



## English Conjunctive Adjuncts Used by Native and Nonnative Freshman University Students\*

Yu Kyoung Shin,<sup>\*\*</sup> Jin Shik Kim, Jee Won Park, Sehee Yu

Hallym University

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### ABSTRACT

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J. Yoon and I. W. Yoo's (2011) corpus study compared the use of English conjunctive adjuncts by L1-Korean first-year college students learning English as a foreign language to that of L1-English published authors. The study found distinct differences between the two groups, including the Korean student writers' heavy reliance on a small set of adjuncts and frequent grammatical errors in their use of adjuncts. While the study argued that such misuses are unique to Korean speakers, it is unclear whether their findings were derived from language background, as the authors claimed, or noncomparable author profiles (i.e., student writers vs. published authors). The present study replicates J. Yoon and I. W. Yoo's study with comparable native corpus data, closely matched to the learner data used by J. Yoon and I. W. Yoo. The results demonstrate that both native and non-native student writers rarely employ conjunctive adjuncts typical of English academic prose in their writing. While both groups rely on small sets of adjuncts, the set of the native writers is smaller than that of the non-native writers. In addition, the two groups made errors with adjuncts at similar rates. These findings indicate that apprentice writers, L1 and L2 alike, follow a similar trajectory toward writing proficiency.

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\*\* First & Corresponding author: Yu Kyoung Shin, Co-authors: Jin Shik Kim, Jee Won Park, Sehee Yu

Yu Kyoung Shin (Professor)  
School of Global Studies, Hallym University, 1 Hallymdaehak-gil, Chuncheon, 24252, Korea  
Tel: (033) 248-2486 / Email: yshin@hallym.ac.kr

Jin Shik Kim (Undergraduate student)  
School of Global Studies, Hallym University, 1 Hallymdaehak-gil, Chuncheon, 24252, Korea  
Tel: (033) 248-1880 / Email: jinshik14@gmail.com

Jee Won Park (Undergraduate student)  
School of Global Studies, Hallym University, 1 Hallymdaehak-gil, Chuncheon, 24252, Korea  
Tel: (033) 248-1880 / Email: jeewonpark143@gmail.com

Sehee Yu (Undergraduate student)  
School of Global Studies, Hallym University, 1 Hallymdaehak-gil, Chuncheon, 24252, Korea  
Tel: (033) 248-1880 / Email: yusehee99@gmail.com

## I. INTRODUCTION

Conjunctive adjuncts serve a crucial role in creating textual cohesion in academic written discourse serving as logical connectors, and have received much attention in the literature on second language (L2) acquisition (e.g., B. Ahn, 2003; Field & Yip, 1992; J. Flowerdew & Forest, 2015; Friginal, Li, & Weigle, 2014; S. Kim, 2017; Larsen-Freeman & Celce-Murcia, 2016; E. Lee, 2004; H. Yoon, 2006; J. Yoon & I. W. Yoo, 2011). Many previous studies have compared the use of such discourse conventions by native and non-native English writers in academic prose. This literature commonly shows that English learners tend to heavily favor a small set of conjunctive adjuncts, which often differ from those preferred by native writers. While valuable, these findings remain somewhat uncertain, given the different types of academic writing used for the comparative analyses. Recent research (Pan, Reppen, & Biber, 2016; Pérez-Llantada, 2014; Y. Shin, 2019) has pointed out the confounding influence of register, which inevitably affects the use of language.

Only a handful of studies have so far considered disciplinary variations within academic prose (e.g., Hyland, 2012; Pan et al., 2016; Pérez-Llantada, 2014; Salazar, 2014; Y. Shin, 2019). J. Yoon and I. W. Yoo's 2011 study, for instance, explored EFL college students' use of conjunctive adjuncts, using a learner corpus of argumentative essays, which they compared to informative writing in two native reference corpora (Brown and Frown<sup>1</sup>). They found distinct features unique to each language group; however, they did not discuss the possible confounding effects of comparing different genres (i.e., informative vs. argumentative) or groups with different author profiles (college student writers vs. published authors). In other words, the features that J. Yoon and I. W. Yoo (2011) attributed to the learners' status as foreign language writers may be common features of student writing in general.

To date, very few studies have used comparable native and non-native corpus data of academic writing in the same register, and even fewer studies have used corpora strictly matched for writing prompts. Many previous studies have argued that native writers always have a head start over their non-native counterparts, but the dearth of research with parallel native and non-native corpora casts doubt on this claim. Moreover, we know little about how native and non-native novice academic writers employ adverbial conjunctions in their academic prose. In addition, whereas the existing research has analyzed learners' errors with conjunctive adjuncts, to the best of our knowledge, very little research has examined whether and to what extent such misuses might also occur in native writing by novices.

In an attempt to address these gaps, the present study replicates J. Yoon and I. W. Yoo's (2011) study on native

and nonnative uses of conjunctive adjuncts using comparable native corpus data. We employed J. Yoon and I. W. Yoo's findings on adjuncts used by L1-Korean freshman college students and compared them to our findings on adjuncts used by L1-English freshman college students in essays written in response to the same writing prompts. The findings shed light on how apprentice writers (both L1 and L2) employ conjunctive adjuncts in academic writing. To this end, the study addresses the following two questions:

- 1) What conjunctive adjuncts are frequently used in argumentative essays written by native- and non-native-English-speaking university freshman student writers?
- 2) What grammatical errors do these two language groups make in their use of English conjunctive adjuncts?

## II. LITERATURE REVIEW

### 1. Conjunctive Adjuncts Used by L1 and L2 Writers

Many corpus-based studies have used aspects of genre theory, defined as "theory about socially agreed-upon ways of achieving communicative purposes" (Belcher, 2012, p. 136), especially in research on Swales's (1990) tradition of English for Specific Purposes (ESP) or from a New Rhetoric approach. Many ESP researchers, for instance, have conducted corpus-based studies to identify patterns of *moves*—textual units that serve particular communicative functions (e.g., Connor, Precht, & Upton, 2002; J. Flowerdew & Forest, 2009; L. Flowerdew, 1998; Kanoksilapatham, 2007; Henry & Roseberry, 2001; Weber, 2001). Other corpus-based studies that have included elements of the New Rhetoric approach consider aspects of discourse context and relationships among various texts in a discourse to inform their analysis of learner productions (L. Flowerdew, 2005). Milton (1999), for example, compared second language (L2) English learner writing with native-speaker writing by investigating the use of discourse markers such as conjunctive adjuncts, and found that the learners overused a limited number of expressions. Another corpus-based study by L. Flowerdew (2008) indicated that student writers tended to depend on key expressions provided in their writing assignments' rubrics and guidelines, possibly because they lacked knowledge of lexical and grammatical elements of the discourse markers they were attempting to employ.

Some of the small body of research that has investigated argumentative essays has focused on cohesion. Field and Yip (1992), for example, compared conjunctive cohesive devices used by two language groups (ESL writers of Cantonese and native English-speaking writers). The two

<sup>1</sup> The 1960 Brown corpus is the first modern corpus of the English language (Kennedy, 1998). A synchronic corpus modelled after the Brown corpus, the Frown corpus was compiled in the 1990s (McEnery, Xiao, & Tono, 2006). Both corpora contain written data in 15 text categories, including a range of academic prose types.

groups' essays differed in terms of the types and functions of conjunctive adjuncts. For example, the nonnative writers used *however* and *on the other hand* far more often than the native writers, including in places where such adjuncts did not necessarily serve the argument well. In addition, the same group almost always used such discourse devices in the initial position of a sentence or paragraph, unlike their counterparts, which the authors attributed to the influence of the participants' L1 Chinese. Such finding echoes previous studies targeting L1-Korean English speakers (e.g., Y. Kang, 2008; H. Yoon, 2006).

Similarly, Milton (1999) investigated the frequencies of sequences related to a set of discourse markers that are covered in English as a foreign language (EFL) teaching materials, to compare the extent to which such sequences were distributed in essays written by native and nonnative writers. The results showed that the learners employed a limited set of "discoursally more explicit" sequences, for instance *first of all* and *all in all*, and never used some sequences that the native speakers preferred, such as *in this case* and *it can be seen that* (p. 228). Moreover, Milton observed that nonnative writers' use of discourse markers often hindered rather than furthering their writing's coherence. The findings, while interesting, cannot be considered conclusive, given the different types of academic writing in each corpus – the learner corpus comprised argumentative essays while the native corpus included theory-based student writing and published research articles.

A central aspect of effective argumentative writing is the writers' ability to clearly articulate their epistemic and affective stances. That is, in order to create the space to develop an argument, writers must be able to express their position using conjunctive adjuncts in relation to the subject matter and their readers (Charles, 2007; Jiang, 2015; Jiang & Hyland, 2015; Wingate, 2012). Existing research has noted that novice writers tend to have difficulty expressing epistemic and affective stances (Hyland & Milton, 1997; Lancaster, 2014; Lillis, 2001; Wingate, 2012). For example, inappropriate lexical choices can convey undue personal involvement, while lack of lexical diversity can convey a lack of understanding of the topic; both problems undermine the writer's argument (Lancaster, 2014). A lack of textual cohesiveness also undermines argumentative essays by making logical structure difficult to follow (Wingate, 2012). Wingate surveyed first-year undergraduate students on their understanding of the concept of argument; the results indicated that students (both L1 and L2 alike) enter university without a good understanding of the argumentative essay genre.

## 2. J. Yoon and I. W. Yoo (2011)

English has three types of conjunctions (i.e., coordinating conjunctions, subordinating conjunctions, and conjunctive adverbials), as shown in Table 1 (J. Yoon & I. W. Yoo, 2011).

**TABLE 1**  
Categories of English Conjunctive Adjuncts  
(J. Yoon & I. W. Yoo, 2011, p. 227)

Categories	Examples
Coordinating conjunctions	<i>for, and, nor, but, or, yet, so</i>
Subordinating conjunctions	<i>after, although, as, because, before, if, lest, once, since, though, until, unless, when(ever), whereas, where(ever), while, as soon as, even though</i>
Conjunctive adverbials	<i>Additionally, after all, also, as a result, however, in contrast, similarly, consequently, first...second...finally, for example/instance, furthermore, in addition, indeed, in fact, in other words, in sum, likewise, moreover, nevertheless, therefore, on the contrary, on the other hand, otherwise</i>

Coordinating conjunctions connect independent clauses, as in the example (1). Subordinating conjunctions connect an independent clause and a dependent clause, as in (2). In addition, English has conjunctive adverbs (also called *linking adverbs*, Larsen-Freeman & Celce-Murcia, 2016), which are also used to link independent clauses, but do not necessarily connect them grammatically. Hence, in writing, they often occur with a semi-colon or period, as in (3), which separate two clauses whose relationship the conjunctive adverbial defines or modifies. These examples are taken from J. Yoon and I. W. Yoo (2011, p. 228).

- (1) They closed the shop, *for* there was no other choice.
- (2) *When* he arrived, a whole crowd came out to see him.
- (3) He tried every means possible; *however*, he could not steer the boat out of the storm.

J. Yoon and I. W. Yoo (2011) found that L1-Korean college students learning English as an L2 lacked the necessary grammatical knowledge to differentiate coordinating conjunctions, subordinating conjunctions, and conjunctive adverbs, resulting in misusing adverbs as conjunctions, involving punctuation errors as shown in (4) and (5) (p. 228).

- (4) However, today's students don't want physical activities. *Because*, facility of playgrounds is too old.
- (5) Seoul has such as wonderful view to watch and feel, *however*, I think it would be better if one thing can change in my hometown.

Overall, their findings of such misuses of conjuncts in L2 English learner data are in line with the findings in most of the literature on this topic (e.g., E. Lee, 2004; H. Yoon, 2006). E. Lee (2004), for instance, compared the use of conjuncts by L1-Korean college students to that by native English speakers across 15 types of academic writing. The L1-Korean college students were found to use conjuncts twice as often as native speakers, but only a small set (e.g., *so, however*). These existing studies, however, compared different types of L1 and L2 academic writing. Thus, their conclusions are open to doubt, due to the confounding effects of register differences, as mentioned above. Furthermore, there are only a few studies on misuses of conjunctive adjuncts in L1 academic writing,

although such errors, rather than being unique to L2-English learners, may not be uncommon in the production of L1 student writers.

The present study's goals are twofold. It first compares the frequency of conjunctive adjuncts in L1 and L2 English college student writing. It then analyzes each language group's use of adjuncts in context, including grammatical errors.

### III. METHOD

#### 1. Corpora

Table 2 provides details of the learner and native corpora. J. Yoon and I. W. Yoo (2011) used the learner corpus data collected in 2010. It comprises argumentative essays written by incoming first-year students at a university in Seoul. As part of a placement test for their mandatory English courses, administered in computer labs on campus, they were given 50 minutes to write an essay in response to this writing prompt: *If you could change one important thing about your hometown, what would you change? Use reasons and specific examples to support your answer.*

The current study used comparable native corpus data consisting of essays from L1-English first-year students at a large public university in the southeastern United States (Y. Shin, 2019). The native students' essays were written on the first day of class in freshman composition courses in 2018 as a diagnostic test. The corpus does not include essays from students with other L1s according to their self-reports. The writing prompt and time constraints were identical to those for the essays in the learner corpus.

As shown in Table 2, the native corpus contains 375 essays, of 305.8 words on average, amounting to 114,662 words. Both corpora contain about 100,000 words, and therefore the data were not normalized; the analyses are based on raw frequencies.

**TABLE 2**

Description of the Learner Corpus (J. Yoon & I. W. Yoo, 2011) and the Native Corpus

Corpora	Number of essays	Mean length of essays	Total corpus size
Learner corpus	399	257.2	102,632
Native corpus	375	305.8	114,662

#### 2. Data Analysis

The target conjunctive adjuncts ( $n = 43$ ) in this study are those used by J. Yoon and I. W. Yoo (2011). First, the conjunctions' frequency in the native corpus was counted using *AntConc* (Anthony, 2019). Each conjunction was then categorized as a coordinating conjunction, a subordinating conjunction, or a conjunctive adverb (see Table 1). Following J. Yoon and I. W. Yoo's suggestion, the

use of each coordinating conjunction (e.g., *and*, *but*) was checked, as they can be either phrase-level or clause-level connectors. This analysis only includes the clause-level uses because the coordinators at the phrase level serve a different function.

Next, the 10 most frequently used conjunctive adjuncts were examined to identify any errors made by native and non-native students. The second part of the study then closely examined both groups' production of two broad types of errors: (1) sentence-initial coordinating conjunctions and (2) sentence fragments and run-on sentences.

### IV. RESULTS

#### 1. Most Frequently Used Conjunctions

The first research question asked about the most frequently used conjunctive adjuncts in the corpora of L1- and L2-English student writers. The two language groups showed significant differences in the use of conjunctive adjuncts. As reported by J. Yoon and I. W. Yoo (2011), the learners used 71 types of adjuncts (5,630 tokens). The native student writers, responding to the same writing prompt and under the same time constraints, used a smaller number of types (46 types), but used them much more frequently (9,351 tokens) than did the nonnative writers, as shown in Table 3. This finding is in direct contrast to the findings of previous studies, which claim that English learners rely heavily on a much more limited number of conjunctive adjuncts than native speakers do (e.g., E. Lee, 2004; H. Yoon, 2006; J. Yoon & I. W. Yoo, 2011).

**TABLE 3**  
Distribution of Tokens of English Conjunctive Adjuncts: EFL Learners and Native Speakers

	EFL learners	Native speakers
<b>Coordinators</b>		
Types	6	6
Tokens (%)	1,741 (31%)	5,477 (58.6%)
<b>Subordinators</b>		
Types	16	18
Tokens (%)	1,726 (31%)	3,114 (33.3%)
<b>Adverbials</b>		
Types	49	22
Tokens	2,163 (38%)	760 (8.1%)
Total	71 types	46 types
	5,630 tokens	9,351 tokens

The English learners used the three types of adjuncts at similar rates: conjunctive adverbials made up 38% of the total, while coordinators and subordinators accounted for 31% each (J. Yoon & I. W. Yoo, 2011, p. 230)<sup>2</sup>. The following examples show learner uses of each type, with the conjunctives indicated in italics: a conjunctive adverbial in (6); a coordinator in (7); and a subordinator in (8).

<sup>2</sup> All the EFL learner examples are from Yoon and Yoo's (2011) study.

- (6) I think that culture and education are the most important thing. *Therefore*, I want to change culture and education infrastructure.
- (7) They don't have screen doors, *so* people may accidentally fell down to the train road and be killed.
- (8) *As* everybody knows, Korea has big problem about estate price.

The native writers, on the other hand, used the three different types at quite different rates. In the native corpus, coordinators account for 58.6% of the total; subordinators, 33.3%; and adverbials, 8.1%. And while both groups used the same number of coordinators ( $n = 6$ ), the tokens in each corpus greatly differed, with the natives using them about three times (5,477 tokens) as much as the learners (1,726 tokens). In contrast, the natives used adverbials the least (22 types, 760 tokens) while the learners used them the most (49 types, 2163 tokens).

The following examples are from the native corpus: coordinators in (9), a subordinator in (10), and an adverbial in (11). No errors were corrected in these examples.

- (9) I would physically increase the area of the town *so* it can be a city *or* relocate small business and people, *so* it can be the local community.
- (10) Altogether, the reasons why I would like to knock Decatur down a few notches as far as its image goes is *because* I believe that's only way its faults might ever be addressed.
- (11) Growing up in Atlanta, I could only go to certain parts of the town at a certain time, *therefore* I feel that the places should be in safe parts of town so that parents will allow their kids to go out more because no one wants their children in unsafe environments.

Table 4 presents the most commonly used 10 conjunctives in the native and non-native student writer corpora. The top 10 are mostly the same between the two groups; in particular, the coordinator *and* is the conjunctive most frequently used by each group. Surprisingly, the native writers were found to markedly rely on *and* in their writing: It comprised almost 50% of all conjunctives used by this group. The previous literature, including J. Yoon and I. W. Yoo (2011), has reported that English learners overuse the same conjunctive in academic writing, and ascribed this overuse to their status as non-native speakers of English. In contrast, the current study shows that the overuse of *and* is not unique to EFL/ESL learners, but common to novice writers regardless of their first language. In fact, the native writers used *and* in their writing far more than the non-native writers did.

**TABLE 4**  
Top 10 Most Commonly Used English Conjunctions:  
EFL Learners and Native Speakers

	EFL learners		Native speakers	
1	<i>and</i>	846 (15%)	<i>and</i>	3091 (48.7%)
2	<i>so</i>	816 (14.5%)	<i>when</i>	683 (10.1%)
3	<i>if</i>	804 (14.3%)	<i>or</i>	634 (9.4%)
4	<i>but</i>	703 (12.5%)	<i>because</i>	555 (8.3%)
5	<i>because</i>	386 (6.9%)	<i>but</i>	459 (6.8%)
6	<i>also</i>	277 (4.9%)	<i>if</i>	418 (6.2%)
7	<i>when</i>	234 (4.1%)	<i>so</i>	338 (5%)
8	<i>for example</i>	158 (2.8%)	<i>also</i>	306 (4.5%)
9	<i>first</i>	149 (2.6%)	<i>while</i>	153 (2.3%)
10	<i>however</i>	138 (2.4%)	<i>however</i>	126 (1.9%)
Total		4,551 (80.8%)		6,763 (70.7%)

Most of the other conjunctives in the top 10 were also shared between the two groups, with four exceptions. *For example* and *first* appear among the top 10 for the learners only (approximately 2% each); *or* and *while* are in only the native speakers' top 10 (9.4% and 2.3% each). Overall, these 10 conjunctives comprise 80.8% of all conjunctives in the learner corpus and 70.7% in the native corpus, indicating that the two student groups favor a similar set of conjunctives in their writing. In addition, most of the words in both lists are ones that are commonly used in conversation. However, looking at the total numbers of tokens of their top 10 conjunctives, the native writers produced almost twice as many of them as the learners.

## 2. Errors With Conjunctive Adjuncts

To answer the second research question, the study first examined the sentence position of two conjunctives, *and* and *but*, in each language group's texts, and found distinct patterns in the two corpora. Table 5 shows the percentages of *and* and *but* when used as main coordinators by sentence position.

**TABLE 5**  
Sentence Position of *And* and *But*:  
EFL Learners and Native Speakers

	EFL learners		Native speakers	
	<i>And</i> Tokens (%)	<i>But</i> Tokens (%)	<i>And</i> Tokens (%)	<i>But</i> Tokens (%)
Sentence initial	390 (46.1%)	469 (66.7%)	18 (0.6%)	58 (12.5%)
Between clauses	456 (53.9%)	234 (33.3%)	3,073 (99.4%)	401 (87.4%)
Total	846 (100%)	703 (100%)	3,091 (100%)	459 (100%)

As the table shows, in the learner corpus, about 46% of the total tokens of *and* and over 66% of tokens of *but* occur in sentence-initial position. In example (12), a learner used both *and* and *but* sentence-initially (J. Yoon & I. W. Yoo, 2011, p. 233).

- (12) Usually Korea schools' playground is designed to play soccer. *But* there are many people who want to play baseball. *And* we have the right to play baseball like people's right who want to play soccer.

In contrast, in the native corpus, students rarely used *and* and *but* in sentence-initial position. Instead, both almost always occur in the interclausal position: *and* (99.4%), and *but* (87.4%). The sentences in (13) and (14) are examples.

- (13) The school systems are riddled with predatory teachers incredibly high rates of drug use (higher than any other school in the area), *and* there’s absolutely no middle ground between the super-high achievers *and* the slackers.
- (14) I’m fully aware that forced or coerced desegregation most likely relates to this *but* providing benefits to those who wish to participate may have miraculous benefits.

The native student writers also place these conjunctives in the initial position of sentences, but rarely. One notable difference between the two groups’ use of sentence-initial *and* or *but* involves the length of the preceding sentence; compare examples (15-16), from the native corpus, to example (12) above, from the learner corpus. In these native examples, the sentences preceding the sentences beginning with *and* and *but* are 17 and 20 words long, respectively; in the learner corpus, the preceding sentences were much shorter—often about 10 words, as in (12).

- (15) Back to change, I spend hours thinking about everything and it’s impossible to ever think about nothing. *And* there is always something that could be changed whether it be as simple as the mail boxes or as large as diversity we find the answer in ourselves and I’m still searching and growing.
- (16) Many Chicago schools, especially in poorer neighbourhoods with minority classes, have always lacked the funding to properly educate their pupils. *But*, completely obliterating these schools leaves students with a lack of direction in their home lives, to roam the streets.

J. Yoon and I. W. Yoo (2011) mentioned short sentences before sentence-initial coordinators as typical of L2 student production and atypical of native production. The authors suggested that when native speakers writing in academic genres do use sentence-initial coordinators, it is likely to be after particularly long sentences, and possibly *only* after such sentences. The reason, J. Yoon and I. W. Yoo speculated, is that they have been taught to avoid overlong sentences; they cited a typical writing guide’s caution that 15-20 words is the “ideal length” (p. 234).

As Table 6 shows, the average length of independent clauses preceding and following both *and* and *but* differs greatly in the two corpora.

**TABLE 6**  
Average Length of Independent Clauses After *And* and *But*:  
EFL Learners and Native Speakers

	EFL learners		Native speakers	
	<i>And</i>	<i>But</i>	<i>And</i>	<i>But</i>
IC before coordinator	12.7	11.6	18.8	18.2
IC after coordinator	11.0	11.5	20.1	19.1

Note. IC: independent clause.

The average length of (both preceding and following) clauses in the native corpus is about twice (between 18 to 20 words) the length of those in the learner corpus (slightly over 10 words). Thus, the native writers’ average clause length associated with sentence-initial connectors is in accord with prescriptivist preferences.

In sum, while both L1 and L2 student writers rely heavily on these coordinators in their writing, their usage differs noticeably with respect to the position of the coordinators. The English learners mostly place them in the initial position whereas the natives rarely do so. And when the native writers do start with a coordinator, they may do so in order to avoid what they feel to be overlong sentences, while the learners tend to use them between relatively short sentences, which could, at least in some cases, be combined into a single sentence without violating sentence-length expectations for academic prose.

Another type of error commonly found in both corpora relates to sentence fragments and run-on sentences, as in Table 7.

**TABLE 7**  
Sentence Fragments and Run-On Sentences:  
EFL Learners and Native Speakers

	EFL learners		Native speakers	
	Fragments	Run-on sentences	Fragments	Run-on sentences
	Tokens (%)	Tokens (%)	Tokens (%)	Tokens (%)
<i>because</i>	150 (386), 38.9%	N/A	9 (555), 3.4%	N/A
<i>for example</i>	16 (158), 10.1%	N/A	7 (114), 6.1%	N/A
<i>however</i>	N/A	9 (138), 6.5%	N/A	25 (126), 19.8%
<i>also</i>	N/A	3 (277), 1.1%	N/A	6 (306), 2%
Total	166 (544), 30.5%	12 (415), 2.9%	60 (669), 9%	31 (426), 7.3%

Note. The numbers in parentheses represent the total numbers of tokens.

As the table shows, the learners frequently produced fragments with the subordinator *because* and the adverbial phrase *for example*. In the case of *because*, the learners tended to use it to introduce dependent clauses, but incorrectly separated from a preceding main clause with a full stop, as in Example (17), from J. Yoon and I. W. Yoo (2011, p. 236). The authors argued that such sentence fragment errors are a result of negative L1 transfer: The Korean word for *because* is used as an adverb, causing the learners to consider *because* a conjunctive adverb in English.

- (17) If I could change one important thing about my hometown, I would change “Communication.”  
*Because* my hometown’s communication is poor.

However, the native student writers also make such

errors in their writing (3.4%), albeit much less frequently. An example is shown in (18).

- (18) Seeing the lifestyle that these kids are raised in breaks my heart. *Because* they do not have most of the fundamental needs where the government doesn't acquire to these people.

In addition, sentence fragment errors were found with the adverbial *for example* at a rate of about 10% (see Table 7). The example in (19) demonstrates the learners' misuse of the adverbial (J. Yoon & I. W. Yoo, 2011, p. 236). These errors with *for example*, however, are also fairly common in the native student corpus (approximately 6%; see Table 7), as shown in (20).

- (19) Most of bus go to the Y University. *For example*, 1200 and 7727.  
 (20) Gaining knowledge from experience can be intimidating because it can be a horrible mistake or a best obsession. *For example*, a romantic movie.

Table 7 also shows the rates of run-on sentences, for which J. Yoon and I. W. Yoo (2011) provided the following definition: "a sentence in which two or more independent clauses or complete sentences are joined without appropriate punctuation or a coordinating conjunction" (p. 237). Interestingly enough, the native writers made significantly more run-on sentence errors with *however*, involving misplaced punctuation (20%, 25 out of 126 tokens), than did the learners (6.5%, 9 of 138 tokens).

Example (21), from J. Yoon and I. W. Yoo (2011, p. 237), and example (22) show such misuse of *however*; by a learner and by a native student, respectively.

- (21) Seoul has such a wonderful view to watch and feel, *however*, I think it would be better if one thing can change in my hometown.  
 (22) This outlook has caught attention of many and painted a positive perspective of Atlanta, *however*, the failing education system has been overlooked by those who feed into the city.

Similarly, both learners (1%) and natives (2%) made run-on sentence errors with *also*, albeit few, mistakenly using it as a coordinating conjunction to directly connect two independent clauses. A learner example is given in (23), taken from J. Yoon and I. W. Yoo (2011, p. 237), and a native error in (24).

- (23) Nowadays, Incheon is becoming a global city by holding several international events, *also* lots of countries all over the world started to focusing on development of Incheon.  
 (24) I predict that with education these graduates will use their knowledge to help surrounding areas, *also* lower their crime rate.

## V. DISCUSSION AND CONCLUSION

This study compared the usage of conjunctive adjuncts in a native corpus to the usage found in a learner corpus by J. Yoon and I. W. Yoo in their 2011 study. J. Yoon and I. W. Yoo, in line with the collective findings and common arguments of the previous literature, suggested that English learners lack grammatical knowledge of English conjunctions. The current study, however, employed a native corpus more closely matched to the learner corpus of J. Yoon and I. W. Yoo (responding to the same writing prompt and under the same time constraints), and revealed that such features are not unique to English learners, but common to apprentice writers, native and non-native alike.

First, the 10 most frequent conjunctive adjuncts found in the native and non-native corpora (about 400 essays each) are more or less the same. Notably, the top three conjunctives employed by the natives (i.e., *and*, *when*, or) comprise almost 70% of all tokens of their top 10. This finding of the heavy reliance on a small set of conjunctives by native writers counters the opposite claim made in most of the prior literature. The study then examined how the native and non-native language groups used the same coordinators (i.e., *and* and *but*) in context. The results showed that L1-Korean learners of English are likely to begin a sentence with a coordinator even when the length of the independent clauses that come before and after the coordinator is short: The average was only 11 words. In contrast, the native speakers tend to use sentence-initial coordinators when the independent clauses' length before and after the coordinator is about 20 words, which is considered "the ideal length" for sentences in academic prose.

Next, the study closely investigated grammatical errors in the two groups' use of conjunctives. Both groups produced a fair amount of sentence fragments and run-on sentences. They mistakenly used subordinators (*because*, *for example*) as adverbs, and adverbs (*however*, *also*) as coordinators. Of note is the finding that the native speakers produced run-on sentences more frequently than the learners did, providing a new piece of evidence that inappropriate uses of conjunctives are not unique to English learners, but common among novice academic writers, regardless of their first language. Previous studies on L1 and L2 uses of conjunctives often have compared English learners to professional native speakers – for example, using the Brown and the Frown corpora (J. Yoon & I. W. Yoo, 2011), or simply have not included native comparison groups. These studies consistently show learners' frequent inappropriate uses of conjunctive adjuncts. The current study, however, used parallel native corpus data of freshman university students' English argumentative essays written in response to the same writing prompt and under the same time constraints used in J. Yoon & I. W. Yoo's learner corpus data, and was able to demonstrate that such misuses are in fact manifest in novice academic writing regardless of first language.

These results support our claim that native and non-native student writers are on a similar trajectory toward pro-

iciency as academic writers. For this reason, we argue that all novice academic writers would benefit from explicit instruction, including textual uses, on the three types of conjunctive adjuncts (i.e., coordinating conjunctions, subordinating conjunctions, and conjunctive adverbials). Not only EFL learners, but also native speaker students, should be explicitly taught how to use the three types across academic prose genres in order to develop their English writing skills. There seems, however, to be a particular dearth of research on instructed second language acquisition of conjunctive adjuncts, which could be a direction for future research.

Another line of future research could include data-driven learning (DDL). Future research could incorporate authentic data in teaching materials to shed light on the value of DDL for grammar instruction on conjunctive adjuncts in EFL settings. English learners may benefit from working with both learner corpus data that include incorrect target structure uses, and native corpus data, built on published authors, as a model for the target structures. Such data could be utilized in various task types, for instance, noticing activities such as spotting grammatical errors in the learner data or underlining the use of targeted grammatical structures in the native data.

The small corpora in this study, however, limit the generalizability of the results. Future studies could provide more data on novice writers' usage of conjunctive adjuncts using native and non-native corpus data with larger numbers of essays in a variety of registers. Despite this limitation, the findings of this study are noteworthy in that it is the first attempt to examine conjunctives using parallel native corpus data, controlled for writing prompt (identical essay topics and time constraints) and author profile (native and non-native first-year university students), and replicating an existing study. It is our hope that this study serves as a basis for future research, and encourages the use of comparable corpus data in the analysis of different language groups.

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