NNS USE OF ADVERBS IN ACADEMIC WRITING

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Recent studies have begun to redefine the idea of accuracy in second language acquisition to include not only grammatical correctness, but also native-like selection. This is an exploratory study aimed at identifying areas of nonnative-like selection of adverbs, such as sentence position, semantic category preferences, frequency of use and breadth of word choice. Using corpus-linguistic methods it compares the writing of nonnative English speakers at an intermediate and advanced level to both American college students’ writing and published academic writing. It also conducts in-depth case studies of three of the most commonly used adverbs. It finds that while advanced students are grammatically accurate, there are still several ways in which their use of adverbs differs from that of native speakers.
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CHAPTER 1
INTRODUCTION

According to The Grammar Book, “[a]dverbials are morphologically and syntactically the most diverse grammatical structures in English” (Larsen-Freeman 1999: 491). They can perform a wide variety of purposes: show time or space relationship, emphasize or de-emphasize information, indicate frequency or manner, or link ideas together. They can occur initially, medially, and finally in sentences and before nouns, verbs and adjectives. Observing such a variable word class gives us the opportunity to observe variability in students’ language development. How they choose adverbs, the semantic classes they prefer, and where they place them in sentences gives us valuable insight into their language proficiency.

Adverbs are one of the more difficult word classes to define. In fact, the definition from a recently published grammar text states, “If you don’t know what else a word is, it’s probably an adverb” (Altenberg 2010: 103). When we examine different student texts and reference books (Larsen-Freeman 1999; Biber 1999; Biber 2002; Azar 1992; Azar 2002), each one has a slightly different definition and focus for adverbs. For the purpose of this study I defined adverbs as words or phrases that modify adjectives, verbs, other adverbs, or whole clauses. In doing this they show relationships such as time, place, manner, degree, or certainty. In this study I examined adverbs in their most conservative form: single word adverbs that can occur only as adverbs. To preserve this most basic form of adverb I excluded adverbial clauses, multi-word adverbs such as kind of and of course, and any adverb that could also function as another part of
speech. For example, *out* can be used as an adverb, as a preposition, or as part of a phrasal verb.

In determining if nonnative speaker (NNS) writing approximates native speaker (NS) writing, it is necessary to look beyond error analysis. As Gilquin noted in 2007, “[e]rror analysis of learner corpus data only lifts a corner of the veil. Equally important are indications as to what learners get right, what they underuse and what they overuse” (Gilquin 2007: 288). NNSs’ accuracy should be measured not only by their grammatical accuracy, but also by the way their lexical choices align with those of NS. As Wulff noted “[a]ccuracy cannot be defined (exclusively) as a rule-based, binary concept. Instead, a major component (if not the most important one) is native-like selection” (Wulff, to appear, p. 7). The first to raise the issue of native-like selection were Pawley and Syder (1983). They pointed out that there is a fundamental qualitative difference between *native-like fluency*, the ability to speak fluently in a second language, and *native-like selection*, the ability to select the right words in their proper contexts. Identifying these areas of non-native-like selection can also identify areas where instruction in ESL and EFL classrooms can be refined and improved.

This is an exploratory study of non-native speaker (NNS) use of adverbs. I provide a broad overview of learner trends and preferences in adverb choice and placement, and how they compare to those of native speaker’s (NS) preferences. I use both quantitative corpus-linguistic methods and qualitative examination of students’ writing to give a holistic view of the differences between native and nonnative speakers. Rather than having a directional hypothesis, the goal of this study is to identify areas of difference between NNS and NS usage of adverbs in academic writing using a bottom-
up, data driven approach. Instead of merely being concerned with the “rightness” or “wrongness” of their writing, using corpus linguistic methods I examine how the frequency of adverb usage in specific areas differs from that of NS. To help identify areas where instruction could be improved I also compare learner trends to explicit instruction materials commonly available to students.

In the following sections I provide an overview both of current research into second language (L2) usage of adverbs and of current teaching materials for L2 grammar instruction. This provides an analysis of the issue from both a research and a classroom perspective. I detail the methods I used in this study: the selection of adverbs and corpora to be used, the creation of my own corpus of NNS writing, the identification of the frequency of each adverb individually and the classification of the frequencies in areas such as semantic category, native language, and individual learner trends, and finally the methods I used to conduct in-depth case studies of three of the most frequently used adverbs. I then detail my results in two sections. In the first section I present overall adverb frequencies, as observable in the corpora in general, as well as in specific semantic categories, native language groups, and specific learners. In the second section I discuss the findings from the case studies I conducted for three adverbs in four areas: overall frequency, distribution by semantic class, positional distribution, and collocations. Finally in the discussion section I discuss how my findings support current research as well as implications for instruction.
CHAPTER 2
LITERATURE REVIEW

I have included two sections in the literature review. Because a large portion of learner input on how to use adverbs comes from grammar texts, I have included a brief review of 6 commonly used texts representing differing approaches in instruction. This is followed by a review of current research in L2 acquisition and use of adverbs.

2.1 Grammar Book Review

Because grammar texts are one of learners’ primary sources of explicit input on how and when to use adverbs, I begin by reviewing a selection of recently published texts. This review highlights how specific texts teach adverbs as a whole class, as semantic categories of adverbs, and as individual adverbs. This will hopefully provide a context through which to view how learners arguably conceive of “proper” adverb use.

I reviewed six texts. Three were traditional English as a Second Language (ESL) grammar texts, focusing on grammar rules and exercises outside of any context. Two of these were in a series, one for beginning students and one for advanced students. The third was a standalone book for beginners. Two other books presented grammar in context, again one at a basic level and one at an advanced level. There would be a short reading passage, and then explanations and exercises based on the constructions found in those passages. Finally I reviewed a book of grammar games. It is important to note that in all six texts adverbs were given the least attention. For example, in one text, Grammar in Context 2, adverbs share one chapter with adjectives, while verbs have seven. This stands in sharp contrast to the frequency of occurrence and its variability of
use. Table 1 below summarizes the coverage in each book. If a book is not listed, it did not contain any coverage of adverbs.

<table>
<thead>
<tr>
<th>Author</th>
<th>Altenberg</th>
<th>Azar 1</th>
<th>Azar 2</th>
<th>Elbaum</th>
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<tbody>
<tr>
<td>definition</td>
<td>EXP, EXER</td>
<td></td>
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<tr>
<td>add ly</td>
<td>EXP</td>
<td>EXP</td>
<td>EXP, EXER</td>
<td>EXP, EXER</td>
</tr>
<tr>
<td>compared to adjectives</td>
<td>EXP, EXER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>semantic category</td>
<td>EXP</td>
<td>EXP, EXER</td>
<td></td>
<td>EXP3</td>
</tr>
<tr>
<td>POS modification</td>
<td>EXP</td>
<td>EXP</td>
<td></td>
<td></td>
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<tr>
<td>sentence modification</td>
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<td>EXP, EXER</td>
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<td>overextension</td>
<td>EXP, EXER</td>
<td>EXP, EXER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>category placement</td>
<td>EXP, EXER</td>
<td>EXP, EXER</td>
<td></td>
<td>EXP</td>
</tr>
<tr>
<td>category order</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>individual position</td>
<td>EXP, EXER</td>
<td>EXP, EXER</td>
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<tr>
<td>spelling</td>
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<tr>
<td>with verb tenses</td>
<td>EXP, EXER</td>
<td>EXP, EXER</td>
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<td>punctuation</td>
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**TABLE 1.** Summary of adverb coverage in recent grammar books.


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1. explanation
2. exercises
3. This book only contained references to adverbs of manner.
commonly used with. In terms of placement it included both instruction and exercises in the placement of semantic categories of adverbs. Their coverage of adverbs was done primarily through giving a list of adverbs that can occur mid–sentence, with instructions for where to place them in different tenses and situations. On pg. 181 there is a chart listing adverbs of frequency that occur mid-sentence, and a list of rules associated with them. For example, they come between a helping verb and a main verb in a statement. It covered overextension of *already*, *yet*, and *still*.

The upper level book, *Understanding and Using English Grammar* (Azar 2002), included this information in a review form, and introduced several new ideas. It reviewed the different parts of speech adverbs can modify, and introduced adverbs that modify whole clauses. It also included an explanation and accompanying exercises on how to punctuate adverbs when they do this. The grammar review in the appendix also provided a definition of the word class adverb as well as an explanation of forming adverbs from adjectives by adding *-ly*. It covered a specific semantic use of *always*, to complain, and the overextension of *too* and *enough*.

The third traditional grammar book, *English Grammar: Understanding the Basics* (Altenberg 2010), was an introductory grammar book, and was the only book I reviewed to contain any sort of definition of adverbs in several parts. It begins inauspiciously by stating, “If you don’t know what else a word is... it’s probably an adverb. (Altenberg 2010: 103). However, it then provides four tests to determine if a word is an adverb and exercises asking students to identify adverbs in sentences. This was coupled with and explanation of the functions they perform. The difference between adjectives and adverbs was also specifically highlighted, and students were asked to identify each, and
to differentiate when words were being used as either an adjective or an adverb. Differing semantic categories of adverbs were also explained. Through the exercises identifying adverbs in context, students were exposed to the variety of places adverbs can occur within a sentence. However, there was never any explicit instruction given on where to place adverbs.

In reviewing the two books teaching grammar in context, *Grammar in Context Basic* (Elbaum 2010) and *Grammar in Context 2* (Elbaum 2010), the basic level contained no coverage of adverbs. The intermediate level did focus on adverbs. The only semantic category covered was adverbs of manner. It covered forming adverbs by adding *-ly* and included a spelling chart. It also explained the difference between adverbs and adjectives with respect to what they modify and provided practice exercises. In covering adverb placement, it gave a brief overview: adverbs can be placed at the end of a sentence, or before a verb. It was the only grammar book to address register differences, stating that placing an adverb of manner before the verb is more formal than at the end of a sentence, as seen in (1) (example taken from Elbaum 2010:198).

(1) We constantly see ads on TV for food.

*Grammar in Context 2* (Elbaum 2010) also dealt with overextension of adverbs, explaining the difference between *too*, *very*, and *enough*, and *a lot of*.

All in all, the grammar books did not give consistent treatments of adverbs. In the books that provided any coverage at all, there was not a single way they all presented adverbs. All but *Fundamentals of English Grammar* (Azar 1992) include an explanation of adverb formation by adding –ly, as well as a brief definition of at least one semantic category. However, only *English Grammar, Understanding the Basics* (Altenberg 2010) provides a comprehensive definition. All the texts except for *English Grammar, Understanding the Basics* (Altenberg 2010) provide explicit instruction on adverb placement. In some cases instructions are very extensive, as in *Understanding and Using English Grammar* (Azar 2002), giving an explanation on complex tenses, question formation, and negation, and sometimes they are very simple, as in *Grammar in Context 2* (Elbaum 2010), simply saying to place the adverb of manner before the verb. In addition, *Grammar in Context 2* (Elbaum 2010) chooses a different semantic class of adverb, those of manner, to focus on for placing mid-sentence, while *Understanding and Using English Grammar* (Azar 2002) focuses on adverbs of frequency. This disparity means that depending on which books students have used, they have very different potential explicit knowledge on how and where to use adverbs.

A more comprehensive review of instructional materials including which books are most frequently used, how they are used in the classroom, and additional materials teachers supplement instruction with would provide a more complete picture of students’ existing knowledge, however such a review was beyond the scope of this study.
2.2 Research on L2 Adverb Use

Because of their complexities, adverbs have been studied in several ways. Some have looked at the class, with all of its diversity and variance as a whole. Bourgonje (1984) conducted a cross-linguistic study examining native language (L1) interference with adverbs, specifically focusing on adverb placement. Students from five different native languages were asked to perform two tasks. One was to insert an adverb into a sentence, the other to judge the acceptability of a sentence. In both tasks the authors found evidence for L1 interference, although not enough to fully explain all the learners’ errors. They also found that because adverbs in English do not all follow the same placement rules, L1 interference helped students to perform well on certain adverbs, while at the same time hindering them on others. For example, Finnish places adverbs post-verbally. In items testing always, an adverb that occurs in English pre-verbally, they performed poorly. However, on items involving the adverb silently, which occurs in English post-verbally, they performed well. Following this work, White (1991) conducted a study focusing on French-speaking learners’ placement of adverbs. Again, she found that there was a strong L1 influence, and that although learners did improve with implicit instruction, the gains were short-lived.

Both of these studies were focused primarily on the placement of specific adverbs. Others have considered the word class of adverbs using corpus methods to compare errors and frequencies in ESL students’ writing to those of native speakers. Dissoway (1984) conducted a study comparing the errors in ESL students’ writing to those of native students. She categorized errors into three types: misplacement, confusion with other form classes, and inappropriate usage. She found that the most
common error students made was to use an adjective where an adverb was required. She also conducted a review of ESL grammar texts. She surveyed 30 texts and found that the treatment of adverbs was very inconsistent. For example, the most common way of presenting adverbs was to compare them with adjectives. However, only 15 texts contained an explanation of this, and only nine of those provided accompanying exercises. Interestingly, this area of instruction corresponded with the area of highest learner error. She proposed that this emphasis could be encouraging student errors rather than preventing them, and suggested that a more comprehensive presentation of adverbs could give students a clearer idea of what an adverb is, thus reducing the number of errors they make.

Hinkel (2003) examined adverbs in ESL students’ writing using corpus methods. Instead of focusing on the errors students made, he examined how the frequencies of semantic categories differed between native English speakers and English language learners. He conducted this study because “identifying the specific differences in the uses of adverbs in NNS and NS texts can provide important insights into divergences in L1 and L2 deictic marking of text, register and syntactic and lexical range of features” (Hinkel 2002: 1051). He considered 12 semantic classes of adverbs and adverbials. For each of the categories he performed a contrastive analysis between English and the four other native languages. He found evidence for L1 influence in each of the categories. Moreover, he found that the adverbial classes that have a higher frequency in conversation also have a higher frequency in NNS texts.

In addition to studies observing adverbs as a class, there is also a body of research focusing on specific functions that adverbs perform. One of the most important
and difficult functions is hedging – expressing the certainty or doubt of an argument. Hyland and Milton (1997) conducted a study comparing L1 and L2 students' expressions of qualification and certainty. They state “Being able to convey statements with an appropriate degree of doubt and certainty represents a major problem” (Hyland 1997: 183). They note that when considering the differences in L1 and L2 expressions there is not only a linguistic difference, but also a cultural one. They identified 350 expressions that could be used to boost or hedge an argument. They found that overall both groups used a similar number of expressions. However, because there is such a large range of possible expressions, L2 students tend to use a more restricted range of terms in their writing. Additionally, out of the 350 expressions, some are more common in oral discourse, while some are more suited to written text. They found that students preferred terms more common to oral discourse. They postulate that this is because students have more oral input. Finally, they note that many expressions can perform a wide range of functions, depending on how they are used. For example, quite can either hedge when preceded by a negative, (e.g., that’s not quite what I meant) or boost (e.g., that’s quite good), depending on its context. This poses problems for learners and researchers alike. Hyland noted, “While our epistemic categories seek to capture the general semantic meaning of items from maximum to minimum certainty, we admit that categorization is uncertain in some cases and precise quantification hazardous.” (Hyland 1997: 195) They also note that despite these obvious differences in usage, ESL grammar texts give little instruction on appropriate boosting and hedging.

Hinkel (2005) also examined how L2 students employed hedges and boosters in their writing. He notes that intensifiers are relatively rare in academic texts while hedges
are much more common, because they serve to decrease writers’ responsibility for their
claims. They found that NNS students writing contained far fewer hedges than NS’s
writing. He found that their text “does not appear to project proper caution or hesitation
when advancing its claims.” (Hinkel 2005: 41) He also found that the specific hedges
used by NNS were limited to those expressions associated with spoken discourse. At
the same time, NNS students made much more frequent use of intensifiers. Again, their
word choice was more closely associated with spoken language than written text.

Another common function adverbs and adverbials perform in academic writing is
linking. Chen examined this semantic class of adverbs in a 2006 study. She focused on
four types of conjunctive adverbials: additive (besides, also), adversative (however, in
contrast), causal (consequently, thus) and temporal (then, next). Using corpus
methodology she examined conjunctive adverbials, comparing Taiwanese TESOL
masters students to a self created corpus of published articles in leading TESOL
journals. She found that NNS had a slightly higher frequency of usage per 10,000
words. However, when she considered usage per sentence, the NS had a higher rate of
usage per 1,000 sentences. She proposed that this difference was due to the fact that
NS wrote longer and more complex sentences, and thus needed more linking adverbs
than NNS. She also found different preferences for each group in terms semantic
category. NNS used additive conjunctive adverbials such as besides and also most
frequently, while NS used adversative ones such as however. Again, she found that
NNS preferred conjunctive adverbials more associated with an informal register. She
suggested that students need more instruction on using register-appropriate adverbs.
Although these studies took different approaches and examined different subsets of adverbs, certain trends become evident. At a beginning level, students' primary issue is grammatical accuracy. However, as they progress in grammatical proficiency, other areas of difference become apparent. NNS tend to make more frequent use of adverbs preferred in spoken English and to use a narrower range of expressions than NS. Table 2 below summarizes these findings. In this study I aim to explore these and other possible areas of difference between NNS and NS use of adverbs in academic writing.

<table>
<thead>
<tr>
<th>Focus</th>
<th>Group Studied</th>
<th>Researchers</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linking adverbs</td>
<td>Advanced</td>
<td>Chen (2006)</td>
<td>Differences in frequency, semantic category and register</td>
</tr>
</tbody>
</table>

Table 2. Summary of current research.
CHAPTER 3

METHODS

In this section I will describe how I conducted my research. To begin with, I identified both the adverbs to be studied and the corpora they were to be studied in. I also collected data from NNS students at the University of North Texas (UNT) to create my own corpus. I then identified the frequency of each individual adverb in each corpus. I used this data to identify disparities between NS and NNS usage by semantic category, by students with differing L1s, and in individual learners. I also conducted in-depth case studies for three of the most commonly used adverbs.

3.1 Identifying Adverbs to be Studied

I began this process by identifying the relevant adverbs. To do this I used the Corpus of Contemporary American English (COCA). COCA is the largest available corpus of American English. It contains subsections for spoken English, as well as fiction, newspaper, magazine, and academic writing. Using all sections of the corpus I searched for the 100 most frequent adverbs used in any form of English. This ensured the broadest possible coverage of contemporary American English usage. COCA was a good tool to use for this step because the parts of speech have been tagged, so it is possible to search for words used as adverbs. However, the tagging in COCA is not usage-specific. For example, up is listed as the most frequent adverb but it is more commonly used as a preposition or as a part of a phrasal verb. Because of this, I next had to eliminate words that could be used as other parts of speech. Words that can be used as adverbs can also be used as prepositions, such as up, as conjunctions such as
so, as nouns, such as now and then, and as adjectives such as very. This left me with a list of 37 words. A complete list is seen in (2) below.

(2) actually, again, ahead, almost, already, also, always, certainly, clearly, especially, ever, exactly, finally, however, indeed, later, maybe, nearly, never, often, particularly, perhaps, probably, quickly, quite, rather, really, recently, simply, sometimes, soon, suddenly, thus, together, too, usually, yet

3.2 Corpora Used

Using the list of words derived from COCA, I then determined the raw frequency for each word in each of the 5 corpora I was using. For this study I used six different corpora: five that were already developed and one that I assembled myself. The five corpora I made use of were the Corpus of Contemporary American English (COCA), the Hyland Corpus, the Michigan Corpus of Upper Level Student Papers (MICUSP), the Spanish portion of the International Corpus of Learner English (SP-ICLE), and the Chinese portion of ICLE (CN-ICLE). Table 3 summarizes each of these corpora.
Table 3. Summary of corpora used.

<table>
<thead>
<tr>
<th>Corpus</th>
<th>Number of words</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCA</td>
<td>410 million</td>
<td>Cross-section of L1 English</td>
</tr>
<tr>
<td>CN-ICLE</td>
<td>498,736</td>
<td>Upper-intermediate L2 writing, L1 Chinese</td>
</tr>
<tr>
<td>SP-ICLE</td>
<td>200,405</td>
<td>Upper-intermediate L2 writing, L1 Spanish</td>
</tr>
<tr>
<td>MICUSP</td>
<td>2,600,000</td>
<td>L1 college level writing</td>
</tr>
<tr>
<td>Hyland</td>
<td>1,312,763</td>
<td>L1 published academic writing</td>
</tr>
<tr>
<td>Advanced Learners</td>
<td>53,184</td>
<td>Advanced L2 college level writing, varied L1</td>
</tr>
</tbody>
</table>

COCA is the largest free on-line corpus of English. For the purpose of this study I examined the corpus as a whole. COCA primarily served as the reference corpus that supplied the list of words to be studied. At times I also compared the spoken and academic portions to help define the preferred register of words. At the time of this writing COCA contained 410 million words.

Two of the corpora I used contained NS academic writing. The Hyland Corpus contains samples from published academic research articles. It contains 240 articles from 8 different disciplines. It contains 1,312,763 words. MICUSP is a collection of papers written by Juniors, Seniors, and graduate students at the University of Michigan. It contains 2,600,000 words from 16 different disciplines. There are 7 different types of papers included in MICUSP. I chose to include both of these corpora because many researchers have raised the point that published academic writing may not be the best standard against which to judge NNS writing (Hyland 1997; Hamp-Lyons 1991). If NNS are preparing to enter a university setting, there may be a different and possibly more realistic standard set by college students. Including both published articles and college level papers enabled me to compare NNS to both groups. Because the learner data
were written by students from a variety of backgrounds, I chose to use the full versions of each corpus, rather than subsets.

I also used two different portions of the *International Corpus of Learner English* (ICLE). This corpus contains argumentative essays written by upper-intermediate ESL students. For this study I chose to use the Chinese\(^4\) and Spanish subsets of the corpus because these two native languages had the highest representation in the student data I collected, so they could serve as a reference. The Spanish ICLE contains 200,405 words, while the Chinese portion contains 498,736 words.

### 3.2.1 Compilation of Advances Learner Writing Samples

The final row in Table 3, advanced learners (AL), refers to a corpus I assembled using data collected from students at the University of North Texas (UNT). I applied and was granted IRB approval (number 10-450) to collect writing samples and demographic information from international undergraduates at UNT. See appendix A for copies of the permission slip and survey. All students were enrolled in undergraduate classes at the university. This means that they had either successfully completed an English for Academic Purposes program, or had scored higher than a 79 on the TOEFL IBT. All students were taking ENGL 1312: *Grammar and Composition for International Students*. This is the entry-level writing class for international students at UNT. The goals for the class are for students to

1. learn to write clearly and effectively;
2. learn and practice writing various kinds of essays;
3. learn how to effectively edit an essay based on revision and peer review;

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\(^4\) Throughout the text Chinese refers to Mandarin. This reflects common usage in research.
There were 27 students in the class. Students were required to write and edit four essays during the course of the semester. A complete list of the prompts for their assignments can be found in Appendix B. I visited the class toward the end of the semester and explained my project to them. 16 of the students gave me permission to use their writing samples as a part of my study. Of the remaining eleven, several were late or absent, and some chose not to participate. Participation was voluntary. For each student participating I collected demographic data including their age, sex, native language, at what age they began studying English, how often and in what settings they had studied it, and if they spoke any other languages. Their average age was 21.9. They were split almost evenly between males and females. All of them had classroom instruction in English, beginning at an average age of 10.8. For all but one of the learners this instruction had been daily. This data is summarized below in Table 4. Only one student had received instruction in a third language. Learner 3, a native Spanish speaker, had also received instruction in German.

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5 I also collected data about their current English input: whether they watched English television or movies, read English books, or listened to English music, and how often they engaged in these activities, however the data reported was incomplete and therefore will not be discussed here.
<table>
<thead>
<tr>
<th>Category</th>
<th>Range</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>20-21</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>23-24</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>&gt;25</td>
<td>2</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>7</td>
</tr>
<tr>
<td>Native Language</td>
<td>Chinese</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Korean</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Spanish</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Czech</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Portuguese</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Yoruba</td>
<td>1</td>
</tr>
<tr>
<td>Age of onset of English</td>
<td>&lt; 10</td>
<td>5</td>
</tr>
<tr>
<td>instruction</td>
<td>10-20</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>&gt;20</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4. Summary of demographic data collected for the Advanced Learner Corpus.

At the conclusion of the class the instructor gave me electronic copies of all four essays for the participating students. These were saved either as Word documents or PDFs. I assigned each learner a number, and then each essay a two part number representing which learner had written it (1-16) and which assignment it was (1-4). I removed all identifying data from each paper and saved it as a text file under its two part number. The four essays from 16 students gave me a corpus of 53,184 words.

3.3 Retrieval of Adverb Frequencies

Having identified the adverbs to be studied and the corpora to be used, I began retrieving data. For all corpora except for MICUSP and COCA I used AntConc, a free concordancing program developed by Laurence Anthony. When examining Hyland, CN-

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6 One student did not report their age.
7 One student did not report their sex.
ICLE and SP-ICLE, I searched the entire corpus at once. I loaded the entire corpus into AntConc and search for each adverb, recording the frequency in Excel. MICUSP and COCA both have on-line interfaces which I used to gather the same information. For the learner data, instead of searching the entire corpus at one time, I found the frequency for each adverb in each assignment for each learner. This gave me the possibility of examining each assignment and each learner individually if the need arose. I then found the total usage for each learner for each adverb, the total usage for each learner, and finally, for the corpus as a whole.

Once I had determined the raw frequencies for each adverb in each corpus, I took two further steps to enable me to compare the numbers easily. First, I found the relative frequency for each adverb by dividing the number of instances by the total number of words in the corpus. Because this resulted in very small numbers in many cases, I then normalized the relative frequency by multiplying each by 1,000. This gave me the number of instances per 1,000 words for each adverb. I created bar plots for each adverb to easily identify areas that would warrant further investigation. I also created bar plots for each individual learner and reference corpus. I then used these normed frequencies to compile frequencies and averages for different groups of adverbs and learners.

I also used the normed frequencies for each adverb in each corpus to create a top ten most frequently used adverb list for each corpus. This allowed me to compare the individual words each set of writers was using most frequently.

I then began examining frequency trends across the corpora. First, I added all the normed frequencies for individual adverbs together to give me an overall picture of
adverb usage in each corpus. I could then use this data to examine different subsections of data. The sections I focused on were semantic categories, native language, and individual learners.

3.4 Semantic Classification

I then grouped each adverb by semantic category and found the average normed frequency for each corpus. I used the seven semantic categories for adverbs developed by Biber (1999) in the *Longman Grammar of Spoken and Written English*. A summary of each category can be found in Table 5 below.

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>Shows position, direction, or distance</td>
<td>He loves it <em>there</em>.</td>
</tr>
<tr>
<td>Time</td>
<td>Shows position in time, frequency, duration, and relationship</td>
<td>She <em>always</em> eats the onion</td>
</tr>
<tr>
<td>Manner</td>
<td>Shows how an action is performed</td>
<td>We would <em>happily</em> go to his house.</td>
</tr>
<tr>
<td>Degree</td>
<td>Show the extent of a characteristic; increase or decrease intensity</td>
<td>Our dentist was <em>very</em> good. Mr. Deane's glass is <em>almost</em> empty.</td>
</tr>
<tr>
<td>Additive/Restrictive</td>
<td>Show one item added to another; focus attention on a certain element</td>
<td>My dad was a great guy, <em>too</em>. Only those who can afford the monthly payment… can be ordered to pay.</td>
</tr>
<tr>
<td>Stance</td>
<td>Show certainty or doubt, the reality or limitations of a proposition, or imprecision (hedge), the attitude of the speaker to the subject Show the manner of speaking</td>
<td>I'll <em>probably</em> manage. Our losses were <em>mainly</em> due to … It was <em>kind of</em> strange. I lost the manual…<em>unfortunately</em>. <em>Quite simply</em>, life cannot be the same</td>
</tr>
<tr>
<td>Linking</td>
<td>Show enumeration and addition, summation, apposition, results, contrast, and transition</td>
<td><em>Overall</em>, there are several major issues… Police, <em>however</em>, would not say…</td>
</tr>
</tbody>
</table>

Table 5. Summary of semantic categories considered. (all examples from the *Longman Grammar*)
In placing adverbs in each category, I used only adverbs that could only fit in one category. If an adverb could be used in more than one semantic category I placed it in an eighth category called "ambiguous." Of the following categories, only "place" is not represented in this study.

The first category is adverbs of place. These adverbs show position, direction, or distance. There were no pure adverbs of place found in my adverb set.

The second semantic category is adverbs of time. These adverbs give information about position, frequency, duration, and relationships in time. Adverbs of time were one of the largest semantic category in my study, containing ten adverbs: never, often, ever, always, later, already, sometimes, soon, recently, and usually.

The third category is manner. These adverbs give information on how and action is performed. Many, although not all, are formed by adding –ly to an adjective. There were only two manner adverbs considered in this study: suddenly and quickly.

The fourth category is adverbs of degree. These adverbs can be further broken down into amplifiers and downtoners. Amplifiers increase the intensity, while downtoners decrease the scale or effect. In this study there is only one degree adverb – almost, which is used to show a lesser degree.

The fifth category, additive and restrictive adverbs, also has two sub-categories. Additive adverbs show an item is being added, while restrictive draw attention to and emphasize a specific element of the clause. In this study there was one true additive adverb: also, and two restrictive adverbs: particularly and especially.

The sixth category, stance, is quite complex. The largest part of this category is epistemic stance. Epistemic stance adverbs can be used to express doubt or certainty,
to show the reality or limitations of a proposition, and to hedge or approximate a statement. This category also contains adverbs that express the attitude of the speaker towards the subject as well as indicating the style in which something is being said. In this study there were seven adverbs of epistemic stance: *maybe, actually, probably, perhaps, nearly, certainly,* and *exactly.*

The final category outlined by Biber is linking adverbs. These adverbs can be used to enumerate, to summarize, to contrast, and to transition. There were four linking adverbs in this study: *indeed, thus, yet,* and *however.*

In addition to the categories Biber outlined, I added an ambiguous category for those adverbs that could be used in more than one semantic category. For example, *finally* could be used as a linking adverb, as seen in example (3), or as an adverb of time as seen in (4).

(3) *Finally,* carbon bonds contain almost all of the potential cellular energy

[COCA]

(4) I would *finally* somehow catch on [COCA]

These two uses are quite different. Counting *finally* in either category could skew the results of a semantic category by including instances that do not truly belong in a category. There are ten ambiguous adverbs in this study: *too, really, again, together, finally, simply, clearly, quite, rather,* and *ahead.*
Once I had assigned each adverb a semantic category I found the average for each corpus for each category. I also created bar plots for each category to help easily identify which categories contained discrepancies between the corpora.

3.5 First Language Background

I next looked at the distribution by native language. Based on the demographics of the advanced learner group, I found the average frequencies of the Chinese learners, Spanish and Portuguese learners, and Korean learners. Because there were only two Spanish learners and one Portuguese learner, and because of the similarities between those two languages, I chose to group them together. Because there were also three Korean learners I found the average frequency for this group as well, although there was not a corresponding ICLE corpus to compare this group to.

3.6 Individual Learners

I then examined the normed frequencies of individual learners. First, I identified the advanced learners with the highest and lowest frequency of use. I compiled a list of the adverbs each group used by deleting any adverbs used less than .01 times per thousand words by less than two learners. This allowed me to compare usage patterns in the most and least frequent users. I also tallied the total number of adverbs used by each learner, and calculated the average number of adverbs used by the advanced learners. This also allowed me to compare individual users in terms of the breadth of their adverb usage. Out of the group of most frequent users, I chose the two most
frequent users and analyzed their adverb usage as well. I will summarize my findings in these areas in section 4.1.

3.7 Retrieval and Coding for Individual Adverb Case Studies

After looking at the overall tendencies in adverb usage, I then chose three adverbs, really, also, and too, to do in depth case studies on. For these case studies I only considered Hyland, MICUSP, and the advanced learner corpus I created. I chose these adverbs because they were used frequently in all three corpora and there were discrepancies in how NS and NNS used them.

For each adverb I began by creating a concordance in AntConc. I then copied that concordance and its identifying information into Excel. I then coded each instance for a number of items. Because the advanced learner corpus was significantly smaller, I coded all instances found in it. In Hyland and MICUSP however, some adverbs contained more adverbs than was possible to code. For those adverbs I randomized the concordance by assigning each instance a random number using Excel, and then putting those numbers in order. I then coded the same number as was found in the advanced learner corpus, to provide easily comparable results. The one exception to this was too, which only contained 35 occurrences in the advanced learners. For too I coded 100 examples in Hyland and MICUSP to give a more representative sampling of the word.

I began the coding by determining if each instance was a true hit or not. In many cases, especially in Hyland, the occurrence was actually the author quoting oral language. These were treated as false hits. I then coded the sentence position of each
adverb. I coded for sentence-initial, clause-initial, sentence-medial, clause-final, and sentence-final. I was then able to collapse these into initial, medial, and final if needed. I also coded for semantic category. Although there is no semantic ambiguity with also, both really and too can be used in two different semantic ways. This allowed me to look beyond the raw frequency and compare how NS and NNS chose to use these words in their writing.

Because several of the grammar books gave specific instructions on where to place adverbs in a sentence, I also coded for the part of speech to the right and left of each adverb. I considered nouns, adjectives, adverbs, articles, conjunctions, and quantifiers. I separated verbs into several categories. First, there were true verbs. Second, there were auxiliary verbs. These were any form of be, have, or do used in a complex tense. I also coded be, have, and do used as non-auxiliary verbs separately. Finally, I coded modal verbs individually. Again, this allowed me to examine specific issues in usage and collapse the categories down to give a wider view as well.

Adverbs of degree had a great deal of variation in their right and left contexts, so for those adverbs I coded the type of phrase it was a part of as well. The most common uses were to modify the verb, as in (5), as a part of a noun phrase, as in (6), or modifying an adjective after a copula as in (7). Very rarely they would be used in an adjective or adverb phrase as seen in (8) and (9). While from a syntactic point of view it is true that (6) – (8) are all adjective phrases, in examining the data it appears that the combination of the copula followed by an unattached adjective phrase is a preferred use that differentiates (7) from (6) and (8).
(5) It *really* helps to make life easier [AL]
(6) changing it in a *really* bad way [AL]
(7) This spelling trend is *really* strong [AL]
(8) Something that I also find *really* negative about this culture [AL]
(9) Usually he woke up *really* early [AL]

I also coded for collocations. Using the collocate function in COCA I searched for the right and left collocates for each adverb being coded in the Academic subsection. For *really*, the most common collocate was *not*, being used twice as often as the next collocate. However, *n’t* and *never* were also in the top five collocates. For this reason I coded for negating words as collocates for *really*. For *also*, the overwhelming collocate was *but*. The next most common collocate was used less than a third as often. In examining the grammar books, I found that this collocation was taught as a part of the construction *not only … but also*. For this reason I coded for both instances in the data. Finally, for *too*, the most common collocate was *many*, being used twice as often as the next most common word, *much*. Because *much* and *many* have similar semantic meanings I coded for both of them as well.

Finally, I coded for errors. I based my coding on the categorization found in Dissoway (1984), although I modified it slightly. There were four errors I coded for. The first type of error was an adverb being used in the wrong position in a sentence. I based my definition of misplacement on the Azar grammar book because it was the only grammar book I reviewed that gave instructions on where to place adverbs in midsentence. The second error was punctuation. This was usually a comma that was
added or omitted. I also coded for duplication. With some adverbs duplication is an overt error, such as with also, as seen in (10). With other adverbs, it is permissible, as seen in (11) with too. I coded both types of duplication to examine a possible difference between NS and NNS.

(10) Also the values about education are also different [AL]
(11) a few people have too much and most people have too little [AL]

A final error I coded for was adjective/adverb confusion. This occurs where writers choose to use an adverb where an adjective would have been appropriate. Once I had coded each adverb in each corpus I created pivot tables in Excel to compare the usage in each category.
CHAPTER 4
RESULTS

The results section is split into two main sections. First I will examine the results found by comparing the frequencies for all six corpora. I will examine frequently used words, distribution by semantic category, native language influence, and individual learner trends. In the second section I report the findings from the in-depth case studies of three adverbs: also, really, and too. For each adverb I will detail the findings regarding overall frequency, distribution by semantic category, positional distribution, and collocations.

4.1 Overall Adverb Frequencies

In considering overall adverb frequency across the corpora, there are several trends. First, both groups of NS have very similar overall frequencies, 10 adverbs per thousand words in both Hyland and MICUSP. Also, all groups of NNS demonstrate elevated frequencies of adverb use. Spanish users had frequencies the closest to NS, at 10.8 adverbs per thousand words, only one more that both NS corpora. Chinese learners had a higher usage, 14 adverbs per thousand words. Finally, the advanced learners had the highest frequency, at 17 adverbs per thousand words. These findings are summarized below in Figure 1.
4.1.1 Frequently Used Words

In addition to having very similar overall frequencies, the two native speaker corpora also contain very similar high frequency words. The first five most commonly used words are exactly the same for both corpora, with the top three: *also*, *however*, and *thus*, being the only three words in either corpus used more than once per 1,000 words. These three and *too* are also found in the top ten words for all of the NNS corpora. The final two words *Hyland* and *MICUSP* have in common, *rather* and *often*, are only found in the *Chinese ICLE* and there rank seventh and ninth, respectively. The NNS corpora share some words not found on the NS list. *Really* is the second most frequent word for advanced learners, and is the fifth most common for both ICLE groups. *Always* is also in the top ten for all three NNS corpora. A complete list of the top ten words in each corpus is found below in Table 6.
It is interesting to note that the two words common for the NSs but not for NNS are more common in academic writing than in spoken language. According to COCA, *often* is used 161 times per million in spoken English, and 575 times per million in academic writing. The ratio for *rather* is 191 to 466. The converse is also true. The two words common to NNS and not to NS are more frequent in spoken English than in academic writing. The difference between spoken and written usage for *really* is staggering: 1,637 times per million in spoken discourse versus 135 occurrences per million in written text. The difference for *always* is not as striking, but still significant. It occurs 483 times per million words in spoken English and 243 times per million in written English.

### 4.1.2 Distribution across Semantic Categories

While this gives an overall picture, there are many different ways that this data can be dissected to reveal differing patterns in adverb use. To begin with I examined the breakdown of different semantic categories to see if there were certain categories with

<table>
<thead>
<tr>
<th>COCA</th>
<th>CN-ICLE</th>
<th>SP-ICLE</th>
<th>MICUSP</th>
<th>Hyland</th>
<th>Learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>also</td>
<td>also</td>
<td>also</td>
<td>also</td>
<td>also</td>
<td>also</td>
</tr>
<tr>
<td>too</td>
<td>however</td>
<td>always</td>
<td>however</td>
<td>however</td>
<td>really</td>
</tr>
<tr>
<td>really</td>
<td>too</td>
<td>however</td>
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<td>yet</td>
<td>clearly</td>
<td>too</td>
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<td>finally</td>
<td>thus</td>
</tr>
<tr>
<td>ever</td>
<td>actually</td>
<td>perhaps</td>
<td>especially</td>
<td>yet</td>
<td>often</td>
</tr>
</tbody>
</table>

Table 6. Top ten adverbs by corpora.
more overuse than others. For the purpose of this study I defined overuse as those categories or words where NNS has a higher frequency that NS. Figure 2 shows the proportion of each semantic category within each corpus.

![Figure 2. Proportion of adverb use by semantic category.](image)

Compared to NS, all NNS overuse adverbs of time. All but the Spanish ICLE had a higher frequency for additive and restrictive adverbs and all but the Chinese ICLE had a higher frequency for manner and degree. They used approximately the same proportion of stance adverbs. All NNS except the Chinese ICLE had a lower frequency for linking adverbs. In all of the corpora, the two most frequently used categories are additive and restrictive adverbs and linking adverbs, while stance and manner adverbs are used the least frequently.
It is interesting to note that the proportion of use of each category is not related to the number of adverbs in each category. The two largest semantic categories by number of adverbs, "ambiguous" with eleven and "time" with ten, are proportionally two of the smallest groups. On the other hand, “additive and restrictive” adverbs, the most widely used semantic category in every corpus, only contain three adverbs: also, particularly, and especially. This is one “additive” and two “restrictive” adverbs. This over usage is due to the use of the adverb also. I will discuss also further in the second part of the Results section. It is interesting to note that in every corpus the one additive adverb, also, is used over twice as often as the two restrictive adverbs, as can be seen in Figure 3 below.

Figure 3. Distribution of additive and restrictive adverbs/1000 words.
Clearly, writers at every level restrict their statements considerably less often than they add to them.

Likewise, in the “linking” category, the second most used category, there are only four adverbs: indeed, yet, thus, and however. For “linking” adverbs, however is used more than 1 time per thousand words in all the corpora except Spanish ICLE and COCA. In the two NS corpora, Hyland and MICUSP, thus is also used close to one time per thousand words. In contrast, it is used less than 0.4 times per thousand in all three of the NNS corpora. This accounts for the difference in proportions between the NSs and NNSs.

Adverbs of “manner” are the semantic category that learners demonstrate the most overuse of. There are only two adverbs in this category: suddenly and quickly. Learners overuse both, but overuse quickly more severely, three times more than MICUSP and seven times more than Hyland.

4.1.3 Distribution by First Language Background

In addition to examining the differences of adverb usage in semantic categories, I also looked for differences between learners with different native languages. Of the 16 learners in the learner data I collected, half of them were Chinese. Of the remaining group, three were native Korean speakers, two were native Spanish speakers, and one was a native Portuguese speaker. Figure 4 shows the overall frequency of adverbs by native language, both in the advanced learner data and the ICLE data.
The most striking difference seen is between the Spanish/Portuguese learners in the advanced learner corpora, and that of the Spanish ICLE. Of the three learners in the Spanish/Portuguese subset, one learner, Learner 3, had the highest overall frequency of any learner in the corpus. Because the sample size was so small, this score was able to skew the average higher than that of the Spanish ICLE corpus.

The fact that there is so little difference in the frequencies of the different native language groups illustrates the need to go beyond raw frequencies and examine data in a qualitative way in order to discover potential disparities in learner usage.
4.1.4 Distribution by Individual Users

Although all learners in the advanced group as well as both ICLE corpora demonstrated higher frequencies of use, there was a wide range of usage within that group. Out of the 16 learners, five (learners 3, 6, 10, 11, and 14) had frequencies over 20, or twice that of both NS corpora. On the other end of the spectrum, four learners (4, 8, 15, and 16) had frequencies fewer than 12.5, only slightly elevated compared to the NS. Figure 5 below gives an overview of each individual learners’ frequency compared to the reference corpora.

Figure 5. Total use/1000 words by learner.
In comparing these two groups several things become clear. First, in the group of extreme overusers, all have one adverb with a frequency of over eight times per thousand words. For Learners 6, 11, 12, and 14 that word is also. For Learners 3 and 10 that word is really. This may be a case where native language comes into play. The learners who overuse also all have Asian native languages (three Chinese and one Korean), while the two learners who prefer really share European language backgrounds (Spanish and Czech).

Second, an examination of the words in each group reveals that rather than using all adverbs more frequently, these learners tend to overuse specific adverbs, as demonstrated in Figure 6. This graph takes the 20 adverbs that the overuser group uses in common and compares their average to that of all learners. This groups’ extreme overusage of specific adverbs: also, really, always, and usually, results in their elevated average. In fact, the group of least frequent users actually uses a wider range of adverbs, 23 as opposed to 20, than the group of most frequent users, despite the fact that their overall average is considerably lower.
Figure 6. Total learner use/1000 words compared to over user group.

Out of this group of most frequent users, two learners (3 and 11) have averages over 23.4 adverbs per thousand words. I will look at these two learners in more depth.

4.1.4.1 Learner 3

Learner 3 is a 19-year-old male. His native language is Spanish. He began daily English classes at the age of twelve. He uses 23.4 adverbs per thousand words. Figure 7 below shows his frequency distribution for all adverbs considered in the study.
As the graph shows, Learner 3’s high frequency of use is not caused by using a large number of adverbs in general. Rather, it is primarily caused by his overuse of the adverb *really*. His use of *really* is the highest frequency of any learner for any adverb. One other learner used *really* just over eight times per thousand, while all other learners use it less than four times per thousand. Learner 3 uses only 13 adverbs in total. The learner average was 17 adverbs. Both native speaker corpora had attestations for all adverbs considered. Part of this discrepancy may stem from the larger number of writers in the NS corpora. Clearly, Learner 3’s overuse is caused by his extreme overuse of a single adverb.
4.1.4.2 Learner 11

Learner 11 is a 21-year-old female. Her native language is Chinese. She began studying English at the age of twelve, having daily classroom lessons. She has been living in the US for one year and six months, and listens to English music daily. Figure 8 below shows her frequency of use for all adverbs considered in the study.

![Figure 8. Individual adverb use/1000 words for Learner 11.](image)

Although Learner 11 uses more adverbs than Learner 3, her use of 15 adverbs is still below the learner average. In contrast to Learner 3 however, Learner 11’s overuse comes from the adverb *also*. Learner 11 used *also* a total of 29 times. While this is one of the highest raw frequencies for *also*, its relative frequency is made higher by the fact that learner 11 has one of the smallest word counts, at 2760. This elevates the relative frequency much higher than for any other learner. Two other learners have frequencies...
of eight instances per thousand words, while all other learners use *also* less than five times per thousand.

4.2 Individual Adverb Case Studies

Because comparing frequencies only gives a surface picture of how learners are using adverbs, I chose three of the most frequently used adverbs for in-depth case studies. This helps to identify how learners are actually using adverbs, and highlights areas where learners require additional instruction. In examining each word, I found very different usage patterns, illustrating the wide variance in usage, and the need to go beyond raw frequency counts. Given the variability of adverb use, the semantic categories they can fall into, where they can or cannot be placed in a sentence, and how those things differ from adverb to adverb, this is especially important when examining adverbs. For each word I examined four areas: overall frequency, semantic categories, sentence position, and collocations. For this in-depth study I compared three of the corpora considered: the advanced learner data I collected, *Hyland*, and MICUSP. In the case of two adverbs, *really* and *also*, the discrepancy between NS and NNS was over two words per thousand. These are the first two adverbs I chose to examine.

4.2.1 Really

The first adverb I examined was *really*. It was one of the two most frequently used adverbs in all three corpora and had the largest discrepancy between use by NS and by NNS. In examining *really* the gap between use by NS and NNS was made even
larger by NNS choice of semantic category. This difference also influenced its positional
distribution as well as its collocations.

4.2.1.1 Frequency of really

Really was chosen because of the large discrepancy between learner and native
speaker usage. Both Hyland and MICUSP use really fewer than 0.2 times per thousand
words. Learners in both ICLE corpora used it more than 0.5 times per thousand, or
twice as many times. The advanced learners however used it 2.1 times per thousand, or
ten times as often — a striking difference.

As we examine the usage of really in context, that difference becomes even
more striking. First, examining each instance in the corpora revealed an unusual
number of false hits in the NS data sets. Although Hyland registered 213 hits for really,
only 117 of them were the authors’ own words. The remaining 96 resulted from the
authors quoting oral language. These hits were particularly prevalent in fields such as
sociology, psychology, and linguistics. The percentage is lower in MICUSP, only
occurring ten percent of the time, but this still stands in stark contrast to the learner
data, which contained only true hits. (See true hit chart below in Figure 9)
4.2.1.2 Distribution of really across Semantic Categories

In examining really, the most glaring difference is how it is used semantically. Really can be used in two ways: to hedge a statement as in (12) or to amplify a statement as in (13).

(12) There isn’t really an average class in America. [AL]

(13) In Mexico almost all families are really big. [AL]

The learners overwhelmingly preferred to use really as an amplifier, using it that way close to 75% of the time. Both NS corpora used it as an amplifier less than 30% of the time, as seen in Figure 10 below. This difference may be at least partially due to a
difference in register. In comparing the occurrences per million words in COCA, *really* is used 1635 times in spoken English language and only 135 times in academic writing.

![Image of bar chart showing semantic category distribution for *really*](image)

Figure 10. Semantic category distribution for *really*.

### 4.2.1.3 Positional Distribution of *really*

Every instance of *really* in all three corpora examined was in the sentence-medial position. Regardless of the semantic category of *really*, learners, students, and published writers all chose to use *really* in the middle of a sentence. A closer examination of each semantic category reveals differences in how NS and NNS choose to use *really*.

Considering the ways in which learners and native speakers used *really* as an amplifier, we again see very different patterns. Over half the time the learners use *really*...
as an amplifier with an adjective after a form of be as in (14). In contrast, students from MICUSP used really to amplify a verb over half the time; (15) is another example.

(14) it is really informal [AL]

(15) the movement began really taking off [MICUSP]

When used as a hedge, the difference is not as great. All three groups show a preference to use really pre-verbally as a hedge. However, the advanced learners show a stronger preference. Both groups of native speakers used really as a hedge before true verbs 44% of the time. Before all verbs (including be, have, do and auxiliary verbs) MICUSP had a slightly higher preference than Hyland, 77% to 72%. Examples can be seen in (16) below. On the other hand, the learners used really before true verbs 57% of the time, and before all verbs 86% of the time, as seen as in (17) below.

(16) We … are not capable of really knowing the true nature of the world out there. [MICUSP]

(17) I really think the government is doing a great job [AL]

4.2.1.4 Collocations of really

The most frequent collocates for really are words that show negation (no, not, never). Both the learners and MICUSP students show similar trends in their usage of collocates, using them 13% and 14% of the time, respectively. Hyland, on the other hand, uses these words 29% of the time, or twice as often. This difference is primarily
due to the difference in semantic class distribution. In all three corpora the collocates are predominately associated with *really* used as a hedge. There are only seven instances in total in all three corpora of *really* being negated when it was used to show degree, as in (18) below. Because Hyland has a higher frequency of *really* as a hedge, it also has a higher frequency of negation.

(18) I *really* did not like this show [AL]

In summary, there is a large discrepancy in *really*’s frequency between NS and NNS. When we move beyond the raw numbers and examine the semantic categories used, we discover that there is actually a much larger gap between native speaker and learner usage than was immediately apparent. Learners prefer to use *really* as an amplifier, while native speakers prefer to use it as a hedge. This difference influences both the writers’ sentence position preferences and their collocations. This, then, creates an impression on non-native like selection, rather than one of ungrammaticality.

4.2.2 Also

*Also* was chosen because it was the most frequently used word in the corpus and had the second largest difference in use between NS and NNS. In examining it further I also found large discrepancies in its positional distribution as well as collocational overuse.
4.2.2.1 Frequency of *also*

*Also* is the most frequently used adverb in all three corpora. It also demonstrates a large discrepancy in usage between NS and NNS. Authors from the *Hyland Corpus* used *also* 1.97 times per thousand, and MICUSP students used *also* 2.27 times per thousand. This stands in sharp contrast to the advanced learners, who used it 4.37 times per thousand, around twice as often. There was also a large difference by language background. Native Spanish speakers had frequencies in line with the native speakers (2.17), while native Chinese speakers were closer to the advanced learners (4.28). Because the advanced learner data set was half Chinese, this is not surprising. Figure 11 provides an overview of the relative frequencies of occurrence of *also* across corpora.

![Figure 11. Frequency / 1000 words for *also*.](image)
4.2.2.2 Distribution of *also* across Semantic Categories

*Also* does not have the same semantic ambiguity that *really* does. It is only used as an additive adverb, as seen in (19) below.

(19) People in China and America *also* have different values on marriage. [AL]

4.2.2.3 Positional Distribution of *also*

In contrast to *really*, sentence position is the area we find the greatest difference between NS and NNS use for *also*. *Also* can occur at the beginning of a sentence or a clause, in the middle of a sentence, or even, rarely, at the end of a sentence (see (20) to (22)). Learners were much more likely (30%) to place *also* at the beginning of a sentence than native speakers (10%).

(20) *Also*, Americans don’t want to spend time on eating. [AL]

(21) it *also* helps to manage time [AL]

(22) This leads to high rate of unemployment *also* [AL]

Within the learners there is a high rate of variability also. For example, Learner 12 used *also* sentence-initially 24 times, eleven of those in writing sample 2 and nine in sample 3. In contrast, Learner 1 only used *also* sentence-initially one time.

We also see, specifically with published academic writing, a specialized use of *also*, in a parenthetical note, usually appearing as “see *also*”. This usage is completely
unattested in learner data, and only has one instance in MICUSP. Figure 12 below shows the placement distribution for also in all three corpora.

![Placement distribution for also](image)

**Figure 12. Placement distribution for also.**

Because of the variability in where also can be placed in a sentence, we also find a larger number of errors in positioning and in punctuation. As to errors of punctuation, the most common one was the omission of a comma after a sentence-initial also as in (23). Eight of the eleven punctuation errors occurred this way. The most common error in positioning was to place also before the first verb in a complex construction as in (24), as opposed to placing it after the first verb. This is more common with modal verbs than any other: Five of the eleven errors in position occurred with can. Should and could

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each had one error also. There is only one instance, given in (25), of learners placing 

*also* after the verb in a simple tense.

(23)  *Also* she was able to write  [AL]
(24)  I *also* could notice  [AL]
(25)  it became *also* main target of pro-health food groups  [AL]

Interestingly, there is a similar number or errors of position in *Hyland*. Again, we see a large portion of the errors occurring with the modal verb *can* as seen in (26) below. There are also three instances of *also* coming after a single verb. One example is shown below in (27).

(26)  Associations *also* can initiate an injunction  [Hyland]
(27)  symmetry allows *also* contributions of the type X(3)  [Hyland]

Because of the limited demographic data on the *Hyland* corpus it may be possible that these examples were produced by non-native speakers as well.

4.2.2.4 Collocations of *also*

The most frequent collocation for *also* was with the conjunction *but*, used on its own and in the structure *not only…but also*. Overall, learners used the collocation more frequently, 11% of the time, than the native speakers did, 7% for *Hyland* and 6% for MICUSP. Learners used *but also* as a part of the structure *not only…but also* over 70%
of the time. This mirrors the MICUSP students, who used this construction 71% of the time, but it is considerable lower than the published writers from Hyland, who only used also in that construction 53% of the time.

Overall, learner’s usage of also differs most sharply from native speakers in the area of sentence placement. Learners prefer to place also at the beginning of a sentence, while native speakers prefer to place it medially.

4.2.3 Too

After also and really, there was a collection of adverbs where the advanced learners demonstrated slightly higher usage than the NS corpora. Out of this set, I chose one adverb to examine in depth. Too was chosen because it overlaps in semantic category with both also when being used as an additive (see (28) and (29)), and with really when being used to amplify (examples are (30) and (31)).

(28) students too are able to work hard [AL]
(29) they are also willing to travel a long way [AL]
(30) it is too expensive [AL]
(31) People in America are really friendly [AL]

Although too avoids the semantic discrepancy found with really, its NNS use does differ in terms of positional distribution and collocation use.
4.2.3.1 Frequency of *too*

As Figure 13 shows, there are similar trends in frequency for both NS corpora (0.2) and for all groups of learners (0.6). NNS tend to use *too* three times as often as NS.

![Figure 13. Frequency/1000 words for *too*.](image)

4.2.3.2 Distribution of *too* across Semantic Categories

In *too*, we find NNS usage conforming much more to NS use. Since *too* can function in two different semantic categories, there is potential for overuse in one category. However, we find that particularly between the advanced learners and Hyland, there is very little difference. Thus, *too* avoids the misuse found with *really*. It is interesting to note that in terms of register, *too* is not as strongly associated with spoken
English as *really* is. In COCA *too* is used 644 times per million words in the spoken subsection, and 320 times per million in academic writing. This is difference contrasts dramatically with *really*. Figure 14 provides an overview of the semantic category distribution of *too* across corpora.

![Figure 14. Semantic category distribution for *too*.](image)

### 4.2.3.3 Positional Distribution of *too*

In terms of placement, we must consider both *too* as an additive adverb and *too* as an amplifier. As an amplifier, in all three corpora *too* is only used sentence-medially. All three corpora show a preference for using *too* after a form of *be, have,* or *do* with an adjective, as in (32) and (33). However, in this instance *Hyland* shows a much stronger
preference, using it that way 62% of the time. Both MICUSP and the advanced learners use it at a much lower rate, 45% and 40% respectively.

(32) it is *too* expensive [AL]
(33) most people have *too* little [AL]

When we consider *too* used as an additive adverb we see a similar pattern to *also*. Whereas with *also*, learners had a stronger preference for the beginning of a sentence, with *too* learners have a stronger preference for the end of the sentence. They place *too* there over 90% of the time. While both native speaker corpora also prefer to use *too* as an additive adverb sentence-finally, their preference is weaker. MICUSP uses it sentence-finally less than 70% of the time, while *Hyland* shows the weakest preference, using it just over half the time. Figure 15 below gives the placement distribution for *too*. *Too* is never used sentence-initially.
One reason for this difference could be explained by a special construction associated with *too*: placing it in the middle of a clause with a comma on either side, as shown below in (34). There are no instances of this construction in the learner data, while there are ten in Hyland and four in MICUSP. Of these instances all but one are sentence-medial. This accounts for over half of the sentence-medial instances of *too* in Hyland. The lack of this use of *too* clearly impacts the positional frequencies.

(34) These processes, too, which are often collaborative [Hyland]

4.2.3.4 Collocations of *too*

We find *too* used in collocation with other words when it is used as an amplifier. Although the percentage of usage for *too* as an amplifier is similar across corpora,
examining how it is used in collocation reveals differences between the data sets. The two most frequent collocates for *too* used as an amplifier are *much* and *many*. These two words make up close to 60% of the instances of *too* in the learner data. In both NS corpora they make up close to 20%. Other than *much* or *many* there are nine other words *too* modifies in the learner data. Given that there are three times as many instances of *too* as an amplifier in *Hyland*, we would expect to see *too* modifying 27 different words in that corpus. However, in Hyland *too* modifies 46 different words. Clearly, the NNS are using *too* in a much more restricted way. Figure 16 below shows *too*’s collocational distribution.

![Figure 16. Too in collocation with much and many.](image)
In *too* we see some of the same patterns of overuse found with *really* and *also*. It is used with a much narrower range of words for NNS than for NS. We also see that in terms of sentence position, learners choose a simpler option, sentence-finally, rather than the more complex option, sentence-medially, which is preferred by NS. The one difference not found is in semantic category distribution. The learner’s use of *too* mirrors that of the native speakers. This difference may be related to the register difference in *too* and *really*.

By examining each of these adverbs in a qualitative way, specific issues NNS have are revealed. This gives a much more comprehensive picture of how learners are using adverbs, and what areas they need further instruction in.
CHAPTER 5
DISCUSSION

If the standard for accuracy in NNS writing is the avoidance of grammatical errors, then the advanced learners in this study are accurate writers. However, by adopting a definition of accuracy that acknowledges the fact that “[l]earners often make lexical choices which result in “collocational dissonance” with sentences correct from a grammatical point of view, but still non-native like” (Gilquin 2007: 274), we can see that there is in fact a large gap between NS and NNS usage of adverbs in academic writing. As seen in their overall frequencies and in the specific choices they make when using adverbs, learners make different choices than NS in every area examined. I would like to highlight three main differences here. In examining these differences it is also important to take into account the explicit instruction students are likely to have received in how to use adverbs.

The most pervasive difference between NS and NNS writing found in this study was overuse. This impacts NNS writing negatively in several ways. First, the very fact of learners using a single word more often than would be expected can make their writing seem repetitive and unimaginative. Also, as shown in several places in the study, overuse of a single item can decrease the breadth of vocabulary choice. The learners who overused single words tended to have a narrower range of adverbs used. Additionally, the learners used common collocations of too more frequently than the NSs, and at the same time had a much narrower range of words used with too. These two factors—overuse of certain words and the use of a narrower lexicon—work together to mark NNS writing, although grammatically correct, as different from that of
Both of these trends are consistent with previous research (Hyland 1997; Chen 2006).

None of the grammar books reviewed gave any indication of the frequency of specific adverbs. Instead, adverbs were presented in a list, usually by function and with example sentences. However, there was never any indication as to which were more common and which were less common. With the availability of corpus data on the frequency of words this information could be a valuable addition to ESL instruction. Future studies examining the effect of providing this data to NNS at different stages of language proficiency could provide valuable information for instructors and researchers alike.

A second trend seen in the study is the preference for words common to spoken discourse, rather than written text. Research has shown that determining the appropriate register for a specific word or phrase is one of the main challenges learners face. Hyland says that students “mix informal spoken and formal written forms and transfer conversational uses to academic genres” (Hyland 1997: 192). This is especially relevant for adverbs in light of Biber’s findings regarding the difference in distribution of adverbs in conversation and academic writing. He found that “Conversation and academic prose represent opposite extremes of use: in conversation, over 60% of the common adverbs are simple forms, and only about 20% -ly forms; in academic prose, about 55% of the common adverbs are –ly forms, and slightly over 30% simple forms.” (Biber 1999: 540) Again, these two factors – students’ difficulty in identifying the correct register of a word, and the vast difference in adverbs common to spoken and written language – can have a multiplied effect on NNS writing.
The findings of this study are consistent with this. In their overall word choice the two words uniquely preferred in both NS corpora, *rather* and *often*, are both more common to written language, while the two words uniquely preferred in the NNS corpora, *really* and *always*, are more common to spoken language. This trend is underlined in the case study results for *really*. Over half of the instances of *really* in *Hyland* were false hits from the quotation of spoken language.

There was only one grammar book to mention register in connection to adverbs. There was only one sentence about the how the placement of an adverb affects its register, “The –*ly* adverb of manner can come before the verb. This position is more formal” (Elbaum 2010: 198). There was no instruction on specific words. Given the pervasive nature of this issue, including instruction on register-specific language in ESL grammar texts has great potential to benefit learners. Again, future research examining the benefit of this type of information to users is called for.

A third area of difference is the positional distribution of adverbs. In all three case studies, NNSs showed differences in positional distribution. In the cases of *too* and *also* these differences can be considered as two realizations of the same issue. Their overuse of initial and final position can also be viewed as an avoidance of medial placement. It is possible that this avoidance is due to learners’ preference for a simpler construction. When placing an additive word at the beginning or end of a sentence there are considerably fewer choices to make, and therefore fewer possible mistakes.

Again, there was very limited coverage of this area in the grammar texts review. Only two of them made any mention of placing adverbs sentence-medially. However, their treatment was very different. One suggested placing adverbs of manner sentence-
medially and gave no further instruction as to where to place the adverb. The other focused on adverbs of frequency but did give explicit rules for how and when to place adverbs sentence medially in a comprehensive way (Elbaum 2010). Neither of the texts listed *too* or *also* as adverbs to be placed medially. Given the inconsistent treatment of where to place adverbs within a sentence, in some ways it is surprising that the learners made as few mistakes as they did, and chose to place adverbs medially as often as they did. Further research into how NNS choose where to place adverbs could help to shed light on this issue.

An interesting side note to this study is the comparison of the two NS corpora, *Hyland* and MICUSP. Many researchers have questioned if published academic writing is the best standard to compare NNS college student writing to (Hyland 1997; Hamp-Lyons 1991). However, in the case of this study, although there were slight differences, specifically in collocational distribution, overall there was very little difference between the two corpora. The gap between NNS writing, even at an advanced stage, is still much larger than the gap between student and published NS writing.

It is also important to note the limitations of the present study. The advanced learner corpus was smaller than all of the reference corpora. Its size may have had an undue influence on the frequencies found. Additionally, while both MICUSP and the advanced learner’s were writing for a college class, since ENGL 1312 is an introductory writing class, the prompts students were writing to had a more personal element than the MICUSP and Hyland samples. This could have helped to skew the learners’ use toward conversational language as well.
CHAPTER 6

CONCLUSION

This study has shown that although students’ writing may be grammatically correct with regards to adverbs, it is still far from that of native speakers. To gain a true picture of the accuracy of NNS writing it is necessary to look both quantitatively at students’ overuse and under use of language, as well as qualitatively at the actual language itself. Combining these two approaches allows us to look beyond error analysis and see the complexities of NNS writing and how they approximate that of NS. As Gilquin said, “Errors may only be the tip of the iceberg, but when dealing with second and foreign language acquisition, one cannot afford to lose sight of the larger picture.” (Gilquin 2007: 289)

Additionally this study compared the trends learners demonstrated with instructional material they were likely to have used. This is an important step to bridge the gap between research and practice. As Martinez-Garcia and Wulff note, “much of the research done in the field of second language acquisition fails to focus on those linguistic phenomena that teachers identify as the most deficient in their ESL students” (Martinez-Garcia and Wulff, submitted p. 2). One of the goals in identifying differences in NS and NNS use is to help learners approximate more closely NS use. To fully realize this goal, research must be brought back full circle to what learners are being exposed to.
APPENDIX A

PERMISSION SLIP AND SURVEY
Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study:
ACrossSectionalAnalysisofAdverbialUseinLearnerWriting
Principal Investigator: Stefanie Wulff
University of North Texas (UNT)
Department of Linguistics and Technical Communication
Key Personnel: Linda E. Heidler

This study seeks to analyze the use of adverbial words and phrases at different stages of second language learner writing development.

You will first be asked to fill in a brief survey that asks you about your age, gender, nationality, and a few questions related to your English language proficiency. Then, your instructor will give copies of your writing assignments from the Fall 2010 term to Key Personnel Linda Heidler. These writing samples will be analyzed to identify patterns in adverbial usage.

No foreseeable risks are involved in this study.

While this study is not expected to be of any direct benefit to you, your participation would be a valuable contribution to the study, which aims to gain a better understanding of second language learning and make suggestions for how language teaching and testing can be improved. IRB studies cannot guarantee results.

You will receive no compensation for your participation.

Your responses on the survey and in the experiment itself are anonymous. You will be assigned a random number, which will be noted down on this consent form as well. The consent forms, surveys, and writing samples will be kept in separate locations. The confidentiality of your individual information will be maintained in any publications or presentations regarding this study.

If you have any questions about the study, you may contact Linda Heidler at Iheidler3@aol.com.

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:
• Linda E. Heidler has explained the study to you and answered all of your
questions. You have been told the possible benefits and the potential risks and/or
discomforts of the study.
• You understand that you do not have to agree to submit your writing assignments
for this study, and your refusal to participate or your decision to withdraw from the study
will have no effect on your standing in this course or your course grade. The study
personnel may choose to stop your participation at any time.
• You understand why the study is being conducted and how it will be performed.
• You understand your rights as a research participant and you voluntarily consent
to participate in this study.
• You have been told you will receive a copy of this form.

Printed Name of Participant

Signature of Participant

Date: _

I certify that I have reviewed the contents of this form with the subject signing above. I
have explained the possible
benefits and the potential risks and/or discomforts of the study. It is my opinion that the
participant understood the
explanation.

Signature of Principal Investigator Date: _

Page 1/1

APPROVED
BY THE UNT
IRB

DATE: 1/ ? 10
Title of Study: The use of Adverbials in L2 learner writing
Principal Investigator: Stefanie Wulff
University of North Texas (UNT)
Department of Linguistics and Technical Communication
Key Personnel: Lindy Heidler

1) Age: ________ years
2) Gender: □ male □ female
3) Native language(s): _____________________________________________________
4) At what age did you start learning English? _________________________ years of age
5) Where did you learn English? For any answer, indicate
   • whether you learned English there on a daily, weekly, monthly basis, rarely, or never;
   • for how long you have been learning English in that location.

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<th>Activity</th>
<th>Daily</th>
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<th>Time period?</th>
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6) Have you spent any time living in an English speaking country? ____ years ____ months

7) On the scale below, make a cross anywhere on the dotted line that best describes the extent to which you speak English and your mother tongue on a daily basis.

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8) Please list any language other than your mother tongue and English below, and how well you speak it (by adding the letters “A-E” like in question 5).

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APPENDIX B

ASSIGNMENT TOPICS
Assignment 1:
Option 1: Compare American values like freedom, equality, independence and self-reliance to those same values in your own country. What are the similarities; what are the differences?

Option 2: Compare the communicative style of Americans to that of your own country. You may also include other cultures to enrich the analysis.

Option 3: Compare the reasoning style of Americans to that of your own country. Again, include other cultures as well to add depth and interest to your essay.

Assignment 2
Option 1: Write a two-three page essay about the education system of your country: 1. Include a description of your country’s education system; 2. Describe and evaluate the positive and negative aspects of this system; and finally, suggest ways to improve the system.

Option 2: Write a two-three page essay about a utopian education system. Include details about educational philosophy, curriculum, classroom environment, technology, etc. Explain why this education system will be an improvement over existing systems.

Option 3: Write a two-three page essay about the differences between your country’s education system and the U.S. education system. Besides comparing the two, discuss ways to combine ‘the best of both worlds.’

Assignment 3
You will go to at least two talks or films (a combination of the two would be best) on campus over the next three weeks. You’ll need to take notes about it, including your observations. Consider cultural differences and all the topics we’ve been studying this semester. You’ll write a report-type essay on the events you attend. We’ll go over the format and requirements in class. Check UNT’s homepage for events you can attend. Here are some for this week:

Assignment 4
Option 1:
Cultural Observations Essay: Read the conclusion of *American Ways* (pp285-287). Make your own list of American values and traits that you perceive as negative and positive. It’s okay if your list is similar to the one in the book. Now analyze those traits and values providing explanations for them. You may also want to address the origin of different stereotypes associated with American culture and your own.

Option 2:

Trendspotting Essay: Identify a trend in American culture, your own culture or both. Examples of trends include the increase of Chinese students in American universities (The China Boom), helicopter parents, spending money, trends in technology (video games, texting, etc), trends in language (slang, idioms, etc), trends in fashion, music, art, and so on. Find at least one article on your topic and include information from it in your paper. Have fun with this.
REFERENCES

Corpora


Bibliography


