A Corpus-Based Study on Korean EFL Learners' Use of English Logical Connectors

Myung-Jeong Ha

Department of English Language and Literature
Sangmyung University, Cheonan, 330-720, South Korea

ABSTRACT

The purpose of this study was to examine 30 logical connectors in the essay writing of Korean university students for comparison with the use in similar types of native English writing. The main questions addressed were as follows: Do Korean EFL students tend to over- or underuse logical connectors? What types of connectors differentiate Korean learners from native use? To answer these questions, EFL learner data were compared with data from native speakers using computerized corpora and linguistic software tools to speed up the initial stage of the linguistic analysis. The analysis revealed that Korean EFL learners tend to overuse logical connectors in the initial position of the sentence, and that they tend to overuse additive connectors such as 'moreover', 'besides', and 'furthermore', whereas they underuse contrastive connectors such as 'yet' and 'instead'. On the basis of the results of this study, some pedagogical implications are made concerning the need for teaching of the semantic, stylistic, and syntactic behavior of logical connectors.

Key words: Logical Connectors, L2 Writing, Learner Corpus, Cohesion.

1. INTRODUCTION

Many ESL or EFL teachers in the field of writing have anecdotal evidence that their students often misuse or overuse logical connectors and two decades of research on English writing has identified these connectors as a source of difficulty for L2 writing [1]. With the rapid development of computer-text processing capabilities, new methodologies of linguistic studies have emerged as corpus-informed approaches. In particular, language processing technology can deal with large samples of learner writing through corpus-based research, and such research has compared learner texts with those written by native speakers in an attempt to find usage patterns of logical connectors in ESL or EFL academic writing.

For example, using two subcorpora of the International Corpus of Learner English (ICLE), Granger and Tyson [2] analyzed the connector usage in essay writing by advanced French learners of English. They found no overall overuse of connectors by the French learners but reported that "the learners use most frequently those connectors which add to, exemplify, or emphasize a point rather than those which change the direction of the argument or take the argument logically forward [2]". Granger and Tyson hypothesized that a general pattern of overuse would be found in the NNS writing, but the

results were not conclusive. In contrast, [3] found that Swedish learners of English tended to underuse connectors in their essay writing. In addition, they compared their analysis of the writing of the Swedish learners of English to the results reported by Granger and Tyson, and found certain similarities and differences between the two learner groups, thereby suggesting that the learners' connector usage might not be much influenced by their first language (L1).

As for Japanese learners of English, [4] analyzed their written interlanguage and compared their connector usage with the use in the US subcorpora of the LOCNESS. They reported that Japanese learners of English tend to overuse logical connectors. Similarly to [2], they also found that some connectors were used more by the Japanese learners while others were used less often.

Chen [5] compared the adverbial use in a corpus of 23 final papers written by Taiwanese students to that in papers in TESOL related journals. Chen found that Taiwanese students used slightly more connectors than in the research papers in TESOL related journals. Chen hypothesized that the result is caused by the fact that the NS writers' more complex sentences need the additional structure provided by adverbial connectors. How do Korean learners of English use logical connectors then? In light of the previous studies mentioned above, one possibility is that Korean learners of English use them quite frequently in sentence-initial position and they significantly overuse certain connectors in their writing.

Given that little corpus-based research has been done in connector usage in the English essay writing of Korean EFL learners (for an exception, see [6]), there is a pressing need for

quantitative research to throw some light on a more accurate description of cohesion problems in EFL writing. The aim of the present study is to investigate the use of logical connectors by Korean EFL students in free written production. This study combines corpus analysis with attention to individual learner writing in comparison with the writing of NS students. The specific questions driving the comparative analysis are the following:

1. Do Korean EFL students tend to over- or underuse logical connectors?

2. What types of connectors differentiate Korean learner from native use?

2. METHOD

2.1 The Corpora

The computer learner corpus used for the study was compiled using untimed essays written by Korean EFL students in an English composition course at a Midwestern university in Korea. The compilation was made over the composition course of two semesters including Spring and Fall semester in 2013. The learners were in their second to fourth semesters, at varying points in the intermediate band of proficiency as determined by background questionnaires within the course. The notional styles of the assigned work are broadly descriptive and argumentative. The assigned topics were to write on one of the following:

a) Compare and contrast shopping at stores and shopping online.
b) Describe the qualities of an ideal friend.
c) Discuss three major reasons that people stop being friends.
d) Compare home cooking and restaurant cooking.

The learner corpus consists of 105 essays that were produced by Korean learners of English at a university. The comparative native speaker corpus was part of Louvain Corpus of Native Essay Writing (LOCNESS) which contains argumentative essays written by native-speaker British students and is fully comparable to the learner corpus. Table 1 gives the exact size of the corpora used.

Table 1. Learner and Native-speaker Corpora

	NNS	NS
Number of Word Tokens	45,225	59,980
Overall type/token ratio (TTR)	9.62	10.17

Note. NNS = Non-native Speaker; NS = Native Speaker

2.2 Data Analysis

The introduction of language corpora and corpus analysis techniques into L2 studies made it possible to conduct research that contained a large amount of data and cross-corpora comparisons. Concordancing programs like WordSmith Tools provide tools for counting frequencies of lexical items specified by researchers in a corpus. The concordance feature of the program extracts all the lines in the corpus in which the searched words appear. The analytic steps involved use of WordSmith Tools [7] combined with contextual analysis of selected samples of concordance results.

The first task was to select the connectors for the study. The choice of connectors for this study was based on [8]. Celce-Murcia and Larsen-Freeman subcategorized logical connectors into four broad headings:

additive (used to signal addition, introduction, similarity, etc.); adversative (used to signal conflict, concession, etc.); causal (used to signal cause/effect, reason/result, etc.); sequential (used to signal a chronological or logical sequence).

Table 2. Sub-categorizations of Logical Connectors

Functional Types	Items
Additive:	
Addition	Also, moreover, furthermore, and
Emphatic	Besides
Intensifying	Actually
Alternative	Alternatively
Reference	Regarding
Similarity	Similarly, likewise
Identification	namely
Adversative:	
Concession	Nevertheless, although
contrastive	However, yet
Causal:	
Effect/result	Because, therefore, consequently
Sequential:	
Chronological	Firstly, secondly, finally, afterward(s)
Resumption	Anyhow, anyway

The total number of connectors in Celce-Murcia and Larsen-Freeman amounts to one-hundred nineteen. If removing connectors in multi-word units (e.g. of course) and those in multiple categories (e.g. otherwise belonging to contrastive and inference), the total decreases to ninety eight. The next step was to extract from NS and NNS corpus every instance of each of these connectors by using WordSmith Tools (Figure 1).
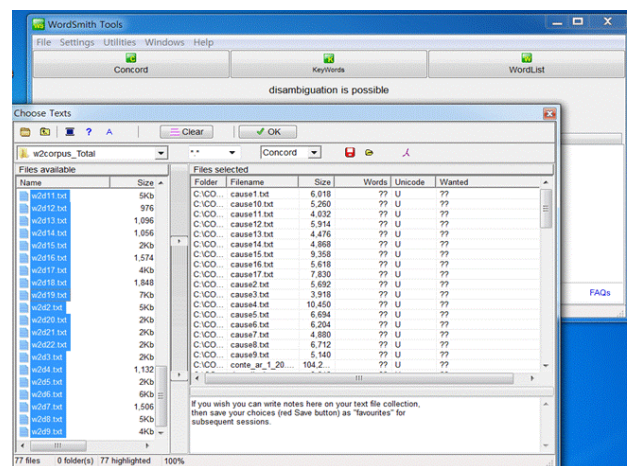

Fig. 1. A screenshot of data import into WordSmith Tools

The researcher carefully reviewed the concordance lines to verify that each instance was working in the target semantic categories and deleted instances that were not. Also the researcher converted the raw frequency to the adjusted

frequency per 1000 tokens. On the basis of the average of the two adjusted frequencies, the top thirty items were chosen for detailed analysis. Following [8] and the list of logical connectors in the corpus based work of [9], the researcher selected top 30 logical connectors as the research targets (Table 3).

Table 3. Raw and adjusted frequency and ratios of occurrence of top 30 connectors in NNS corpus

Rank	Connectors	Raw fr.	Adjusted fr.	ratio
1	and	1336	29.54	2.95
2	so	247	5.46	0.55
3	because	217	4.8	0.48
4	also	179	3.95	0.4
5	however	111	2.45	0.25
6	then	57	1.26	0.13
7	therefore	50	1.1	0.11
8	finally	33	0.72	0.07
9	though	27	0.59	0.06
10	thus	24	0.53	0.05
11	moreover	20	0.44	0.04
12	although	20	0.44	0.04
13	secondly	20	0.44	0.04
14	lastly	17	0.37	0.04
15	firstly	14	0.3	0.03
16	indeed	14	0.3	0.03
17	besides	12	0.26	0.03
18	actually	11	0.24	0.02
19	likewise	10	0.22	0.02
20	furthermore	8	0.17	0.02
21	yet	5	0.11	0.01
22	including	4	0.08	0
23	consequently	4	0.08	0
24	eventually	4	0.08	0
25	instead	4	0.08	0
26	regarding	3	0.06	0
27	similarly	2	0.04	0
28	nevertheless	2	0.04	0
29	hence	2	0.04	0
30	afterward(s)	1	0.02	0

3. RESULTS AND DISCUSSION

3.1 Frequency Counts

Table 4 shows the overall frequency of top 30 logical connectors in learner and native-speaker corpora. The overall figures demonstrated that the overuse hypothesis Granger and Tyson proposed in their study is invalid. This result is consistent with [2]. A more interesting pattern of overuse and underuse emerged when examined the use of individual connectors (Tables 5 and 6).

Table 4. Overall figures for 30 connectors

	NNS	NS
Overall frequency of 30 logical connectors	2,458	2,477
Number of Word Tokens	45,225	59,980
Overall type/token ratio (TTR)	9.62	10.17

According to Table 5, the most striking example is overuse and misuse of connectors in additive category. The figures in Table 5 reveal that Korean EFL learners tend to overuse additive connectors ('moreover,' 'besides,' and 'furthermore'). For example, *moreover* occurs 22 times more often than in the NS corpus and *furthermore* is used 8 times more often than in the NS corpus. Additive type is presented as involving new information. Overuse of additive connectors has also been noted in L2 essay writing by [10]. Chronological connectors such as *secondly* and *finally* occur in the Korean learners' corpus about 4 times more frequently than in the British students' corpus.

Particularly, much overused connector 'moreover' was misused or used redundantly. Essentially *moreover* is used in arguments where several premises are used to support a conclusion of some sort [8]. The Korean learners used it to reformulate or add a point, rather than to add a final powerful argument to convince the reader of a particular issue:

Giving customers good impression of brand is not really easy. That's why my company has to try to make customers remember the brand and derives them to buy clothes of my company. *Moreover* I'll educate my employees about brand identity to make them have more responsibilities. (NNS-Kr)

It is also interesting to find that a word such as *so*, which is generally regarded as colloquial, appears more often in NNS corpus than in NS corpus. The style-sensitivity of logical connectors is described by [11] and by [12] in a study of the style-sensitivity of connectors in speech and writing.

Colloquially marked uses of connectors such as *so* and *anyway* were found frequently in the Korean learner corpus, as in examples below:

And then, learning ability getting lower. *So*, advise the child don't care too much for Internet use. (NNS-Kr)

People is a fellow must eat. *So*, home cooking and restaurant cooking is very different. These types are related to food. (NNS-Kr)

It is hard to file a charge in internet than offline. Bad people use these weaknesses to earn the money. *So* each shopping mall has other benefits in many ways. (NNS-Kr)

Conversely, in restaurant cooking, the chef also cooks with fresh and organic farming. *Anyway*, by way of example the Italian restaurant, one of their menus is the snail dish. (NNS-Kr)

One possible interpretation of such inappropriate usage is that throughout secondary school and university in Korea, little emphasis is put on matters of style. As a matter of fact, differences between spoken and written style seem to be touched on but not focused on until the end of an English writing course offered in a university. In this regard, it may be helpful to emphasize in teaching materials the differences between spoken and written language.

Table 5. NNS Overuse of Connectors

Connector	Type	NNS	NS	
Moreover	Addition	0.44	0.02	22x
Furthermore	Addition	0.17	0.02	8x
Besides	Addition	0.26	0.07	4x
Finally	Chronological	0.72	0.12	6x
Secondly	Chronological	0.44	0.10	4x
Because	Effect/Result	4.80	1.63	3x
So	Effect/Result	5.46	2.83	2x

Note. Adjusted frequencies per 1000 tokens calculated

Table 6 below shows that the Korean learners tend to underuse the inferential, 'then' and contrastive connectors such as *yet* and *instead*. The underuse of contrastive connectors (*yet*, *instead*) are likely to be attributable to the Korean EFL learners' relatively lower familiarity with the usage of these words as contrastive connectors, whereas they can freely rely on the contrastive connector, *however*. Lower familiarity also relates to the underuse of the inferential connector, *then*.

Narita et al. [4] has also reported that Japanese EFL learners significantly overuse the contrastive conjunction, *but*, whereas they significantly underuse the contrastive connectors *yet* and *instead*.

Table 6. NNS Underuse of Connectors

Connector	Type	NNS	NS	
then	Inferential	1.26	1.92	0.7x
yet	contrast	0.08	0.58	0.2x
instead	contrast	0.08	0.37	0.2x
although	concessive	0.44	0.83	0.5x

Note. Adjusted frequencies per 1000 tokens calculated

3.2 Occurrence Position

In addition to cases of semantic and stylistic misuse, there is significant overuse of sentence-initial connectors by Korean learners. Korean EFL learners strongly prefer sentence-initial position, whereas British university students use the connectors in sentence-medial position to the same extent that they do in sentence-initial position.

However, for instance, is placed in sentence-initial position 108 times out of 111 cases and *so* appears in sentence-initial position 200 times out of 247 cases. Figure 2 shows infrequent occurrences of *however* in sentence-medial position of NNS corpus.

Fig. 2. A screenshot of the concordances of *however* in sentence-medial position

According to [4], the tendency for Korean learners to overuse logical connectors in sentence-initial position may be due to the result of EFL learners' attempt to ensure cohesive device between two sentences, which might be related to what [13] describes as the need for meaning to find "direct grammatical realization." They also claim that "EFL learners do not have sufficient knowledge of the difference in usage between adverbial connectors and conjunctions, let alone the flexibility of connector-positioning."

In addition, Granger and Tyson citing [10] suggest that this tendency of sentence-initial placement by L2 learners is not language-specific. They support Field and Yip's claim that sentence-initial position is the most common position for all L2 writers and L1 writers used the non-initial position significantly more than L2 writers.

Also a small study Granger and Tyson performed seemed to corroborate this tendency. They examined Dutch and Chinese learners' use of however, indeed, and so in the two sub-corpora of ICLE (International Corpus of Learner English) and compared their figures with the figures for the French learner and English native speaker corpora. The result of their study shows that there is a higher use of sentence-initial position by learners, and the case of so is most striking.

4. CONCLUSION

An analysis of logical connectors used in Korean EFL learners' writing revealed several essential facts. The findings of the current study are summarized as follows:

1. Do Korean EFL students tend to over- or underuse logical connectors?

Korean EFL learners tend to overuse such connectors as *moreover*, *furthermore*, *finally*, and *secondly*, whereas they strongly underuse such connectors as *yet*, *instead*, and *then*. In

addition, they tend to overuse these logical connectors in sentence-initial position.

2. What categories of connectors differentiate Korean learner from native use?

The difference between NS and NNS is not necessarily large, but the latter tend to overuse additive types and underuse contrastive types.

This study suggested some possible interpretations of the Korean EFL learners' behaviors in connector usage. However, much more research needs to be done before adequate instructional materials can be developed. There should be further studies including a qualitative discourse analysis of Korean EFL learners' use of connectors and current writing practices in Korea.

It is important to conclude by pointing out the limitations of the current study. As mentioned earlier, identification and classification of logical connectors is a very challenging task partly due to a lack of clear consensus among grammarians on these items. Although great effort was exerted to make the findings reported as complete and accurate as possible, there are likely omissions, inaccuracies, and points that are debatable.

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Myung-Jeong Ha
She received her PhD in Applied Linguistics from University of Texas at Austin. Her research interests are computer-mediated communication, computer-assisted language learning, and corpus linguistics. She is currently Assistant Professor in the department of English Language and Literature at Sangmyung University.