the lesson, the website did not function smoothly, noting that “I wasn’t completely comfortable, only because… I’m a planner and I like to know what’s going to happen, and I wasn’t exactly sure the kinds of things they were to find, or if they were going to enjoy it, or find it helpful, so I was feeling anxious inside” (L3-003). That initial delay caused by the website problems had a ripple effect, leading to a slightly rushed ending to the class that resulted in a less than ideal closing, in Lorraine’s view.

It took so long for some of them to get on [at the start of the activity] that I didn’t want to just end it, but I didn’t like how the class ended. I felt like I could have summarized, I could have recapped some of the key things, but I felt like I was sort of “okay, have a good weekend” so that’s another thing I would have done differently. I wasn’t feeling very comfortable doing this. (L3-176)

However, in general she felt that it was a relatively informal class session. The overall atmosphere of the course was relaxed, with students having the choice of either working alone or in pairs, and that atmosphere suited this activity very well. She noted that “it was interesting to me that a couple of [the students] called me over to show me what they noticed, so I would try to structure it in that sense to still allow that kind of thing” (L3-024). These student-initiated
exchanges fit nicely with Lorraine’s perceived need that students should engage with the material and the activities in the class.

7.5.6 **Would she change anything?**

Lorraine felt that the class was a success (L3-005), but if she taught it again, she would spend more time at the beginning of the class reviewing their textbook-based previous class about the uses of *this* and *these*, rather than just jumping into the activity.

We had talked about *this* and *these* and the summary words, and they did activities, and we talked about why it’s done … but that was really done for the very first paper. So I think I would have spent the instruction [time], where the introduction was done- I think I would have spent more time. “Let’s refresh, remember we did this. Why do we do this?” I would have asked more questions to get them thinking about it. Because my impression was, from a couple of students, they had forgotten it… [so] just talk more about that, and then I might have gone more slowly through a couple of the steps and look at the example. But I remember I started to panic because [the MICUSP website] wasn’t coming up, and I was thinking “oh, great, now what am I going to do.” (L3-021-023)

During the stimulated recall session, she also noted that at one point during the class she had encouraged one student to write down his observations; upon reflection, she felt that in the future she would do more of that, and more systematically so that students could share their insights beyond just with their tablemates (L3-024). She also would like to have more concrete tasks available to give to students individually as some of them moved much more quickly through the activity than others.

And I’m sure the next time I do it, I’ll also go in having in mind some things that they might look for, so - and that’s what I like to do, I just like to know- so in case it doesn’t work I can kind of feed a little… Have you thought about this? Why don’t you look for that? So now I feel like I have more- I know- whether or not the technology changes, I think I would still feel more comfortable using it. It’s just knowing… if you’re prepared. (L3-192)

7.5.7 **Would she use it?**

While Lorraine enjoyed the activity and felt that the students gained valuable insights as well as a new tool to use on their own, she saw the role of this particular activity as limited in her
future classes. She felt that doing it once or twice, perhaps at the start of the semester, would be sufficient and beyond that it might get boring for the students as an in-class activity (L3-044). What she did envision, however, was making the students more active participants in their own learning by engaging them in the process of exploring the tools.

I think this particular student audience, I could see them coming up with their own activities, and that might be something to try. Create an activity and get with a partner and exchange; something like that would be interesting. And this particular group, too, had at least three education type majors- they were really into how to use it as an educational tool… I might give them options, like the second time we’re going to look-you can choose between doing A or B, and then try- I haven’t thought through it enough-but trying other things later on that would require them to go in and do an activity, increase their awareness, and then go to their paper and make changes, and then write something down about what changes they made. Something like that. (L3-046-048)

In addition to addressing the issue of student autonomy and the development of useful field-specific skills for students beyond the classroom, this also targets the concern identified by Lorraine that students are engaged in class.

7.5.8 Using corpus tools in the future

Lorraine’s determination of how she might use corpus tools in the future is complex. For her, there are two issues, one related to the specific tool she used and another that more broadly addresses corpus tools in general.

One concern identified for teachers regarding corpus tools is ambivalence about putting students into the role of researcher (Boulton, 2010). This concern was raised by Cecilia in Chapter 5, and Lorraine raised it for her students as well. When reflecting on the impact of the lesson, she recalled how her view differed dramatically from that of one of her students regarding an exchange during the lesson on this/these.

When I asked [the students] to talk about what they learned or discovered, some people talked, and then one guy, who I remember asked me a question and it was really interesting to me that he noticed it, I said “what about you? Do you remember what you asked me?” “No,” [he replied]. I said “you don’t remember talking to me about that?”
“No,” and he was like completely puzzled- he didn’t even remember asking me anything, apparently, and then I gave him the example, the way that I recalled it, and it was- I said “are you sure? I’m sure it was you. I don’t think it was anyone else.” [Laughs] So then it made me- I kind of laughed to myself because here it had significance to me because I thought, wow this is really working, but to him... he got whatever he needed for that moment, and then... (L3-064)

As Lorraine reflected on this incident, it seemed that she was acknowledging the tension between a language teacher’s enthusiasm for linguistic and pedagogical knowledge and a student’s more practical approach that might view language, as Cecilia mentioned in Chapter 5, as just one of various necessary tools to get to somewhere else.

Lorraine felt she had a successful class session, though there were problems when the website did not function as smoothly as she had hoped. However, as an experienced teacher, she was able to shift the students away from the malfunctioning website to another task until it was resolved. Her perceptions were that the session worked well to address the issues that she had identified:

• creating more student autonomy,
• allowing students to interact directly with language patterns in their own fields and,
• to some degree, becoming more expert on that language.

It also provided students with useful ideas about the kinds of summary words that appeared after this and these in their targeted articles. However, Lorraine felt it might not address the broader issue of the patterns across a larger (or differently focused) corpus. She also felt that, the student papers in MICUSP, while endorsed in a sense by the textbook authors, might not have been the most appropriate corpus to use, especially for doctoral students or others who hope to publish their writing. Lorraine expressed interest numerous times about how to provide opportunities for students to create their own corpora, which she felt could have benefits, though
perhaps outweighed by limitations. Time, availability of training, and the complexity of the tools could be factors that may limit Lorraine’s enthusiasm for further use of corpus tools.
8 DISCUSSION AND CONCLUSION

After examining the survey results on teacher needs laid out in Chapter 4, and then listening to Cecilia, Simone, and Lorraine discuss their decision-making both inside and outside the classroom, I realized that the answers to the three research questions posed in Chapter 1 are complex and evolving. In the results chapters on each teacher’s situation (5, 6, and 7), these complex answers were laid out; in this concluding chapter, common themes, implications, and limitations are discussed. This kind of case study research is not generalizable; if anything, it shows how powerful local circumstances can be in teaching and learning. However, the study provides insights into how those ‘invisible’ teachers address choices about innovation, in this case the use of corpus tools.

The research questions for the study, first mentioned in Chapter 1, are:

1. What are these teachers’ self-identified needs as EAP writing teachers?
2. How does the active integration of corpus tools address those needs?
3. What changes occur in the teachers’ perceptions of the potential for using corpus tools in L2 writing classrooms after training and use in their own classrooms?

These research questions were answered in the Results chapter introduced for each participant. In addition, these questions can be addressed in part by looking at themes that arose during the process that these teachers went through as they reflected on their teaching needs and the integration of the corpus tools. Important themes are:

- Time
- Student issues
- Material analysis, selection, and design
• Issues related to using corpus tools
• Language issues
• Institutional issues
• Collaboration with colleagues.

These themes are discussed in Section 8.1. Section 8.2 places the results of the present study within the context of the literature. Implications for various stakeholders are addressed in Section 8.3, limitations of the study in Section 8.4, and areas for possible future research in Section 8.5. Finally, Section 8.6 contains final remarks concerning the study.

8.1 Themes

The following themes have emerged in considering the question of what these teachers identified as their major needs, how well they felt the use of corpus tools were able to address those needs, and finally, what changes might these teachers consider making, based on this process.

8.1.1 Time

All three teachers identified time as a pressing need. Based on these teachers’ reflections, the issue of time can be classified in two ways: time spent in the classroom by teacher and students, and time spent by the teacher learning about corpus-based research and corpus tools at the expense of preparing lessons, grading, and providing feedback.

One time-related issue is the use of time during class with students. Teachers who plan their lessons carefully may quickly lose motivation if activities take too much time, as when websites become slow or stop working in class, because as Cecilia noted, “there's nothing worse than people sitting around waiting for the machine to work when you could be doing something
constructive” (C1-81). Lorraine identified this issue during the stimulated recall session as she watched the video of her students waiting for the website to come back online.

I'm very aware that time is precious with this group…and I think they're very aware [of that] so I don't think they would tolerate sitting, and I think you saw that too, there was some frustration. (L4-033)

The second area is related to time spent learning new tools, sorting through research, and making determinations about which corpus data and which corpus tools will have the greatest impact on meeting specific learning outcomes. This area is certainly one where teachers can feel caught between ESL materials and corpus-based findings. In her examination of the importance of corpus-informed teacher understanding of language variation, Conrad (2004) expressed concern over “a widely held attitude in language teaching: variation is just an annoying aspect of language use that needs to be ignored” (p. 68). Yet, many ESL textbooks do not address variation, and this omission reinforces that ‘annoying aspect.’ Conrad identified this concern and concluded that “acknowledging variation in teaching and materials development is not an insurmountable problem” (p. 80). However, it might very well appear insurmountable to teachers if they must gather data, analyze it, and in essence rewrite the textbooks they use in order to address variation. All such analysis and revision of published materials take time, as Simone explained:

The individual teachers need to feel like they have time to devote to material development... For example, locally, people are busy, and we teach a lot, they're very dedicated, [but] time is of the essence. [Are] you going to pick up the book that was published 10 years ago and just teach it, versus what we did [with the corpus tool, which] takes more time? In this department, I think people are very motivated, but then I think you can't do that for every class. (S4-62)

These teachers understand the value of new research, and they want to use the best materials for their students. Time spent seeking out and evaluating that research is not always available, and as Simone mentioned, it could become even more daunting if teachers try to do
this for three, four, or five classes at a time. Cecilia also mentioned a common issue with so much corpus-based research; “frankly I haven't been able to keep up with it because I've been spending so much time just doing it [teaching], I don't really have a lot of time left over to keep up with inroads that have been made [in research]” (C1-46). This is in stark contrast to researchers’ assumptions that teachers have more time and resources available to work with (see Chapter 2, Section 2.1.6 on teacher invisibility). In her small ESL program of two faculty, Lorraine explained that her colleague “has very little time outside of teaching, and sometimes [teaches] three or four writing classes [and] I teach usually 3 writing classes, so I feel like there isn't a whole lot of time to think about [corpus-based research and corpus tools]” (L1-73). It seems that the issue of time permeates almost every decision these teachers make.

8.1.2 Student issues

There are several themes related to students. One is student autonomy. Cecilia, when considering the range of students in her intermediate class, felt that the use of the vocabulary profiler was most useful for the visiting scholars, who would be able to use the tools independently when they returned to their home institutions. How the tools might be used autonomously by the other, younger students was a lower priority, primarily because she saw those students as less likely to embrace the ‘learner-as-researcher’ model. Simone wanted her students to be able to use the keyness tool in their later essays and later in their academic careers, and planned to do follow-up activities with them to focus on building that skill. This theme of autonomy is an especially important theme for Lorraine, who wanted to provide the graduate students with tools that they could use in their academic lives. Though she acknowledged that a corpus of student-generated writing might not have been ideal for this purpose, Lorraine
envisioned that her students might use the MICUSP tool to search for other language patterns in their fields of study.

Student language proficiency level was an issue raised by all three teachers. Cecilia expressed doubt that intermediate students, especially the younger students (not the visiting scholars in her class), were ready to analyze language at that level. She was concerned that students “came up with the question of ‘are my words wrong?’ or ‘what's wrong with my words?’ so that made me feel that we have to add a component to this lesson which makes them understand that there is nothing wrong with words that they use” (C4-05). Her concern was that it would not accurately reflect the students’ proficiency, and they would realize that they do not use academic language but “we’re not really telling them enough what they can do about it” (C4-07). Lorraine’s concerns were more focused on students’ academic level in graduate school, and this was also closely tied to her concerns about field-specific language and genre knowledge. She reflected on how important it would be to have activities that all her students could relate to and then use.

And coming up with the summary word- I think is difficult for, not even for non-native speakers- I think it is difficult for [native speaker and non-native speaker] writers. So that was - I think if a student didn't have the skills to do a whole lot with this, it would be increasing awareness. And if all that meant was, maybe after they write a paper they’ll do 'search-and-find' for this and these and see if it would be more effective to include a word. But somebody who already maybe unknowingly does that, it could raise awareness of what they do and they might see that they repeat the same word. So… I think that students themselves could make it more or less challenging. So maybe that would be the trick- finding something that could apply to a diverse audience like this. And I'm not sure what other patterns might work... (L4-021)

Finally, all three teachers expressed concern about student engagement in class, which connects in part to the first issue of time discussed in Section 8.1.1 on the best use of time in class. For Simone this appeared especially resonant due to her concern that lack of student
engagement in class could lead to more students focusing on social media or their mobile phones during class.

8.1.3 Material analysis, selection, and design

Another recurrent theme identified by the three teachers was material analysis, selection, and design. Of the textbooks used by the three teachers, only Lorraine’s textbook (Swales & Feak, 2012) provided a few corpus-based activities. The others had no clearly identified corpus component. Lorraine’s textbook also included an interesting caveat on the use of corpus resources: “While we cannot offer instruction on the use of these resources here, you will find that you can learn to use them well enough on your own with minimal effort” (p. 30). In addition to placing an ambiguous charge on teachers regarding the ‘minimal effort’ (as just discussed in Section 8.1.1), the question of how to evaluate such materials also caused concern. While the suggestion to investigate further initially interested Lorraine, she became discouraged by the materials she found.

Lorraine: Yeah. In fact, I have purchased a [book] on creating a corpus, and it's not user-friendly to me.

John: It's a book that was written for teachers?

Lorraine: That was my understanding... [Laughs] but it wasn't, for this teacher. I can't remember the title- I lent it to you once… But if there were a book out there that would just be very practical, in the way I find John Swales, the way he writes and provides tables- I find that helpful. (L4-058-059)

Both Cecilia and Simone found that their textbooks required significant additional material. They both saw the benefit of supplementing the books with corpus-informed teacher-made materials, yet, as Simone noted, the time it would take to do this systematically for all units in their writing classes, let alone all their classes, would be insurmountable.
One area that Cecilia is enthusiastic about is the potential use of corpus tools in textbook publishing. She feels that the best place for corpus-based research results in a form that is relevant for teachers would be in teacher’s manuals for textbooks. She feels the use of corpus-based findings has already improved textbooks and other materials, and “there’s nothing better than a student to have a learning experience that started in the classroom, and then supported something that they experienced or had to do in real life” (C4-41). This connection has been especially effective, in her view, for vocabulary and oral communication materials. Cecilia suggested creating short, practical lessons that are supported by corpus-based research, and they could also include a link to the original corpus-based research for teachers who are interested in learning about it.

Well, let's say in some grammar/writing textbook, there is a little mini-lesson on *say* and *tell*. This information, corpus derived information on *say* and *tell*, could be referenced in the teacher's manual and then the primary [research] document could be also referenced there. (C4-61)

While having these kinds of materials available might not guarantee that teachers would use them, such materials were mentioned as potentially useful by all three teachers.

8.1.4 Issues related to using corpus tools

One issue that all three teachers mentioned was, when working with students, dealing with information in the form of numbers that are presented in some online corpus tools (See Table 23 in Section 6.3.2 for an example). Simone noted that “I never know what to say about them; is it important to say something?” (SWS-324). Another concern that all three teachers mentioned was the impermanence of online tools, especially if a teacher decides to create a lesson around the tool, as all three of these teachers did. All three have had experiences when corpus tools did not work as planned in the classroom, including Lorraine’s experience with MICUSP during our study.
This area had the widest range of views among the three teachers, with Cecilia leaning more toward healthy skepticism, Lorraine showing muted enthusiasm, and Simone embracing corpus tools more wholeheartedly. Cecilia felt that there was still something unsettled about the use of corpus tools in a classroom full of typical students, and its appeal would be limited to the few students who were interested in language as a topic of study itself. Lorraine saw greater enthusiasm in her students, yet noted their frustration when the tools stopped working. She noted how one graduate student said “she personally found [using MICUSP] beneficial but some of her tablemates really struggled because they didn't have a grasp to know how to analyze it” because they lacked a strong foundation in the structure of English (L1-67). Simone felt it worked well with her upper-intermediate students, and that it was a valuable tool for building vocabulary awareness and use. She also felt it could be integrated more seamlessly into the syllabus and become one of many tools used throughout the semester.

8.1.5 Language issues

An interesting aspect to this theme is that language issues were not nearly as prominent as might be expected, considering that corpus-based research typically identifies patterns in language use (Sinclair, 1991). Nevertheless, when language issues were raised by the three teachers, the focus was primarily on vocabulary. For Simone, using corpus tools to focus on vocabulary was due in part to a perceived imbalance in the curriculum.

I think we don't address vocabulary [in the IEP classes]. We spend so much time on teaching what writing should look like organizationally and dealing with content and grammar, so really- organization and grammar feel to be the primary issues. So then, from the content you could deal with vocabulary more and improve vocabulary, or have tools available for how you could help students improve their vocabulary. (S4-45)

Lorraine felt that the creation of targeted corpora by students, which she did not do during the study because of the time constraints, would build vocabulary. “I think for the grad
student audience, if they could create a corpus of articles in their research area, it might help them not only with their writing but with their vocabulary acquisition” (L4-013). Cecilia had concerns about the overall benefit but did see the noticing of academic vocabulary as useful because the students wanted to become better academic writers.

[The students] don't know, other than the fact that they may be learning academic words… from other classes, or sort of haphazardly. Nobody seemed to know anything about how to improve their writing by analyzing and then editing their writing for academic vocabulary. But they all can recognize something that sounds less academic or more academic, and they all want, or they all believe that there is a need for them to write with more academic vocabulary. (C4-05)

8.1.6 Institutional issues

The role of the institution is a theme that has emerged. In the case of Cecilia, she sees the role of the IEP administration as neutral. “I think it's viewed as perfectly acceptable [for teachers to explore corpus-based research and corpus tools on their own] and then if you can figure out how to use them to the advantage of your students or if you're interested in using them- go for it... if it works for you, fine, if it doesn't work for you, fine. I don't think there is any encouragement of it or discouragement of it” (C1-77). She did add, though that “I feel like there is a lot of support for making us aware of [corpus tools], and that's where the support ends. OK, we've told you about it, and if you have initiative, then you may take that initiative and apply it to incorporating this tool in your class, but it's up to you” (C1-79). This idea of a neutral administrative role was restated several times by all three teachers.

Not surprisingly, however, issues of support in the form of time off from other duties to work on corpus-related materials or curriculum as well as having such efforts valued were also raised. This connects to the issue of time, discussed in Section 8.1.1. Without time to work on corpus-focused initiatives, real progress would be unlikely. A model for full faculty buy-in would most likely require the institution to make training mandatory and fully integrated into the
curriculum. For example, the English program at Waseda University in Japan makes the use of corpus tools in certain classes mandatory, and teachers are required to become trained in the use of pedagogical corpus tools. Without having mandatory training, teachers would probably be more resistant (L. Anthony, personal communication, August 30, 2012). This kind of top-down approach, however, might not always be well-received. Cecilia noted that there could be resentment from teachers if they were forced to use corpus tools by an administrator without first being convinced of the tools’ value, especially from teachers who might not be eager to learn and use the technological element of it.

"You'd have to have an administrator who has a strong belief in the value of it for them to sell it with great enthusiasm [but that] I think that administrators have the same take on this sometimes as instructors, which is 'okay, yeah, this is good - it's a tool, but how much of our resources do we want to put into it?'" (C4:43)

8.1.7  **Collaboration with colleagues**

Collaboration appeared to be an important factor for all three teachers during the course of the study. Interestingly, each teacher had a slightly different collaborative focus. For Cecilia, the main source of collaborative activity was also one of mentorship; a key collaborative relationship was with the practicum student Maxine, who played an important role during the observed class sessions and who assisted in providing individualized attention to students during the activity that incorporated the VocabProfile tool. Although Cecilia was also mentoring Maxine, within the classroom their relationship seemed to be very collaborative in nature; Cecilia’s impressions of the use of the corpus tools might have been different without Maxine’s involvement.

Simone expressed from the very start the utility of collaboration for not only the implementation of the corpus-based activity but the entire course-long syllabus. With her co-teacher Nancy, they planned lessons throughout the semester and worked especially closely
while planning the several classes that included the keyword activities. The power of this collaboration was made even more evident when Simone shared with me that with less collaborative colleagues the following semester, she no longer felt comfortable working in isolation on Keywords Extractor and other corpus tools.

For Lorraine, collaboration had come years earlier, when she had several professors acting as mentors in the years prior to our study. Within the small ESL program she is working in, collaboration for her had shifted to instructors in other university departments as she worked to build a stronger knowledge base of her students’ varied fields of study.

All three teachers expressed interest in the possibility of collaborating with me or with other researcher/teachers, and in fact have presented at conferences with me describing their experiences in the present study. Simone reflected on some benefits of possible future collaboration with other faculty and with researchers.

How about a course release- I say course release because of the time- let’s say a researcher that's looking at these things, what do they know about what we are doing in our classes? I don't know. So we work together to say, here's what we need to do, let's develop x, y, and z… But what other things are there that we could incorporate into some activities or materials that supplement a book, if we already have a book? Or, how does this information serve a teacher, what does she think? And maybe that's written in the article, I don't know. Can you take the implications section [of a research article] and go to class the next day? Or... there's a step in-between. Otherwise it's just research that doesn't come into the classroom. So a collaboration of some kind. (S4-74)

Having at least the possibility of collaboration-minded colleagues appeared to generate enthusiasm from all three participants. Such collaboration was, however, more daunting for teachers in less research-friendly teaching environments, as Cecilia recalled one such program where she had worked previously. In that program, teachers were provided very little support for professional development.

For the average teacher, unless they tend to be drawn to technology and can then transfer their enthusiasm for technology to students, not as many people will make it a significant part of their own professional development. I mean, we're talking about groups of people
who don't have a lot of time for professional development, so... you kind of have to ask the question of two parts of our profession. (C4-46-52)

The question of how to engage teachers effectively with corpus tools could be addressed by creating a bridge, of sorts, that connects teachers with corpora, corpus-based findings, and corpus tools. This bridge could be facilitated by the creation of a new teacher education/professional development role, a specialist in the pedagogical use of corpus tools. This role is discussed in greater detail in Subsection 8.3.3 below.

8.2 Positioning the study within the literature

The studies reviewed in Chapter 2 were divided into two main areas: corpus linguistics and its connection to teachers and teaching, and teacher cognition and teacher practices. This section addresses how the present study and its results could be situated within and between these two areas.

There have been a number of studies that examine how corpus tools can be incorporated into the language classroom (e.g., Charles, 2007; Charles, 2013; Cortes, 2007; D. Lee & Swales, 2006; Römer & O'Donnell, 2011), yet to my knowledge there have been none that have taken a teacher cognition perspective in doing so. Studies have examined student views on the use of corpus tools (H. Yoon, 2005, 2008; H. Yoon & Hirvela, 2004), but I have found none that address the views of teachers; the present study provided an avenue to explore the cognitive processes of these three teachers as they considered how corpus tools might play a role in their professional lives.

As discussed in Section 8.1 above, for these three teachers there were concerns over the potential unreliability of online tools over the long term. For one teacher, the fact that her textbook addressed the idea of using corpus tools seemed to generate more confidence in the process. The teachers all saw corpus tools as useful in developing appropriate vocabulary for
academic writing, though they saw other possible uses as less practically applicable. They were interested in the information about language that corpus-based research generates, yet this new knowledge did not seem to play as prominent a role as other factors such as time, institutional support, and collaboration.

The present study offered another valuable contribution to research on corpus linguistics and language teaching. Many corpus studies have often used a researcher-as-teacher model (e.g., Charles, 2007; Charles, 2013; D. Lee & Swales, 2006); such a model can provide a powerful way to examine how corpus tools can be used by learners and by teacher-practitioners who have expertise in corpus linguistics. However, using only the researcher-as-teacher model may minimize the importance of practicing teachers’ perspectives regarding how corpus tools might actually be used by non-experts. The present study addressed this concern by involving experienced teachers within the setting of their intact classrooms and student groups. Unlike corpus researchers, who understandably may already be convinced of the value of their methodological tools for research, Cecilia, Simone, and Lorraine were not yet wholehearted proponents of corpus tools; hence, their insights added a valuable complement to the insights provided by earlier researcher-as-teacher studies.

Another aspect of the study that added an important complement to existing corpus-based research is that it provided a voice to these three teachers, allowing them to reflect on possible corpus tools within the context of the competing demands and concerns they deal with from semester to semester, from class to class, and from student to student. In the study, Cecilia, Simone, and Lorraine expressed their specific concerns not solely on the corpus tools in isolation but rather on the overall effectiveness of the class in its entirety. Further, they were afforded
opportunities to do so over an extended period, from the planning stages through implementation to post-course reflection.

In addressing how the study fits into previous studies on teacher cognition, it has added to the literature on the relationship between teacher cognition and innovation. It is, to my knowledge, the first study that focused on the relationship between teacher cognition and the use of corpus tools and corpus-based teaching methodologies. Most language teacher cognition studies have focused on issues such as grammar (e.g., Borg, 1998; Borg, 2005), writing (e.g., Shi & Cumming, 1995; Tsui, 1996), or on specific focus areas of teacher cognition such as pedagogical knowledge (e.g., Gatbonton, 1999; Johnston & Goettsch, 2000; Mullock, 2006). While I have been able to locate one study on the role of technology in teachers’ lives (Lam, 2000), the present study addressed the hitherto unexamined effects of corpus tools and corpus-based teaching methodologies.

The findings of the study suggest, as stated in Section 8.1, that teachers may prioritize a range of issues that they perceive as critical in their decision-making process. As previously stated, for Cecilia, Simone, and Lorraine these issues include time, student engagement and relevance, elements of material selection and design, institutional support, and collaboration with colleagues. Within the framework of teacher cognition, this analysis provides information that, while not generalizable, may be useful in addressing how various stakeholders, such as corpus researchers, corpus tools specialists, material designers, teacher educators, administrators, and teachers, could adequately consider teachers’ needs, beliefs, knowledge, and circumstances in the use of corpus tools in second language learning and teaching.
8.3 Implications

There is considerable risk in making overly broad generalizations from the present study for several reasons. There is no underlying ‘truth’ that is waiting to be found in a study of this kind. What emerge from the data are reflections and insights of these particular teachers within this particular setting, filtered through my own particular research agenda and methodology. The only ‘truth’ is that we have been through this process and have analyzed the encounter between these teachers’ practices and cognitive components of beliefs, knowledge, and decision-making with the corpus tools, within the setting of these particular classes. From this analysis, however, implications for various stakeholders can be considered.

8.3.1 Implications for corpus researchers

Borg (2010) suggested that research is more likely to engage teachers if it meets certain criteria. The research should be relevant to the teachers’ world, which includes the specific setting and the teachers’ needs, interests and priorities. It should include detailed classroom-based activities that can actually be used in the teachers’ classrooms. It should connect to the teachers’ knowledge base, not dramatically challenge their beliefs, and include clear, actionable changes that teachers can implement within the limits of their resources (p. 415). Researchers might also consider making findings more accessible when they believe that the findings have implications for teaching and learning. All these criteria need to be taken into consideration by corpus researchers.

When considering the role of corpus researchers, Cecilia’s view is that researchers should strive to be aware of the needs of teachers and students, and not “get so caught up in the research and their own interest and excitement in the research that they lose sight of the point of it, in terms of teacher development or learner development” (C4-37). Researchers have other
objectives that are not related to teaching and learning, but when they hope to make connections between their research and language classrooms, “they need to zoom out and think more carefully about how much the [teachers and students] would care about the minutia that are revealed from their results” (C4-39).

This connection with teachers, students, and classrooms, however, is typically not the main focus for most corpus researchers. One way to make stronger connections between the research and language teaching/learning might be to create a new role, as mentioned earlier, that is situated between corpus-based research and the classroom: a specialist in the use of corpus tools for language teaching and learning, or for brevity’s sake, a corpus tools specialist. This new role of corpus tools specialist is discussed below in Subsection 8.3.2.

8.3.2 Implications for corpus tools specialists

As previously mentioned, a new role, corpus tools specialists, could be created that would address the pedagogical uses of corpus-based research findings and corpus tools. These corpus tools specialists could come from a teaching background, a corpus-based research background, or a teacher education background, but these specialists would need to bridge all three areas. They would make relevant and actionable connections between the findings of corpus-based research, the creation and use of corpus tools, and the needs of classroom teachers. In addition to providing clear, relevant explanations and connections for teachers, these specialists could also substantively defuse the suspicion that, as Cecilia stated, “there is this element of Emperor's-New-Clothes-ness about [the use of corpus tools]” (C1-57).

Corpus tools specialists would not be researching language in use but rather would have the following foci: i) determining how best to filter corpus-based research findings to connect to language learning and teaching; ii) identifying existing corpus tools or creating new ones; and iii)
creating opportunities for teachers that would connect the results of corpus-based research findings and corpus tools to teachers’ needs.

The idea of creating this role that provides teachers with more support was a common thread with all three teachers in the study. This may have been in part because they were working with a colleague rather than a researcher. The collaborative processes that occurred in the study were to a degree a pilot implementation of a corpus tools specialist working with teachers. Of the teachers, Lorraine and Simone were both interested in moving towards this kind of model on a local level. Simone noted in her final interview when reflecting on how she might share her knowledge of the Keywords Extractor tool within the IEP that “I could see trying to formalize [what we did] into a unit that could be passed on… formalize that [to be] very user-friendly, available to other teachers. Maybe have a little session on ‘here's how we did this and here are the materials you can use or adapt,’ so sharing... within the department” (S4-43). Simone stated that she would be interested in going beyond her program but added that “I think I'm more interested in what I could do for myself or sharing with other teachers within my department” (S4-43). The corpus tools specialists, as Simone suggested, could start out as interested teachers with the experience, enthusiasm, and connections to share their knowledge with other teachers.

8.3.3 Implications for material designers

Römer (2006) recommended “a close collaboration between corpus researchers and textbook publishers” (p. 90). Corpus researchers may find that the scope of the task of preparing research results to engage teachers effectively might best be served by collaborating with material designers, teacher educators, and this new group of corpus tools specialists, rather than reaching out to teachers directly. Developing effective materials could be expanded in part by building connections between researchers and corpus tools specialists, who could take corpus-
based research findings and work with material designers to create relevant, accessible, engaging
tools for teachers and students.

Cecilia noted that she would like corpus-based research findings to be presented in a way
that has been carefully crafted to meet the needs of busy teachers, including providing relevant
classroom activities and materials. She suggested short online articles or inclusion in teachers’
guides for textbooks.

As an instructor, I like having that information, and I like transmitting that information to
students. Some of them don't care, “just tell me what to do and I'll do it.” But others of
them, I think, want to know that someone's figured this out, so I think that would be a
great place to communicate to teachers who are teaching 20-25 hours a week, and don't
really have either the background or the wherewithal to be constantly familiarizing
themselves with information that's produced in academic journals. (C4-63)

Simone considered the choice of textbooks that the IEP faculty makes every semester.
She agreed with Cecilia that having materials that are accessible and provide effective classroom
activities would make it more likely that she would use them.

I'm thinking of textbooks for us to use - student textbooks for our classes. If there is
Choice A and Choice B for a structure composition class, is there one that uses [or]
addresses corpus somewhere in the activities? So, like the stuff that we created would be
part of a book, or part of a unit, in a consistent fashion... [in addition] as teachers, I think
it is more useful to have actual activities... like the New Ways in Teaching Vocabulary
[book], the TESOL books, the Penny Ur grammar practice activities, Keep Talking- all
those books have pages and pages of stuff you can use. So are there that many things you
can do [with corpus]? (S4-47)

Creating materials that more directly addresses teachers’ needs would be one way for
material designers to engage teachers, especially when those materials are well-integrated into
textbooks and teachers’ manuals.

8.3.4 Implications for L2 teacher educators

The survey results in Chapter 4 show that the majority of respondents have limited or no
knowledge of corpus tools, and very few have had any formal education or professional
development in this area (see Section 4.3). Teacher educators could provide pre-service teachers with a more complete understanding of corpus linguistics and the scope and purpose of corpus tools, whether through courses on corpus linguistics or by adding more information on the role of corpus tools in more general methods or approaches courses. As Cecilia noted, she took a course on corpus linguistics in the Applied Linguistics master’s program, yet her enthusiasm waned once she was back in a fulltime teaching environment. Providing coursework that connects more closely to pedagogy as well as research could benefit pre-service teachers once they are in the classroom.

In-service teachers could be offered more professional development opportunities that either focused on corpus tools or combined them with other topics such as lesson planning, technology, or skill-centered workshops. Lorraine noted that she had attended a workshop a year earlier on the use of MICUSP, but she felt it did not address issues that she needed to understand more fully in order to make the tool work well in her classroom.

Having teachers move from declarative knowledge (understanding the concepts about content and pedagogy) to procedural knowledge (understanding how to take that declarative knowledge and make it meaningful in the operations of teaching and learning) is an important issue for teacher educators (Andrews, 2001). Borg (2003) notes that effective teaching depends on more than “declarative subject matter knowledge” (p. 102), and in the case of corpus tools, I would argue that procedural knowledge is especially critical. For teacher educators, one implication is to shift the focus from declarative knowledge to procedural knowledge about how to use corpus-based research findings and corpus tools in teaching. As Lorraine noted, “there's a lot out there [but] it takes too much effort to try to figure out what's being said, when it could be said very simplistically” and she would ask of any teacher-education materials “could this
actually be used in an ESL class? Is this what, in my experience, actually happens in my classes?” (L4-067). This focus on procedural knowledge—connecting the new knowledge to the actual classroom experience—was evident for all three participants.

Finally, teacher educators could play an important role in developing guidelines and training for the corpus tools specialists described above in Subsection 8.3.2.

8.3.5 Implications for administrators

One component of increased teacher buy-in of corpus-based research and the use of corpus tools could be to consider Borg’s (2010) identification of workplace conditions that would be conducive to teacher engagement with research of any kind. He suggests that teachers need to have time available for research, resources, support for professional development, expectations of participating in professional development, and a programmatic valuing of professional development. In addition, those conditions should include building a culture of trust and openness, collaboration, and willingness to change. As both Simone and Lorraine also mentioned, Borg (2010) notes that administrators would also have to provide incentives for teacher engagement, which could be monetary, time-based, or prestige-based. Finally, the administrators would have to be willing to follow through on the outcomes of teacher research on using corpus tools in their programs.

Cecilia sees the role of program administrators as complex. They face difficulties similar to the ones teachers face. “I think an administrator has to think about how off-putting something that's kind of complicated can be for people, especially if they are not as technology-savvy as the next person” (C4-43). Her view is that administrators should give teachers some leeway to investigate and use corpus tools if they seek them out and try to integrate them, but that she would resent administrators making it mandatory, for two reasons: first, some teachers might not
be technologically savvy enough to feel comfortable with it, and second, it is not necessarily worth that much institutional commitment, or as Cecilia put it, for many teachers perhaps “it's just not the greatest thing since sliced bread” (C4-43).

### 8.3.6 Implications for L2 teachers

Borg (2010) suggested that teachers who engage in and with research are typically willing to take risks, understand the basic concepts of what research is, accept their role as a source of knowledge, be motivated to undertake necessary projects, develop necessary skills and knowledge, be positive, work collaboratively, have some economic stability, and feel positive about previous research experience (p. 420). These concepts can be a good starting point to address the issue of teachers developing instructional models and strategies in the use of corpus tools in their teaching.

For Cecilia, Simone and Lorraine, teachers need time in order to realistically consider corpus tools in any substantive way. Cecilia explained that it also depends on where individual teachers work. She sees the integration of corpus tools in L2 teaching to be a personal choice for teachers because “the value of it is not pervasive enough for it to be assumed by all to be valuable, especially in… programs or institutions that are not attached to research environments” (C4-45).

Cecilia felt initial enthusiasm for corpus tools when, as a graduate student, she first encountered them under the guidance of an enthusiastic and knowledgeable professor. However, when she left graduate school “…and went back to my program where people are teaching 20 hours a week, and are not given really time, space, or credit for becoming involved in new technologies or investigations, that's really where the 'yeah-so' response was most clearly voiced…and this [corpus tool] is a time-intensive, labor intensive tool, so anything that is so
labor-intensive has got to have a big pay-off or people are just not going to get excited about it” (C4-47-49).

8.4   Limitations

The present study has limitations that are important to identify and acknowledge. It examines the reflections of three teachers from a teacher cognition perspective as they work through the use of corpus tools in their professional lives. Findings are not generalizable; each participant’s local setting is an integral part of her teaching life.

One issue that might be considered a limitation is the close relationship I have with the three participants. In much research, more distance is considered a favorable condition. I argue, however, that in this case the relationships built with the teachers are more authentic and more empowering to the teachers. The entire process was deliberately sustainable, with real world consequences for all involved. I approached this extensive involvement with these three teachers openly and with a goal of mutual benefit. Breen et al. (2001) stated that: “Research with busy practitioners entails the making explicit of one’s ultimate purposes and the gradual establishment of trust” (p. 500). In the study, the environment of trust continued to build through a measured use of each teacher’s time, member-checking, and inclusion during the post-study sharing of information.

Another issue that could be seen as a limitation was the decision to include only one corpus tool and to incorporate it actively into only one class session. Respecting the teacher’s needs was a major part of the reason for making the introduction of the corpus tool a relatively minor intrusion into each participant’s semester-long course. Prior to the study, the teachers were uncertain of the value of the corpus tools that might be available. Further, they would be working with new students in a setting that had real-world consequences for the students (in terms of the
learning that took place), the teachers (in terms of her standing with the students and, through the use of student evaluations, their job evaluations), and the IEP and ESL program (word of mouth was an important element of each programs’ continued success). Given these factors, I decided that focusing intensely on one class session was the best approach. In future, once teachers have more knowledge of and confidence in corpus tools in their classrooms, more extended use for both pedagogical and research purposes would be warranted.

Another potential limitation is the final choice of each teacher’s corpus tool. The use of other corpus tools could have led to different reactions from the teachers. However, it would not have been feasible to provide every possible corpus tool. The choices were based on the kinds of tools and activities suggested in teacher textbooks on the use of corpus tools (e.g., Bennett, 2010; O’Keefe et al., 2007; Reppen, 2010, discussed more fully in subsection 2.1.5 of Chapter 2) and in other resources commonly available to teachers through normal channels.

Relying on teacher interview responses can be problematic because “it is possible, too, that participants censor the thoughts they report, giving merely those they think the investigator wishes to hear [yet] nevertheless, at present, verbal report procedures remain one of the very few means we have of gaining insight into teachers’ thought processes” (Bullock 2006, p 51). I made conscientious efforts to offer multiple avenues to observe, interview and work with the teachers.

8.5 Possible future research

One avenue for future research is to investigate, using a teacher cognition approach, how teachers react to the possible use of corpus tools in other teaching settings. The teachers in the current study all have technology available in their writing classrooms and in their everyday lives. This access and familiarity with technology might have had an impact on their choices of corpus tools. Teachers in other ESL and EFL settings, with varying access to technology could
also participate in future studies. Likewise, the student population had access and knowledge of technology; additional research could include teachers working with less technologically advantaged students.

Another avenue for future research is to consider different approaches to the integration of corpus tools. As mentioned previously, I used easily accessible tools that were available through textbooks for teachers (e.g., Bennett, 2010; O'Keefe et al., 2007; Reppen, 2010) or other sources geared to teachers (Diniz & Bunting, 2012; Diniz & Moran, 2005; Shaw, 2011b). Using findings from this project and other relevant research, collaboration between corpus researchers, corpus tools specialists, material designers, and teachers could produce more targeted materials that address context-specific needs of teachers, such as Cortes’ (2009) development of material for graduate academic writing courses.

While understanding teacher cognition is an important research goal, there may be ways to combine such research with measures of student success that might provide stronger evidence, if such exists, that modifications really make a difference in student achievement. As Cecilia asked during our first interview, “Why would [using the corpus tools] be worth it if there is no long-term gain?” (C2-72). Thus, it is important to examine the perspectives of both teachers and learners in the use of corpus tools in the classroom. An added focus on students could include examining performance as well as cognitive and affective issues.

Finally, program directors and administrators play a key role in making decisions about teacher professional development, material development and selection, and availability of technology in the classroom. For these reasons, examining cognition and reasoning of directors and administrators, especially in areas that might require programmatic changes, is another area for future research.
8.6 Final remarks

“Professional development emerges from a process of reshaping teachers’ existing knowledge, beliefs, and practices rather than simply imposing new theories, methods, or materials on teachers” (K. Johnson & Golombek, 2002, p. 2). With this thought in mind, the process of reshaping requires first a thirst for learning more about the impact of those new theories, methods, or materials on real teachers in real teaching/learning settings. Many teachers may see adding new tools as a disruption and an imposition. They may just sigh and say, as Cecilia did during our first interview, “buzzword, buzzword, buzzword” when hearing suggestions about using corpus tools.

It can be overwhelming for many teachers to try to make sense of corpus-based research findings; assuming otherwise may be unfairly placing unrealistic expectations on them. Corpus-based research has provided numerous valuable insights into language in use, and the potential remains for it to build a powerful component in many aspects of the professional lives of language teachers. Taking that step, however, requires as one important component listening to the voices of teachers. In the study, I have made a conscientious effort to provide a voice to teachers, so it is fitting that the final word comes from one of the participating teachers, in considering how corpus tools specialists might be able to address the gap she has identified:

People doing research can talk about their research. We who are teaching can talk about teaching. Somewhere between there, there's the gap- who if anybody is going to be able to make that link effectively between research and teaching? (L4-104)
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APPENDICES

Appendix A – Interview Protocols

Appendix A.1 – Interview 1 protocol

Semi-structured Interview 1 guidelines (After 1st classroom observation)

Basic beliefs about language teaching (based on instruments from Johnston &
Goettsch, 2000; Lam, 2000)

1. How would you describe your beliefs as a teacher? What are the sources of these beliefs?

   The researcher will prompt with these six categories: experience as language learners, teaching experience; established practices; personality factors; research-based factors; adherence to an approach or method (Richards & Lockhart, 1996).

2. What factors play a major role in developing your own ‘knowledge base’ as a teacher?

   Areas of the knowledge base include:

   a. content knowledge
   b. general pedagogical knowledge
   c. curriculum knowledge
   d. pedagogical knowledge (specific to subject matter)
   e. knowledge of learners
   f. knowledge of educational settings
   g. knowledge of educational goals, values, and objectives

3. What are the most effective ways that you feel L2 writing can be taught?

4. How would you describe the way you teach writing?
5. What are your most pressing needs as an L2 writing teacher? (here I shared the survey results regarding teacher needs with the participant)

6. How do you feel you react to new methods or approaches in teaching:
   a. Language in general?
   b. L2 writing?

7. What is the role of technology in language learning?

8. What is the role of technology in writing classes in general?

9. What is the role of technology in your writing class?

**Your understanding of corpus linguistics**

10. What do you think of when you hear the phrase *corpus linguistics*?

11. What experience do you have with corpus linguistics as:
   a. A language user?
   b. A language learner?
   c. A student becoming a teacher?
   d. A practicing language teacher?

12. Very generally, corpus tools are different ways that corpus data can improve language learning and teaching. Based on that definition, what corpus tools are you familiar with

13. What do you think the role of corpus tools in language learning is?

14. What is the role of corpus tools in writing classes in general?

15. What is the role of corpus tools in your writing class?

16. In your opinion, what is the attitude of the administration of your program towards incorporating corpus tools?

17. What support do you have in your program to learn about and use corpus tools?
18. As a teacher, how do you feel about changes such as the introduction of corpus tools, in language learning?

Our study

19. What questions do you have about corpus-based methodologies and corpus tools?

20. What questions do you have about this study?
Appendix A.2 – Interview 2 protocol

Semi-structured Interview 2 guidelines (after 2\textsuperscript{nd} classroom observation)

Your writing class

1. What are the learning outcomes for your writing class?
2. How do you operationalize the learning outcomes for this class?
3. What do you see as your strengths in teaching this class?
4. What are your main concerns for this specific class?
5. Discuss issues you have, if any, concerning:
   a. The material (textbook, course pack, etc.) you have for this class
   b. This particular group of students
   c. Classroom management
   d. Student engagement
   e. Other issues

Matching self-identified needs to possible corpus tools

6. Discuss ways to use corpus tools to meet specific needs
7. Develop a plan for working session and lesson plan

Corpus materials- classroom activity / lesson plan

8. The researcher and the teacher will work together to consider options among corpus tools that might match the teacher’s identified needs.
Appendix A.3 – Interview 3 protocol

Semi-structured Interview 3 guidelines (after 3rd classroom observation)

Your writing class using the corpus tool

1. Discuss your impressions of the class session that included corpus tools.
2. Which elements worked well, and why?
3. Which elements did not work well, and why?
4. Do you feel your achieved your goals for the class session?
5. Do you think the students understood what they were expected to do?
6. Do you think the students enjoyed the lesson? Did you?
7. Did you depart from your lesson plan? If so, what was it, and why?
8. Were there any surprises?
9. What would you like to include that you didn’t?

Your development as a teacher

10. Would you do this again? Why or why not? If yes, what would you change?
11. After this experience, what are your thoughts about the specific tool, or corpus based methodologies in general for your own future development?

Instrument for the Stimulated Recall Interview Procedure for Teacher Participants (adapted from J. Lee, 2011)

Instructions for Teacher Participants

“Now, we are going to watch some excerpts of the video of your class. As we play each section, you can talk as it plays or you can pause the video to explain what is happening or what you were thinking at that time. I will try to stay neutral as you speak, so don’t worry if I don’t talk with you too much while we watch the video. This is an opportunity for you to talk through what was happening.”

Instructions for Researcher

1. Read the participant instructions.
2. Show how to start/stop the video

3. For each new clip, ask some/all of the following guiding questions:
   a) What is happening here?
   b) What was the purpose of this section of the class?
   c) Can you identify a reason for saying what you did?
   d) Do you think your students understood what you wanted them to understand here?
   e) If you could do this part of the lesson again, would you do/say anything differently?

4. If the teacher pauses the video, listen to what she has to say.

5. Try to avoid offering too much reaction to the teacher’s responses and try to stay neutral, using non-responses or phrases such as:
   a) Uh-huh
   b) I see
   c) OK
   d) Ah
Appendix A.4 – Interview 4 protocol

Semi-structured Interview 4 guidelines (4-6 weeks after Interview 3)

Your writing class

1. What are your impressions of the class session that included corpus tools? Would you do that again in a future semester? Why or why not?
2. Do you think you will use corpus tools again? Why or why not?

Incorporating corpus tools into professional development

3. What are your thoughts about the role of corpus based methodologies in your own future development?
4. In what ways can corpus-based methodologies address the needs of L2 writing teachers in the future?
5. What role do you see for the following stakeholders in the future of corpus-based methodologies in teacher professional development:
   a. Corpus researchers
   b. Textbook publishers
   c. Your institution’s administration
   d. Individual teachers
6. Do you have any other thoughts about the process?
Appendix B – Cecilia’s materials

Appendix B.1 – Cecilia’s handout “What is the Academic Word List?” (2 pages)

What is the Academic Word List?¹

The AWL is a list of words which appear with high frequency in English-language academic texts. The list was compiled by Averil Coxhead at the Victoria University of Wellington, New Zealand. The list contains 570 word families and is divided into 10 sublist. Sublist 1 consists of the 60 most common words in the AWL. Sublist 2 contains the next most frequently used words and so on. Each sublist contains 60 word families, except for sublist 10, which contains 30.

To find these words, an analysis was done of academic journals, textbooks, course workbooks, lab manuals, and course notes. The list was compiled following an analysis of over 3,500,000 words of text.

The words selected for the AWL are words which occur frequently in a range of academic subjects, including the Arts (including history, psychology, sociology, etc.), Commerce (including economics, marketing, management, etc.), Law and the Sciences (including biology, computer science, mathematics, etc.). This means that the AWL is useful to all second-language learners who wish to study in an English-speaking institution no matter what their field of study. The AWL does not, however, include technical words which are specific to a given field. Nor does it contain words which are of general use and very high frequency.

Why should I learn it?

You will need to know this vocabulary if you want to study in an English-speaking college or university. In fact, because these words are so common, they are even useful to those who do not plan to go on to post-secondary study in English. These are words that you will frequently see in newspapers, magazines, and novels, and hear on television, movies or in conversation.

If you know the General Service List, or GSL, which is considered to contain the 2,000 most important words in basic English, and then learn the AWL, your understanding of the vocabulary found in academic texts will increase by 10%. This is important, because research shows that “If, instead of learning the Academic Word List, the learner had moved on to the third 1,000 most frequent words, instead of an additional 10% coverage there would only have been 4.3% extra coverage.” Nation, P. (2001). Learning Vocabulary in Another Language. Cambridge: Cambridge University Press

¹ This information is taken from: http://www.academicvocabularyexercises.com/ by Gerry Luton. You can also review AWL information there and do vocabulary exercises.
### Sublist 1

<table>
<thead>
<tr>
<th>analyze</th>
<th>constitute</th>
<th>establish</th>
<th>indicate</th>
<th>occur</th>
<th>role</th>
</tr>
</thead>
<tbody>
<tr>
<td>approach</td>
<td>context</td>
<td>estimate</td>
<td>individual</td>
<td>percent</td>
<td>section</td>
</tr>
<tr>
<td>area</td>
<td>contract</td>
<td>evident</td>
<td>interpret</td>
<td>period</td>
<td>sector</td>
</tr>
<tr>
<td>assess</td>
<td>create</td>
<td>export</td>
<td>involve</td>
<td>policy</td>
<td>significant</td>
</tr>
<tr>
<td>assume</td>
<td>data</td>
<td>factor</td>
<td>issue</td>
<td>principle</td>
<td>similar</td>
</tr>
<tr>
<td>authority</td>
<td>define</td>
<td>finance</td>
<td>labor</td>
<td>proceed</td>
<td>source</td>
</tr>
<tr>
<td>available</td>
<td>derive</td>
<td>formula</td>
<td>legal</td>
<td>process</td>
<td>specific</td>
</tr>
<tr>
<td>benefit</td>
<td>distribute</td>
<td>function</td>
<td>legislate</td>
<td>require</td>
<td>structure</td>
</tr>
<tr>
<td>concept</td>
<td>economy</td>
<td>identify</td>
<td>major</td>
<td>research</td>
<td>theory</td>
</tr>
<tr>
<td>consist</td>
<td>environment</td>
<td>income</td>
<td>method</td>
<td>respond</td>
<td>vary</td>
</tr>
</tbody>
</table>

For each word in Sublist 1:
- Place a √ next to the word if you feel comfortable using it in your writing
- Place an x next to a word if you know it but don’t feel comfortable using it
- Place a ? next to any word that you don’t know
Appendix B.2 – Cecilia’s handout “An example of how the AWL can improve your writing”

**Directions:** Read through these two paragraphs. Which do you think contains the better vocabulary?

In contrast, there is only one major argument on the other side of the debate. This is that both museums and art galleries need to charge an entrance fee if they are to survive in the modern world. Governments do not have sufficient funds to subsidize all such institutions and there are other priorities for public money. Therefore these galleries and museums need to charge their customers not only to survive but to update their exhibitions and make new purchases. By way of illustration, the Tate Modern in London could not have been founded without revenue from admissions.

But there is only one good argument against. This is that both museums and art galleries need to charge for entrance if they are to live in the modern world. Governments do not have enough funds to give all such places and there are other needs for public money. Therefore these galleries and museums need to charge their customers not only to stay in business but to update what they show the public and buy new paintings. For example, the Tate Modern in London could not have been set up without money from admissions.

What’s the difference between the two?

Let’s look at some of the vocabulary differences:

- In contrast = but (remember: don’t put but at the beginning of a sentence in academic writing)
- major = good
- survive = live
- sufficient = enough
- subsidize = give
- institutions = places
- exhibitions = what they show the public
- illustration = example
- founded = set up; created

None of these changes are particularly difficult; you just need to know what language you should be using. That’s where the AWL comes in.

Read more: Key essay vocabulary – 8 AWL exercises | Dominic Cole's IELTS Blog
http://www.dcielts.com/ielts-vocabulary/key-essay-vocabulary/#ixzz1rg7qjwAK

From: http://www.dcielts.com/ielts-vocabulary/key-essay-vocabulary/
Appendix B.3 – Cecilia’s OHT modeling an essay in vocabulary profiler (3 pages)

Everyone is talking and no one is listening

Since the middle of the 1990s, the ability to communicate electronically has expanded dramatically. Electronic communication is changing how people relate to one another. However, one thing remains constant: These new forms of communication are not face to face. They are distant, and they keep people at a distance. In my opinion, due to electronic communication, relationships today are changing for the worse; they have become fragmented, superficial, and anonymous.

Communication these days is becoming a process of exchanging messages of two or three words. There is no longer time for serious and deep reflection. For example, in most countries, sending a text message via a cell phone is much cheaper than talking on that phone, so people send each other silly messages like “RU ready?” or “4 sure.” The language of Shakespeare and Milton has become reduced to abbreviations. With Instant Messenger (IM), people send each other emoticons such as a smiley face instead of sentences. In addition, since Instant Messenger depends on who has the fastest connection, there cannot be real communication. There is no give-and-take. These fragmented messages are not true communication.

The current ability to relate to one another electronically is largely textual; that is, people read messages from each other. Blogs, or Web logs, have become the way to communicate. However, anyone, anywhere can create a blog, and they can write anything they want. There are millions of blogs being produced. It seems that everyone wants to shout, “Hey, here I am! This is me!”, but no one really listens. No one responds. Another reason why relationships are becoming more superficial is the spread of e-mail. It’s impossible to have a serious discussion with people through e-mail. Because they are overwhelmed by spam in addition to real messages, people just skim what they see and either make a rapid, thoughtless response or ignore it completely. No one reads e-mail messages carefully because there are just too many of them.

Finally, while one great advantage of the World Wide Web is that it is anonymous, this is also its major disadvantage. Anyone can pretend to be anyone. For example, a sixteen-year-old high school student could say that he is a twenty-three-year-old college graduate, and the person reading his blog or profile would never know. This type of anonymity can also put Internet users at risk. There are many news stories about a criminal convincing a teenager to meet him at a coffee shop or a mall. The teenager agrees to meet her Internet friend because she thinks she is meeting another teenager. The Web knows no one; a person can invent an identity. It’s clear that there can be no real communication when it’s so easy for someone to remain anonymous.

In short, electronic communication has multiple advantages, but it also has disadvantages. This new form of communication makes people lonelier because they don’t make real and meaningful connections. The communication is fragmented and superficial, and it is not always honest because of the ability to be anonymous. Fewer silly messages and more face-to-face communication would make us better people, I think.
Information from [http://conc.lextutor.ca/yp/eng/output.pl](http://conc.lextutor.ca/yp/eng/output.pl)

<table>
<thead>
<tr>
<th></th>
<th>Families</th>
<th>Types</th>
<th>Tokens</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1 Words (1-1000):</td>
<td>153</td>
<td>189</td>
<td>419</td>
<td>79.21%</td>
</tr>
<tr>
<td>Function:</td>
<td>...</td>
<td>...</td>
<td>(244)</td>
<td>(46.12%)</td>
</tr>
<tr>
<td>Content:</td>
<td>...</td>
<td>...</td>
<td>(175)</td>
<td>(33.08%)</td>
</tr>
<tr>
<td>&gt; Anglo-Sax</td>
<td>...</td>
<td>...</td>
<td>(83)</td>
<td>(15.69%)</td>
</tr>
<tr>
<td>=Not Greco-Lat/Pr Cog</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>K2 Words (1001-2000):</td>
<td>23</td>
<td>25</td>
<td>36</td>
<td>6.81%</td>
</tr>
<tr>
<td>&gt; Anglo-Sax:</td>
<td>...</td>
<td>...</td>
<td>(7)</td>
<td>(1.32%)</td>
</tr>
<tr>
<td>1k+2k</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>(86.02%)</td>
</tr>
<tr>
<td>ARL1 Words (academic):</td>
<td>14</td>
<td>17</td>
<td>28</td>
<td>5.29%</td>
</tr>
<tr>
<td>&gt; Anglo-Sax:</td>
<td>...</td>
<td>...</td>
<td>()</td>
<td>(0.00%)</td>
</tr>
<tr>
<td>Off-List Words:</td>
<td>2</td>
<td>28</td>
<td>46</td>
<td>8.70%</td>
</tr>
<tr>
<td></td>
<td>190+?</td>
<td>259</td>
<td>529</td>
<td>100%</td>
</tr>
</tbody>
</table>

Since the middle of the numbers the ability to communicate electronically has expanded dramatically electronic communication is changing how people relate to one another however one thing remains constant these new forms of communication are not face to face they are distant and they keep people at a distance in my opinion due to electronic communication relationships today are changing for the worse they have become fragmented superficial and anonymous communication these days is becoming a process of exchanging messages of two or three words there is no longer time for serious and deep reflection for example in most countries sending a text message via a cell phone is much cheaper than talking on that phone so people send each other silly messages like ru ready or number sure the language of shakespeare and milton has become reduced to abbreviations with instant messenger im people send each other emoticons such as a smiley face instead of sentences in addition since instant messenger depends on who has the fastest connection there cannot be real communication there is no give and take these fragmented messages are not true communication the current ability to relate to one another electronically is largely textual that is people read messages from each other blogs or web logs have become the way to communicate however anyone anywhere can create
a blog and they can write anything they want there are millions of blogs being produced it seems that everyone wants to shout hey here i am this is me but no one really listens no one responds another reason why relationships are becoming more superficial is the spread of mail it is impossible to have a serious discussion with people through mail because they are overwhelmed by spam in addition to real messages people just skim what they see and either make a rapid thoughtless response or ignore it completely no one reads mail messages carefully because there are just too many of them finally while one great advantage of the world wide web is that it is anonymous this is also its major disadvantage anyone can pretend to be anyone for example a sixteen year old high school student could say that he is a twenty three year old college graduate and the person reading his blog or profile would never know this type of anonymity can also put internet users at risk there are many news stories about a criminal convincing a teenager to meet him at a coffee shop or a mall the teenager agrees to meet her internet friend because she thinks she is meeting another teenager the web knows no one a person can invent an identity it is clear that there can be no real communication when it is so easy for someone to remain anonymous in short electronic communication has multiple advantages but it also has disadvantages this new form of communication makes people lonelier because they do not make real and meaningful connections the communication is fragmented and superficial and it is not always honest because of the ability to be anonymous fewer silly messages and more face to face communication would make us better people i think

AWL [14:17:28] communicate communicate communication communication communication communication communication communication communication communication communication constant convincing create dramatically expanded finally identity ignore major process responds response text textual via

OFF LIST [?:28:46] abbreviations anonymity anonymous anonymous anonymous anonymous blog blog blogs blogs cell electronic electronic electronically electronically emotions fragmented fragmented fragmented graduate im internet internet lonelier mall milton overwhelmed profile ru shakespeare silly silly skim smiley spam superficial superficial superficial teenager teenager teenager thoughtless web web web
Analyzing your Essay

Instructions:
1. Go to this website: http://www.lecturer.ca/vp/eng/
2. In the textbox, highlight the existing text and then delete it.
3. Copy and paste your essay into the box.
4. Click “submit.”
5. Answer the following questions.

Reminder:
K1 Words (blue) belong to the list of the 1,000 most common words in English
K2 Words (green) belong to the list of 1001-2000 most common words in English
AWL Words (yellow) are on the Academic Words List
Off list Words (red) do not belong to any of these lists – often proper nouns or misspellings. Note: Red words are not wrong! They are off-list just because they do not belong to the K1, K2 or AWL lists.

First part: Analyzing the first table

1. Look at the K1 words (1-1000 most common words in English).
   a) How many words from this list did you use in your essay? ______
   b) What is the percentage? ______

2. Look at the K2 words (1000-2000 most common words in English).
   a) How many words from this list did you use in your essay? ______
   b) What is the percentage? ______

3. Look at the AWL words (academic words).
   a) How many words from this list did you use in your essay? ______
   b) What is the percentage? ______

4. Look at the Off-list words (words that don’t belong to any of the other lists).
   a) How many words from this list did you use in your essay? ______
   b) What is the percentage? ______
General analysis:

1. Do most words in your essay belong to the first (K1) and second (K2) lists? __________

2. Do you have a significant percentage of academic words in your essay? (at least 8%) __________

3. Based on this first analysis, do you think you should improve the vocabulary level of your essay? __________
   ✓ If yes, how are you going to do that? ____________________________

Some suggestions: use a dictionary/thesaurus, look for common words in the essay (for example, good, bad, things) and try to find synonyms.

Second part: Analyzing specific word lists

1. Look at the list of off-list words (red words) in the “token list” (first list of words – below the “integral text”).
   ✓ Are any of these words misspelled? ______

   ✓ If yes, which ones?

2. Look at the list of words in the “type list” (below the “token list”). Are any of the words in your essay repeated more than 4 times? __________
   ✓ If yes, what are those? (don’t include prepositions and articles)

   ✓ Are these words key words in your essay or regular words?

   ✓ If they are regular words, do you do think you should find synonyms for them?

   ✓ If yes, how are you going to do that?

Third part: Evaluation

1. Was this process helpful to you? ( ) yes ( ) no

2. Why or why not?

Material developed by Luciana Diniz, Portland Community College
## Activating Academic Vocabulary

Words you have already used in one of your essays, or words you think you will use in your field of study.

<table>
<thead>
<tr>
<th>Si</th>
<th>Grammar/Collocation</th>
<th>Meaning (or translation)</th>
<th>Other word forms</th>
<th>Your own sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>You analyze a process or procedure or policy...</td>
<td>to examine s.t. to understand what it is and means, to study</td>
<td>analyst (n)</td>
<td>The spread of HIV/AIDS needs to be analyzed analytically rather than emotionally.</td>
</tr>
</tbody>
</table>
Finding Patterns in Academic Writing

This activity, you need the Internet and your Problem-Solution Word document. Go to [http://search-micusp.elicopera.info/simple/](http://search-micusp.elicopera.info/simple/) to enter the MICUSP search website.

On the left side of the page, select the filters you want to use: student levels, nativeness, textual features, paper types, and disciplines below for the list for each filter item. (Note: if you use a lot of filters, it will make the search slower.)

In the SEARCH box, type “thisa” and click SEARCH.

Look at the results.

### Distribution Across Disciplines

<table>
<thead>
<tr>
<th>Disciplines</th>
<th>Biology (BIO)</th>
<th>Environmental Engineering (EE)</th>
<th>Instead (IS)</th>
<th>Library (LIB)</th>
<th>Business (BU)</th>
</tr>
</thead>
</table>

### Distribution Across Paper Types

|-------------|---------------------|------------------|---------------------|---------|-------|----------------|----------------|

### Student Levels

<table>
<thead>
<tr>
<th>1st Year Undergrad (90)</th>
<th>2nd Year Graduate (92)</th>
<th>3rd Year Graduate (93)</th>
</tr>
</thead>
</table>

### Textual Features

<table>
<thead>
<tr>
<th>Features</th>
<th>Abstract</th>
<th>Discussion of results</th>
<th>Literature review</th>
<th>Methodology section</th>
<th>Problem-solution pattern</th>
<th>Reference to sources</th>
<th>Tables, graphs, or figures</th>
<th>Native English Speaker</th>
<th>Non-native English Speaker</th>
</tr>
</thead>
</table>

### Notes

- The screenshot shows the MICUSP Simple search interface with filters for student levels, nativeness, textual features, paper types, and disciplines.
Activity: Working with academic texts

Writers often include *this*/*these* — summary words in their writing to make their ideas and connection of ideas clear. *This*/*these* can refer to a single word/phrase in a prior sentence or to the main idea of a prior section of writing. For examples, see AWG 32.

1. Using MiCUSP, search for *this* in the collection of essays. Find the summary words that follow *this* and make a list of the ones that seem most useful for you.

<table>
<thead>
<tr>
<th>This framework</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

2. Complete the following table with *this* — summary word for three (3) examples from the collection of essays.

<table>
<thead>
<tr>
<th>Original text</th>
<th><em>This</em> + summary word</th>
<th>Referent</th>
<th>Where is the referent for <em>this</em> — summary word?</th>
</tr>
</thead>
</table>
| To talk about the benefits of higher education, the widely accepted public/private and financial/nonfinancial continuums will be used to frame the conversation. Many authors have used *this framework* to outline the multiple, complex benefits of higher education, recently Rowley and Gurney (2003) ([EDU.G1.08.1]) | *This framework* | The idea of "To talk about the benefits of higher education, the widely accepted public/private and financial/nonfinancial continuums" as a framework | _one word/phrase in the prior sentence_  
_3. the main idea of the prior sentence(s)_  
_not sure_ |

1.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

2.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

3.  

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
Complete a new search for ‘these’ in the collection of essays. Find the summary words and make a list of the ones that seem most related:

<table>
<thead>
<tr>
<th>Text</th>
<th>These + summary word</th>
<th>Referent</th>
<th>Where is the referent for summary word?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>one word/phrase in sentence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>the main idea of this sentence(s)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>not sure</td>
</tr>
</tbody>
</table>

Complete this table with ‘these’ + summary word for 2 examples from the collection of essays.

<table>
<thead>
<tr>
<th>Text</th>
<th>These + summary word</th>
<th>Referent</th>
<th>Where is the referent for summary word?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>one word/phrase in sentence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>the main idea of this sentence(s)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>not sure</td>
</tr>
</tbody>
</table>

Now, complete a search of your own essay. Use the ‘find’ tool in Microsoft Word to find and copy at least two uses of ‘this’ or ‘these’ + summary word in your own essay.

<table>
<thead>
<tr>
<th>Text</th>
<th>This/These + summary word</th>
<th>Referent</th>
<th>Where is the referent for summary word?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>one word/phrase in sentence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>the main idea of this sentence(s)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>not sure</td>
</tr>
</tbody>
</table>
### Discussion

1. Discuss the summary words you found with another student and compare your list with their list. What is different, the same?
2. What are some other ways you might use the information in MUCUSP to help your writing?
Appendix D – Survey instrument

Corpus-based tools for language teachers

Introduction

Dear Language Teacher,

You are invited to participate in a research project concerning the role of corpus-based methodologies in language teaching.

Examining corpus data involves a completely new way of observing language and it can offer a powerful new way to see language. However, corpus data can also be off-putting to teachers, who are often looking for answers to concrete questions of language learning and classroom management. The purpose of the study is to help teacher educators in technology and corpus linguistics identify the most important issues for teachers in the development of knowledge and use of corpus-based tools and methodologies.

A corpus is a collection of related texts, chosen based on specific principles (there is some reason why one text is chosen and another is not). For example, one corpus could include customer-agent conversations in call centers located in the Philippines. In this corpus, conversations between agents in the lunchroom would not be included. Some corpora (plural of corpus) are very specific, like this call center corpus, and others include many different kinds of text (a general service corpus includes spoken, written, academic, conversational, fiction, etc.), usually put into specific subgroups.

This study is conducted as part of a doctoral dissertation by John Bunting, under the direction of Professor Viviana Cortes, at Georgia State University in Atlanta, Georgia.

This task will take approximately 20 minutes of your time. You will be asked to complete an online survey about (i) your needs as a teacher and (ii) your experience and opinion about the use of corpus based tools and methodologies.
Corpus-based tools for language teachers

Informed Consent Document for Survey Respondents

Georgia State Univ Dept of Applied Linguistics/ESL
Informed Consent

Title: The integration of corpus-based methodologies into teacher practices and beliefs about language learning
PI: Viviana Cortes Student PI: John Bunting

I. Purpose:
You are invited to participate in a research study to investigate the integration of corpus-based methodologies into teacher practices and belief about language learning. You are invited to participate because you have self-identified as an ESL/EFL teacher. 75-100 teachers will be recruited to complete an online survey on their experiences, knowledge, and needs.

II. Procedures:
Participating in the research will require about 20 minutes of your time. During the survey you will respond to items about your beliefs as an ESL teacher about your needs as a language teacher, specifically related to technology and corpus linguistics, and how those beliefs affect your instructional practices.

III. Risks:
The only possible risk is that you will spend your time taking the survey. You might feel uneasy about responding to items. All responses are anonymous and will not be linked to any specific respondent. At any point you can stop taking the survey. Please note that data sent over the internet may not be secure. This survey uses special procedures to protect the data. IP addresses are not recorded, and email addresses are not recorded.

IV. Benefits:
Participation in this study may benefit your personal teaching situation in that you might be able to reflect upon your own knowledge and experience as a language teacher. It might help you reflect on current and potential instructional practices in your ESL classes. This information, when combined with other responses and elements of this study, will be beneficial in general for teacher educators and researchers of language learning and technology.

V. Voluntary Participation and Withdrawal:
Participation in research is voluntary. You do not have to be in this study. If you decide to be in the study and later change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. Whatever you decide, you will not lose any benefits to which you are otherwise entitled.

VI. Confidentiality:
We will keep your records private to the extent allowed by law. Only the PI, Viviana Cortes, and the graduate student, John Bunting, will have access to the information you provide. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHARP). The data will be stored in a password-protected and fire-walled computer. The hard copy data will be stored in a locked cabinet in the office of Viviana Cortes, the supervising primary investigator. Your name or other facts that might identify you will not appear when we present this study or publish its results. Names of respondents will be kept separate from the data. A key will be created, and this key will be kept separate from the actual names and from the data related to each respondent. The findings will be summarized and reported in group form. You will not be identified personally. You should be aware that data sent over the Internet may not be secure. This online survey uses special procedures to protect the data. IP addresses are not recorded, and email addresses are not recorded. The data will be destroyed five years after the completion of the study.

VII. Contact Persons:
Call Viviana Cortes vcortes@gsu.edu (404) 413-5195 or John Bunting jbunting@gsu.edu (404) 413-5181 if you have questions about this study. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-413-3513 or svogtner1@gsu.edu.
Corpus-based tools for language teachers

1. VIII. Copy of Consent Form to Subject:
   You can print out a copy of this consent form to keep for your records (you can use 'control- p' to print out this webpage).

If you agree to participate in this research, please click the “Continue” button.

- [ ] Continue
- [ ] Do not continue
### Corpus-based tools for language teachers

#### Demographic information

2. **What is your gender?**
   - [ ] Female
   - [ ] Male
   - [ ] Prefer not to answer

3. **What is your age?**
   - [ ] Less than 20 years old
   - [ ] 20-29 years old
   - [ ] 30-39 years old
   - [ ] 40-49 years old
   - [ ] 50-59 years old
   - [ ] 60 years old or more
   - [ ] Prefer not to answer

4. **Where do you work? (city, state/province, country)**

5. **What is your first language?**
Corpus-based tools for language teachers

6. What is the highest educational degree you have achieved?

- B.A. in progress
- B.A.
- M.A./M.Ed. in progress
- M.A./M.Ed.
- Other (please specify)
- Ph.D./Ed.D in progress
- Ph.D./Ed.D
- Prefer not to answer

7. Degree area (e.g., Applied Linguistics, TESOL, English, etc.) for highest degree

8. When did you finish your formal studies?

- Currently studying
- Within the last year
- 2-3 years ago
- 4-5 years ago
- More than 5 years ago
- Prefer not to answer

9. Which languages do you teach?

- English
- Spanish
- French
- Chinese
- Other (please specify)
Corpus-based tools for language teachers

Proficiency level of your students

10. What level(s) of language students do you teach?

☐ A1 - Beginner level
☐ A2 - Pre-Intermediate level
☐ B1 - Intermediate level
☐ B2 - Upper Intermediate Level
☐ C1 - Advanced level
☐ C2 - Proficient User

Other (please specify)

GENERAL LINGUISTIC RANGE (Council of Europe, 2001, p. 111)

A1 (Beginner level) Has a very basic range of simple expressions about personal details and needs of a concrete type.

A2 (Pre-Intermediate level) Can produce brief everyday expressions in order to satisfy simple needs of a concrete type: personal details, daily routines, wants and needs, requests for information. Can use basic sentence patterns and communicate with memorized phrases, groups of a few words and formulate about themselves and other people, what they do, places, possessions etc. Has a limited repertoire of short memorized phrases covering predictable survival situations; frequent breakdowns and misunderstandings occur in non-routine situations.

B1 (Intermediate level) Has enough language to get by, with sufficient vocabulary to express him/herself with some hesitation and circumlocutions on topics such as family, hobbies and interests, work, travel, and current events; but lexical limitations cause repetition and even difficulty with formulation at times. Has a repertoire of basic language which enables him/her to deal with everyday situations with predictable content, though he/she will generally have to compromise the message and search for words.

B2 (Upper-Intermediate level) Has a sufficient range of language to be able to give clear descriptions, express viewpoints and develop arguments without much conspicuous searching for words, using some complex sentence forms to do so. Has a sufficient range of language to describe unpredictable situations, explain the main points in an idea or problem with reasonable precision and express thoughts on abstract or cultural topics such as music and films.

C1 (Advanced level) Can select an appropriate formulation from a broad range of language to express him/herself clearly without having to restrict what he/she wants to say. Can express him/herself clearly and without much sign of having to restrict what he/she wants to say.

C2 (Proficient User) Can exploit a comprehensive and reliable mastery of a very wide range of language to formulate thoughts precisely, give emphasis, differentiate and eliminate ambiguity . . . No signs of having to restrict what he/she wants to say.

### Corpus-based tools for language teachers

**11. Which grade level do/did you most often teach?**

<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-elementary/Kindergarten</td>
</tr>
<tr>
<td>Elementary</td>
</tr>
<tr>
<td>Secondary (Middle/High School)</td>
</tr>
<tr>
<td>Intensive English Program (pre-matriculated college students)</td>
</tr>
<tr>
<td>Community college ESL language program</td>
</tr>
<tr>
<td>College (Undergraduate/Graduate)</td>
</tr>
<tr>
<td>Adult (Non-Degree)</td>
</tr>
</tbody>
</table>

Other (please specify)

**12. Including this year, how many years have you taught ESL/EFL or another foreign or second language?**

<table>
<thead>
<tr>
<th>Option</th>
<th>0–4 years</th>
<th>5–9 years</th>
<th>more than 10 years</th>
<th>Prefer not to answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than a year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3–4 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Corpus-based tools for language teachers

#### Your needs as a teacher

<table>
<thead>
<tr>
<th>13. For your own teaching, identify the importance of each item.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For my development as a language user and teacher...</strong></td>
</tr>
<tr>
<td>I don't see this as a need</td>
</tr>
<tr>
<td>Developing my own knowledge of the language</td>
</tr>
<tr>
<td>Feeling confident in my own language knowledge</td>
</tr>
<tr>
<td>Confirming/modifying my own intuition about language</td>
</tr>
<tr>
<td>Developing my own knowledge of best practices in teaching/learning</td>
</tr>
</tbody>
</table>

14. For your own teaching, identify the importance of each item.

#### For curriculum issues...

| I don't see this as a need | Not at all important for me | Not very important for me | An important need | Extremely important need |
| Designing curriculum       | ○ | ○ | ○ | ○ | ○ |
| Choosing textbooks and other materials                        | ○ | ○ | ○ | ○ | ○ |
| Creating materials for students                                 | ○ | ○ | ○ | ○ | ○ |
| Selecting vocabulary items to focus on                          | ○ | ○ | ○ | ○ | ○ |
| Selecting grammar points to focus on                            | ○ | ○ | ○ | ○ | ○ |
| Prioritizing learning points in the curriculum                  | ○ | ○ | ○ | ○ | ○ |
Corpus-based tools for language teachers

15. For your own teaching, identify the importance of each item.

**For classroom issues...**

<table>
<thead>
<tr>
<th>Issue</th>
<th>I don't see this as a need</th>
<th>Not at all important for me</th>
<th>Not very important for me</th>
<th>An important need</th>
<th>Extremely important need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing my own time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom management issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using technology in the classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. For your own teaching, identify the importance of each item.

**For student issues...**

<table>
<thead>
<tr>
<th>Issue</th>
<th>I don't see this as a need</th>
<th>Not at all important for me</th>
<th>Not very important for me</th>
<th>An important need</th>
<th>Extremely important need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing feedback to student writing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Providing feedback to student speaking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigning optimal homework assignments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connecting our classroom to the students' real world</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being able to answer students' questions about language</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. Please identify the three most critical needs you have as a language teacher. These can be from the lists above, or they can be other needs not listed above.

Most critical need:  
2nd most critical need:  
3rd most critical need:  

Page 9
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Have you ever taken a course, professional development training, or other exposure to corpus linguistics?</td>
<td>Yes, No, Prefer not to answer</td>
</tr>
</tbody>
</table>
19. Have you ever taken a course in corpus linguistics?

- [ ] Yes
- [ ] No
- [ ] Prefer not to answer
Corpus-based tools for language teachers

20. When did you finish your last corpus linguistics course?
   - within the last year
   - 2–3 years ago
   - 4–5 years ago
   - more than 5 years ago

21. How many corpus linguistics courses have you completed?
   - 1
   - 2
   - 3
   - more than 3

22. What was/were the title/titles of the corpus linguistics course you took?
Corpus-based tools for language teachers

Professional development training in corpus linguistics

This section focuses on any in-service professional development in corpus linguistics that you have had.

23. Have you ever had professional development training in corpus linguistics?

- [ ] Yes
- [ ] No
- [ ] Prefer not to answer
### Corpus-based tools for language teachers

#### 24. When did you finish your last professional development in corpus linguistics?

- [ ] within the last year
- [ ] 2-3 years ago
- [ ] 4-5 years ago
- [ ] more than 5 years ago

#### 25. How many corpus linguistics professional development training programs have you completed?

- [ ] 1
- [ ] 2
- [ ] 3
- [ ] more than 3

#### 26. what were the titles or topics of the corpus linguistics professional development sessions that were most useful for you?

[ ]
27. Have you ever used corpus linguistics tools or methods in your classes?

☐ Yes
☐ No
☐ Prefer not to answer
Corpus-based tools for language teachers

28. what are the main corpus-based topics or tools you have used in your classes?

<table>
<thead>
<tr>
<th>Tool/Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
## Corpus-based tools for language teachers

### Your knowledge about corpus tools

For the following items, identify how much you feel you know about the following topics related to corpus linguistics for language teaching/learning.

### 29. What is your knowledge about the following topics?

| Using corpus tools directly with students (also called data-driven learning, or DDL) |
|-----------------------------------|---------------------------------|----------------|----------------|----------------|----------------|
| No knowledge | a little knowledge | some knowledge | extensive knowledge | expert knowledge |

<table>
<thead>
<tr>
<th>Analyzing corpora</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Creating a corpus</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evaluating corpus-based or corpus-informed textbooks and other materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using corpus tools to build my own language knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge</td>
</tr>
</tbody>
</table>

### 30. What is your knowledge about the following topics?

**Analyzing and using concordance lines...**

<table>
<thead>
<tr>
<th>to learn about language</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>to create classroom material</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>directly with my students</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge</td>
</tr>
</tbody>
</table>

### 31. What is your knowledge about the following topics?

**Learning about and using...**

<table>
<thead>
<tr>
<th>corpus software programs (e.g., Antconc, Wordsmith Tools)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>online corpus tools (e.g., COCA, lexical tutor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No knowledge</td>
</tr>
</tbody>
</table>
## Corpus-based tools for language teachers

### 32. What is your knowledge about the following topics?

#### Using corpus-based methodologies to improve your students'...

<table>
<thead>
<tr>
<th>Subject</th>
<th>No knowledge</th>
<th>A little knowledge</th>
<th>Some knowledge</th>
<th>Extensive knowledge</th>
<th>Expert knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>vocabulary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grammar</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>writing</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>listening</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>speaking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>genre awareness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Corpus-based tools for language teachers

Importance of corpus tools for you as a teacher

For the following items, please identify the importance of each of the corpus topics, if any, for you as a teacher.

33. How important are the following topics to you as a classroom teacher?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Don't know the topic</th>
<th>Not at all important</th>
<th>Somewhat important</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using corpus tools directly with students (also called data-driven learning, or DDL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyzing corpora</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creating a corpus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluating corpus-based or corpus-informed textbooks and other materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using corpus tools to build my own language knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

34. How important are the following topics to you as a classroom teacher?

Analyzing and using concordance lines...

<table>
<thead>
<tr>
<th>Activity</th>
<th>Don't know the topic</th>
<th>Not at all important</th>
<th>Somewhat important</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>to learn about language</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to create classroom material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>directly with my students</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

35. How important are the following topics to you as a classroom teacher?

Learning about and using…

<table>
<thead>
<tr>
<th>Activity</th>
<th>Don't know the topic</th>
<th>Not at all important</th>
<th>Somewhat important</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>corpus software programs (e.g., AntConc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning about and using online corpus tools (e.g., COCA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Corpus-based tools for language teachers

36. How important are the following topics to you as a classroom teacher?

Using corpus-based methodologies to improve your students’...

<table>
<thead>
<tr>
<th></th>
<th>Don’t know the topic</th>
<th>Not at all important</th>
<th>Somewhat important</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>vocabulary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grammar</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>reading</td>
<td></td>
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<tr>
<td>writing</td>
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<td></td>
</tr>
<tr>
<td>listening</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>speaking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>genre awareness</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

37. Of the topics listed above, which topic, if any, has been MOST helpful in your classroom teaching?

☐ Using corpus tools directly with students (also called data-driven learning, or DDL)
☐ Analyzing corpora
☐ Creating a corpus
☐ Evaluating corpus-based or corpus-informed textbooks and other materials
☐ Using corpus tools to build my own language knowledge
☐ Analyzing and using concordance lines to learn about language
☐ Analyzing and using concordance lines to create classroom material
☐ Analyzing and using concordance lines directly with my students
☐ Learning about and using corpus software programs (e.g., AntConc)
☐ Learning about and using online corpus tools (e.g., COCA)
☐ Using corpus-based methodologies to improve vocabulary
☐ Using corpus-based methodologies to improve grammar
☐ Using corpus-based methodologies to improve reading
☐ Using corpus-based methodologies to improve writing
☐ Using corpus-based methodologies to improve listening
☐ Using corpus-based methodologies to improve speaking
☐ Using corpus-based methodologies to improve genre awareness
☐ None of these topics
38. For the topic you selected as most helpful, why was it particularly helpful? Check all that apply. You can also add other reasons.

☐ Applied directly to classroom teaching
☐ Concepts were easy to understand
☐ Personal interest in the topic
☐ Helped developing classroom materials
☐ Energized students

Other (please specify)

39. Of the topics covered in the above questions, which topics, if any, would you like to learn more about? Choose up to three topics.

☐ Using corpus tools directly with students (also called data-driven learning, or DDL)
☐ Analyzing corpora
☐ Creating a corpus
☐ Evaluating corpus-based or corpus-informed textbooks and other materials
☐ Using corpus tools to build my own language knowledge
☐ Analyzing and using concordance lines to learn about language

☐ Analyzing and using concordance lines to create classroom material
☐ Analyzing and using concordance lines directly with my students
☐ Learning about and using corpus software programs (e.g., AntConc)
☐ Learning about and using online corpus tools (e.g., COCA)
☐ Using corpus-based methodologies to improve vocabulary
☐ Using corpus-based methodologies to improve grammar

☐ Using corpus-based methodologies to improve reading
☐ Using corpus-based methodologies to improve writing
☐ Using corpus-based methodologies to improve listening
☐ Using corpus-based methodologies to improve speaking
☐ Using corpus-based methodologies to improve genre awareness
☐ None of these topics
### Corpus-based tools for language teachers

40. Do you agree with the following statements about professional development for language teachers in your program?

**Practicing language teachers will benefit from...**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning about language in use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning how to create a corpus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning how to work with a corpus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyzing concordance lines</td>
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<tr>
<td>Finding patterns of language</td>
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<td>Creating better materials for students</td>
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<tr>
<td>Learning how to teach using corpus tools directly with students</td>
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<tr>
<td>Understanding data-driven learning</td>
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</tbody>
</table>

41. Do you agree or disagree with the following statement about professional development (training) for language teachers in your program?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corpus linguistics training has helped me meet my needs as a classroom teacher.</td>
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<tr>
<td>Training in corpus linguistics has been useful for most classroom teachers.</td>
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<tr>
<td>Future corpus linguistics training could help me meet my needs as a classroom teacher.</td>
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<tr>
<td>Future corpus linguistics training would be useful for most classroom teachers.</td>
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</tbody>
</table>
Corpus-based tools for language teachers

42. In your opinion, what is the MOST important factor in making corpus linguistics training effective for classroom teachers?

- Practicality
- Theoretical Knowledge
- Balance Between Theory and Practice

Other (please specify)

43. How would you describe yourself as a user of technology and computers?

- I am one of the first people to try new technology
- Once a few others have started using new technology, I am eager to try it
- Once many people are participating, I join in
- I am usually one of the last of my peer to try new technology (when it's not considered 'new' anymore) but I do try it out
- I don't like or need most new technology, and move slowly if at all regarding such changes.

44. If you would like to add any further comments, please do so here.

45. If you are interested in participating in a follow up interview, please provide an email address or other contact information.

Thank you for participating in this survey!

Sources:
Appendix E.1 – Informed consent document for teacher participants

Title: The integration of corpus-based methodologies into teacher practices and beliefs about language learning: interviews and observations

Principal Investigator: Viviana Cortes
Student Investigator: John Bunting

I. Purpose:
You are invited to participate in a research study. The purpose of the study is to investigate the integration of corpus-based methodologies into teacher practices and beliefs about language learning. You are invited to participate because you are teaching a writing course for native speakers of English at Georgia State University. A total of three (3) teacher participants will be recruited for this study.

II. Procedures:
Participating in the research will require about 6 hours of your time over the 15-week semester. If you decide to participate, you will receive individualized instruction on corpus-based methodology (the “Treatment”) as it relates to your course. Two sessions of your writing classes will be observed during the Spring 2012 semester. One session will be audio-recorded. The second will be video-recorded. During this session, you will incorporate a corpus-based methodology into your lesson plan. Additionally, you will be interviewed once prior to the first observation, once prior to the Treatment, and twice after the classroom observation. Each interview will be audio-recorded and each will take approximately one hour. The interviews will take place at a mutually-agreed time either in the Department of Applied Linguistics and ESL or your own office. During the interviews, you will be asked about your beliefs as an ESL teacher about the needs and wants of language learners, specifically related to technology and corpus linguistics, and how these beliefs affect your instructional practices.

III. Risks:
The only possible risk is that you will spend your time in the interviews. You might feel uneasy about being video-taped or audio-taped. If this happens, the student P, John Bunting, will stop the recording at once.

IV. Benefits:
Participation in this study may benefit your personal teaching situation in that you might have a clearer picture of the role of your own beliefs as a language teacher. It might help you reflect on your instructional practices in your ESL classes. It will provide you with course-specific corpus tools to address concerns that you have identified. In addition, this information will be beneficial for teacher educators and researchers of language learning and technology.

V. Voluntary Participation and Withdrawal:
Participation in research is voluntary. You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may
skip questions or stop participating at any time. Whatever you decide, you will not lose any benefits to which you are otherwise entitled.

VI. Confidentiality:
We will keep your records private to the extent allowed by law. Only the PI, Viviana Cortes, and the graduate student, John Bunting, will have access to the information you provide. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHRP). The data will be stored in a password-protected and fire-walled computer. The hard copy data will be stored in a locked cabinet in the office of Viviana Cortes, the supervising primary investigator. Your name and other facts that might point to you will not appear when we present this study or publish its results. Names of participants will be kept separate from the data. A key will be created, and this key will be kept separate from the actual names, and the data. The findings will be summarized and reported in group form. You will not be identified personally. The data and recordings will be destroyed five years after the completion of the study.

VII. Contact Person:
Call Viviana Cortes at vcortes@gsu.edu or (404) 413-5195 or John Bunting jfbunting@gsu.edu or (404) 413-5181 if you have questions about this study. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogner in the Office of Research Integrity at 404-413-5313 or svognerl@gsu.edu.

VIII. Copy of Consent Form to Subject:
We will give you a copy of this consent form to keep. If you are willing to volunteer for this research and be audio- and video-recorded, please sign below.

______________________________  ____________________
Teacher Participant Date

______________________________  ____________________
Principal Investigator or Researcher Obtaining Consent Date
Appendix E.2 – Informed consent document for student participants

Georgia State University
Department of Applied Linguistics and ESL
Informed Consent for Student Participants

Title: The integration of corpus-based methodologies into teacher practices and beliefs about language learning

Principal Investigator: Viviana Cortes
Student Investigator: John Bunting

I. Why we want to do this:
There will be a research study done in your class. It will look at how your teacher uses some new teaching techniques in class. We want you to participate because your writing teacher is helping with the research. Part of the research requires observing your teacher in a classroom during an activity with students. A total of 60 students and 3 teachers will be asked to be in this study.

II. How it works:
If you agree, we will ask you to give permission to be audio-taped or video-taped for two class periods. However, the audio/video recording will be focused on your teacher, not on you or the other students.

III. Risks:
You will have no more risks in this study than in any class.

IV. Benefits:
Being part of this research may not get you anything personally. However, it may help us learn about teachers and what they believe. You can also learn about how they use new teaching ideas in their classes.

V. You can decide to participate or not participate. You can stop participating at any time:
You can say yes or no to being in this research. You do not have to do it. If you decide to be in the research, but later decide you do not want to, you can always stop at any time. Whatever you decide, it does not affect your grade or your class.

VI. We keep your information confidential:
We will keep all information private, as much as the law lets us. Only the Principal Investigator (Viviana Cortes) and the student Principal Investigator (John Bunting) will see the video or hear the audio from the class. They will share it with the university office that protects students and other people who are in research (CSU Institutional Review Board, the Office for Human Research Protection (OHRI)). We will keep the audio and video files in a locked cabinet in the office of Viviana Cortes. We will not give your name or other facts that identify you when we publish the results of the research. The results will be given about students as a group, not as individuals. You will not be identified personally.

VII. Questions and who you can ask:
Questions if you have questions about the research Call John Bunting or Viviana Cortes.
John’s contact information: jbunting@gsu.edu or (404) 413-5181
Viviana’s contact information: vcortes@gsu.edu or (404) 413-5195

Your rights: If you have questions about your rights in the research, you may ask Susan Vogtler about your rights. She is in the Office of Research Integrity.
Phone: 404-413-3513  
Email: svogtnerl@gsu.edu

VIII. Copy of Consent Form to Subject:  
We will give you a copy of this consent form.

If you are willing to participate, please sign below.

Student Volunteer (you) ___________________________ Date __________

Principal Investigator or Researcher Obtaining Consent ___________________________ Date __________

Consent Form Approved by Georgia State University 11/15/2011 - 12/14/2012
Appendix E.3 – Informed consent document for survey respondents

Informed Consent Document for Survey Respondents

Georgia State University
Dept of Applied Linguistics/ESL
Informed Consent

Title: The integration of corpus-based methodologies into teacher practices and beliefs about language learning

PI: Viviana Cordero
Student PI: John Bunting

I. Purpose:
You are invited to participate in a research study to investigate the integration of corpus-based methodologies into teacher practices and beliefs about language learning. You are invited to participate because you have self-identified as an ESL/EFL teacher. 75-100 teachers will be recruited to complete an online survey on their experiences, knowledge, and needs.

II. Procedures:
Participating in the research will require about 30 minutes of your time. During the survey you will respond to items about your beliefs as an ESL teacher about your needs as a language teacher, specifically related to technology and corpus linguistics, and how these beliefs affect your instructional practices.

III. Risks:
The only possible risk is that you will spend your time taking the survey. You might feel uneasy about responding to items. All responses are anonymous and will not be linked to any specific respondent. At any point you can stop taking the survey. Please note that data sent over the Internet may not be secure. This survey uses special procedures to protect the data. IP addresses are not recorded, and email addresses are not recorded.

IV. Benefits:
Participation in this study may benefit your personal teaching situation in that you might be able to reflect upon your own knowledge and experience as a language teacher. It might help you reflect on current and potential instructional practices in your ESL classes. Take information, when combined with other responses and elements of this study, will be beneficial in general for teacher educators and researchers of language learning and technology.

V. Voluntary Participation and Withdrawal:
Participation in research is voluntary. You do not have to be in this study. If you decide to be in the study and later change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. Whatever you decide, you will not lose any benefits to which you are otherwise entitled.

VI. Confidentiality:
We will keep your records private to the extent allowed by law. Only the PI, Viviana Cordero, and the graduate student, John Bunting, will have access to the information you provide. Information
may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protections (OHRP)). The data will be stored in a password-protected and fire-walled computer. The hard copy data will be stored in a locked cabinet in the office of Viviana Cotes, the supervising primary investigator. Your name or other facts that might identify you will not appear when we present this study or publish its results. Names of respondents will be kept separate from the data. A key will be created, and this key will be kept separate from the actual names and from the data related to each respondent. The findings will be summarized and reported in group form. You will not be identified personally. You should be aware that data sent over the Internet may not be secure. The online survey uses special procedures to protect the data. IP addresses are not recorded, and e-mail addresses are not recorded. The data will be destroyed five years after the completion of the study.

VII. Contact Persons:
Call Viviana Cotes vocotes@gsu.edu (404) 413-5195 or John Burdiss jburdiss@gsu.edu (404) 413-5181 if you have questions about this study. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-413-3513 or svogtner1@gsu.edu.

VIII Copy of Consent Form to Subject:
You can print out a copy of this consent form to keep for your records (you can use 'control-p' to print out this webpage).

If you agree to participate in this research, please click the "Continue" button.
Appendix F – IRB documents- Protocol H12221

Appendix F.1 – Protocol approval H12221 through December 14, 2012

December 15, 2011

Principal Investigator: Cortes, Viviana

Student PI: John Bunting

Protocol Department: Applied Linguistics & ESL

Protocol Title: An investigation of the integration of corpus-based methodologies into teacher practices and beliefs about language learning

Submission Type: Protocol H12221

Review Type: Expedited Review

Approval Date: December 15, 2011

Expiration Date: December 14, 2012

The Georgia State University Institutional Review Board (IRB) reviewed and approved the above referenced study and enclosed Informed Consent Document(s) in accordance with the Department of Health and Human Services. The approval period is listed above.

Federal regulations require researchers to follow specific procedures in a timely manner. For the protection of all concerned, the IRB calls your attention to the following obligations that you have as Principal Investigator of this study.

1. When the study is completed, a Study Closure Report must be submitted to the IRB.

2. For any research that is conducted beyond the one-year approval period, you must submit a Renewal Application 30 days prior to the approval period expiration. As a courtesy, an email reminder is sent to the Principal Investigator approximately two months prior to the expiration of the study. However, failure to receive an email reminder does not negate your responsibility to submit a Renewal Application. In addition, failure to return the Renewal Application by its due date must result in an
automatic termination of this study. Reinstatement can only be granted following re-submission of the study to the IRB.

3. Any adverse event or problem occurring as a result of participation in this study must be reported immediately to the IRB using the Adverse Event Form.

4. Principal investigators are responsible for ensuring that informed consent is obtained and that no human subject will be involved in the research prior to obtaining informed consent. Ensure that each person giving consent is provided with a copy of the Informed Consent Form (ICF). The ICF used must be the one reviewed and approved by the IRB; the approval dates of the IRB review are stamped on each page of the ICF. Copy and use the stamped ICF for the coming year. Maintain a single copy of the approved ICF in your files for this study. However, a waiver to obtain informed consent may be granted by the IRB as outlined in 45CFR46.116(d).

All of the above referenced forms are available online at https://irbwise.gsu.edu. Please do not hesitate to contact Susan Vogtner in the Office of Research Integrity (404-813-3500) if you have any questions or concerns.

Sincerely,

Cynthia A. Hoffner, IRB Vice-Chair

Federal Wide Assurance Number: 00000129
Appendix F.2 – Protocol approval H12221 through December 14, 2013

INSTITUTIONAL REVIEW BOARD

Mail: P.O. Box 3999
Atlanta, Georgia 30302-3999
Phone: 404-413-2500
Fax: 404-413-2504

In Person: Alumni Hall
30 Courtland St, Suite 217

December 10, 2012

Principal Investigator: Cortes, Viviana

Student Principal Investigator: Bunting, John David

Protocol Department: Applied Linguistics & ESL

Protocol Title: An investigation of the integration of corpus-based methodologies into teacher practices and beliefs about language learning

Submission Type: Continuing Review #1 for H12221

Review Type: Expedited Review, Category 7

Approval Date: December 14, 2012

Expiration Date: December 13, 2013

The Georgia State University Institutional Review Board (IRB) reviewed and approved the above referenced study in accordance with 45 CFR 46.111. The IRB has reviewed and approved the research protocol and any informed consent forms, recruitment materials, and other research materials that are marked as approved in the application for data analysis only. The approval period is listed above. Research that has been approved by the IRB may be subject to further appropriate review and approval or disapproval by officials of the Institution.

Federal regulations require researchers to follow specific procedures in a timely manner. For the protection of all concerned, the IRB calls your attention to the following obligations that you have as Principal Investigator of this study.

1. For any changes to the study (except to protect the safety of participants), an Amendment Application must be submitted to the IRB. The Amendment Application must be reviewed and approved before any changes can take place.
2. Any unanticipated/adverse events or problems occurring as a result of participation in this study must be reported immediately to the IRB using the Unanticipated Adverse Event Form.

3. Principal investigators are responsible for ensuring that informed consent is properly documented in accordance with 45 CFR 46.116.

4. For any research that is conducted beyond the approval period, a Renewal Application must be submitted at least 30 days prior to the expiration date. The Renewal Application must be approved by the IRB before the expiration date else automatic termination of this study will occur. If the study expires, all research activities associated with the study must cease and a new application must be approved before any work can continue.

5. When the study is completed, a Study Closure Report must be submitted to the IRB.

All of the above referenced forms are available online at https://irb.wise.gsu.edu. Please do not hesitate to contact the Office of Research Integrity (404-413-3500) if you have any questions or concerns.

Sincerely,

[Signature]
Sheila L. White, IRB Member

Federal Wide Assurance Number: 00000129