

EFFECTIVENESS OF ON-LINE CORPUS RESEARCH IN L2 WRITING:
INVESTIGATION OF PROFICIENCY IN ENGLISH WRITING
THROUGH INDEPENDENT ERROR CORRECTION

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Second language (L2) researchers and teachers have increasingly come to believe that using a computer-based corpus can be extremely helpful in the language classroom. The purpose of this study is to examine whether corpora can be used outside of the classroom in order for students to improve their essays independently. No previous study has tried to examine students' essays in relation to corpus use so that this study is exploratory. Seven international students wrote five essays on specific topics and then corrected their errors through corpus research. Two experiments were conducted with different students and followed three steps: receiving information about how to use the BYU COCA, writing and correcting, and interviews with students. I examined quantitatively the number and types of errors that students were able to correct in two experiments and reported qualitatively on students' interview responses.

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INTRODUCTION

Background to the Problem

When learners ask questions about either spoken or written language usage, such as questions about grammatical rules, synonymous lexical items, or collocations, second language (L2) teachers often rely on their current knowledge or intuition to give answers. The problem is that these intuitions are based on limited knowledge, and these are idiosyncratic and often wrong. Also, even advanced learners might make few or no grammatical mistakes in their writing, their work can still sound nonnative-like or unnatural, due to the differences in frequency with which a certain linguistic structure is used or to unknown conventions of the particular genre in which they are writing. With the advent of enormously large on-line searchable data bases of authentic materials (such as the BYU COCA database, which have more than 400 million words), L2 teachers and students no longer have to rely on their intuitions and incomplete knowledge. This recent development can be a great boon.

Both L2 learners and teachers have needed a comprehensive and authentic language database to provide information beyond what they find in reference books. The results of a survey by Römer (2009) showed that 88% of non-native teacher participants thought, either fully or partially, that they needed the advice of a native speaker to help with the correction of class tests and student writings. Also, students would often like to check with native speakers about whether or not their writing is acceptable. However, not only are native speakers not always available, but also even native speakers do not always know the correct answer. Use of a searchable data corpus provides an excellent resource for L2 students and teachers in these situations.

A corpus is defined as a database collection of authentic instances of language use from a wide variety of sources (Yoon & Hirvela, 2004). Such a corpus can provide solid empirical information about language use. In theory it seems that a corpus would be an extremely useful tool to help L2 learners create more accurate and native-like writing.

Given the evidence that corpora have immense potential in the field of language teaching, corpus studies in the area of pedagogy have up to now focused mainly on creating teaching materials and activities from authentic language, creating corpus-based syllabi based on frequency of words/grammar types and teachers' corpus training (Conrad, 1999; Flowerdew, 1998; Granath, 2009; Thurstun & Candlin, 1998; Tseng & Liou, 2006). In these types of studies, corpus linguists and language teachers have discussed how to effectively teach corpora to language learners, in order to finally integrate the benefits of corpora into language education.

However, relatively few studies have paid attention to students' performances in association with corpus use. In this study, I set out to consider the ways that a computer-based corpus can be used outside of the classroom in order to improve the nativeness of written language, thus making it possible for learners to study and work independently.

Literature Review

In the field of corpus linguistics, the interest in corpus research in second language (L2) pedagogy has been increasing. Here, corpus research means that language learners can study a target language usage with a large amount of authentic language data (Yoon & Hirvela, 2008). Many researchers have examined the effectiveness of corpus research and students' attitudes toward corpus use in the

language learning classroom. Vannestal and Lindquist (2007) investigated students' attitudes toward the corpus when students learned English grammar with a corpus. One experimental group was introduced to the corpus training as a tool for checking grammatical rules such as those involving uncountable nouns, subject-verb agreement, article usage or tense choice, whereas a control group used only grammar books and regular exercises. Students' attitudes toward grammar study with on-line practice and actual grammar knowledge were evaluated by questionnaires and interviews. Students showed a more positive attitude to grammar after corpus activities than before. Moreover, students suggested that the corpora would be more helpful than regular reference books, such as grammar books and dictionaries, when they worked with essay or academic writings in English. However, this study did not investigate whether or not corpora use actually facilitates students' understanding of English grammar rules or whether their grammar improved.

Tseng and Liou (2006) also used corpus output in class to improve the accuracy of conjunctions in writing. Nineteen English as Foreign Language (EFL) college learners used the on-line conjunction materials based on corpora for one month. To investigate the effects of on-line practice, students were given connector tests, and then were assigned essays to write, after which they were given questionnaires to fill out. These tasks were carried out three times, in a pre-test, a post-test, and a delayed post-test after three weeks. Results indicated that not only did students show improvement in conjunction use after the on-line teaching, but also their overall writing quality was enhanced. Moreover, the fact that students retained the knowledge obtained through the corpus search over three weeks was another one of the positive result of corpus

learning. Students also showed a positive attitude toward on-line practice, and they thought that the on-line materials helped them to understand of connector usage. This study shows that corpora use can be used not only to give grammatical pointers but also to help student improve their writing skills. It does not, however, investigate whether students can independently identify and correct errors.

Sun's (2000) study evaluated 37 Taiwanese EFL college students' responses to corpus-based activities. Through a survey after a 3-week on-line corpus lesson, he found that most students liked corpus-based learning, especially authentic language texts. In addition, they felt that the corpus-use helped improve language awareness and sensitivity individual words or phrases. Sun's study focused more on the student response toward the corpus as a learning tool, but he did not show how the corpus could actually be incorporated into traditional language classes.

Many researchers have emphasized corpus training in preparation for successful corpus use (Cobb, 1997; Flowerdew, 1996; Kennedy & Miceli, 2001). Also, difficulties encountered when acquiring on-line corpus skills have been examined. Granath (2009) explained how students become skilled corpus users and discussed the problems that arise during training. He mentioned problems involving language proficiency, limited computer skills, and with students formulating their own queries and their difficulties in interpreting corpus data. He concluded that significant efforts on the part of the teachers, as well as enough time for training were needed to help students acquire the corpus skills.

John (1994) also indicated the difficulty of training in corpus study. That is, not all students can access and interpret the language data, and a certain amount of time is

necessary for them to become accustomed to the technology for corpus study. In addition, Thurstun and Candlin (1998) found that some learners were afraid of the difficulty of consulting authentic texts and that they complained about the huge amount of available data on a word.

Kennedy and Miceli (2001) emphasize the complexity of the corpus-training process and investigate the development of students' corpus work. In order to know what happens in corpus research and ultimately to find ways to develop corpus training more effectively, they divide the corpus research process into four steps, as follows: (1) making queries, (2) planning a search strategy, (3) interpreting results, and (4) drawing conclusions. According to them, interpreting examples in the corpus was most difficult; it was the primary cause of problems in corpus searching. As a preparation for corpus research, Kennedy and Miceli (2001) emphasize that formal corpus training needs a significant amount of time and effort. Cobb (1997), Sun (2000), and also Vannestal and Lindquist (2007) mention that for students to be able to work with corpora independently, repeated practice and a large amount of time are necessary.

There are several studies that have focused on helping L2 writers become independent users of corpora. However, these studies have focused on students' attitudes toward corpus use and have emphasized only the importance of a corpus approach in L2 writing development without any empirical results on how using a corpus can help to improve writing. Yoon and Hirvela (2004) examined ESL learner behavior toward corpus use in L2 writing. Twenty three ESL students were divided into two groups: one group of eight intermediate-level students and one group of 15 advanced-level students. They received from the same teachers the same corpus materials and

training in particular techniques. Each class spent a different amount of time studying corpus use, with the intermediate class spending more time. The results indicated that learners were generally positive about corpus use, and they thought that the corpus techniques were very useful in improving L2 writing ability. However, the study showed that the responses of the intermediate-level learners were more positive than the advanced-level students. They also mentioned that the difference in the amount of time spent on practice in corpus use might have determined the response. The results of Yoon's study suggested that the more corpus training learners have, the more positive attitudes they have toward corpus use, and that ultimately their positive attitudes furthered the pedagogical goal of their becoming independent learners.

In Yoon's (2008) study, 6 graduate-level advanced ESL learners took an academic writing course. The instructor used the Collins COBUILD Corpus, which is one of the largest general corpora. Learners were asked to write papers in their own fields. Yoon (2008) adopted a qualitative research method which was based primarily on classroom observation, interviews, corpus search assignments, corpus research e-mail logs, and written reflections on corpus use to examine the L2 writing process. The results revealed that learners could solve their writing problems with corpus use and felt confident in L2 writing. In addition, corpus research helped learners develop an awareness of English collocation, which is an important factor in English writing. Also, learners formed the habit of checking their current knowledge and revising their writing by checking the corpus. This helped learners to be more responsible in their writing and finally to become independent learners. However, Yoon's (2008) study focused only on measuring the students' satisfaction with their writing experiences, rather than on the

development of their proficiency in writing.

In fact, since corpus research is only part of the writing course, it is difficult to confirm that corpus research definitely improves proficiency in writing. However, corpus use can have huge effects on the development of L2 writing. In order to examine this idea more closely I want to investigate changes in learners' writing proficiency and independent ways to develop writing ability.

Basically, since this is the first study to examine whether students can learn to use a corpus to independently identify and correct their own errors in writing, it will necessarily be exploratory. Previous studies have shown that students can be trained to use a corpus to help them in their writing, and have found that students' attitudes toward the use of a corpus are positive. Other findings include the difficulty of training language learners to use a corpus, and the warning that this takes quite a bit of time. However, I intend to illustrate a training process with which teachers and researchers might help students use the corpus independently and to examine student writings to judge their improvement in writing English. I have used both qualitative and quantitative methods to get a more nuanced picture of how students might be able to use a corpus on their own.

I investigate quantitatively the number and types of errors that students are able to self-correct and report qualitatively the process of training students to use a corpus to correct their writing. In order to investigate whether students can be trained to use a corpus independently, I have looked at the following questions:

- (1) Are students' errors in their essay writing corrected appropriately with corpus use?
- (2) What types of errors do students correct with the corpus?

- (3) What are the students' attitudes toward the corpus?
- (4) What are the learners' attitudes toward the ways they have been trained to use the corpus in the first experiment and in the second experiment?

METHOD

Participants

The participants in this study were seven international students who are studying at the University of North Texas: three Koreans, two Taiwanese, and two Thais. Two experiments were conducted with different participants: four for the first experiment and three for the second one. I, the author, was one of the participants in the second experiment. Bio-information for the students is given in Table 1.

In the first run of the experiment, I recruited nine students who were interested in improving their English writing skills, but because of attrition only four participants completed the experiment. One was a Korean native speaker who was a master's student in English as Second Language (ESL) in the Department of Linguistics and Technical Communication at the University of North Texas. Another was a Taiwanese native speaker who studied English at the Intensive English Language Institute (IELI) at the University of North Texas. The other two were native Thai speakers who also studied English at the IELI. All students studying English at the IELI attended either a communication class or a writing class or both. Students taking the writing classes learned English grammar and academic writing skills. The average length of stay in the United States for students was 2 years and 1 month. Students' ages averaged 30 years, ranging from 27 to 36.

For the second experiment, I recruited three new students; two were Koreans and one was a native speaker of Taiwanese. Two of the participants were studying English at the IELI. The other, myself, was a master's student in English as Second Language (ESL) in the Department of Linguistics and Technical Communication at the

University of North Texas. The average length of stay in the United States for participants was 1 year and 7 months, and their average age ranged from 26 to 28.

These data are displayed in the following tables.

Table 1

Participants

Experiment 1

Participant	L1	Status	The length of stay in the United States	Age
JN (M)	Thai	IELI (Writing 6)	12 months	36 years
CC (F)	Taiwanese	IELI (Communication 5 / Writing 6)	8 months	27 years
PP (M)	Thai	IELI (Communication 5 / Writing 6)	7 months	27 years
SH (F)	Korean	MA student in the Department of Linguistics and Technical Communication	72 months	28 years

Experiment 2

Participant	L1	Status	The length of stay in the United States	Age
WC (F)	Taiwanese	IELI (Communication 3/ Writing 2)	6 months	26 years
JG (M)	Korean	IELI (Communication 6/ writing 6)	16 months	27 years
YK (F)	Korean	MA student in the Department of Linguistics and Technical Communication	36 months	28 years

Instrument (BYU COCA)

The students worked with a free on-line corpus, the Brigham Young University (BYU) Corpus of Contemporary American English (COCA). It is the first large corpus of contemporary American English and continues to expand in size. The COCA Web site (<http://www.americancorpus.org/>) accesses a corpus which currently has more than 400 million words of text. It distinguishes between five types of contemporary American English: spoken text, fiction, popular magazines, newspapers, and academic texts. Users can search for words or phrases, grammatical constructions, parts of speech, and collocations; they can see how frequently each of these types has been used over the past 15-20 years and in what genre of English use. In addition, they can compare two related words with collocates that occur with each word in various contexts or registers and see their frequency. The corpus has part of speech (POS) tags, so that users can use the tags to search for word classes or to narrow their results. Also, in the COCA Web site, users can create their own query history, so that they will be able to review what they did later.

The COCA Web site was considered a good choice for the present study because of its accessibility and size. The corpus provides instruction on how to conduct a search, for the search process requires at least some technical skill.

Prior to Corpus Training

In order to help students use the corpus, corpus training was required. Before beginning the experiment I was only casually acquainted with how to use a corpus. Therefore, my first step was to familiarize myself with what could or could not be

learned from the corpus. I spent more or less 15 hours on my own, learning to use the corpus step by step. First, I read all the information in the BYU COCA manual, skimming over the basic features of the corpus, such as word comparisons, synonyms, and searching by genres or years. Then, I started studying the most basic terms and symbols used in the corpus. For example, * means “undefined number of letters,” [=word] means synonyms, and [word] means all forms of the word (see Table 2).

Table 2

Symbols in the BYU COCA

Symbols	Meaning	Examples	Samples
*	any number of letters	re*ly *ous*	really, recently, relatively.. house, serious, various..
?	one letter	s?n	san, sun, son, sin..
[= word]	synonyms	[=vicious]	mean, wild, violent..
[word]	all forms of the word	[do]	do, did, does, doing ..
[pos]	part of speech	[vvg]	Going, trying, looking, making...
Word.[pos]	Word and part of speech	Face.[v*]	Face, only as a verb

In addition, I had to know part of speech (POS) tags and how to make queries with these, in order to search for words or phrases. For instance, users could insert the string [vv0*] to search for all base-verbs in the WORD or CONTEXT line of the corpus (see Figure 1), [v?d] for the past participle of verbs, or [j*] for the adjectives. Users can see a list of all matching strings with a numerical frequency index, which shows the

total number of occurrences in the corpus (see right-most column of Figure 1.1). Also, if users make a check (✓) in the SECTIONS box, they can get results for the frequency of the word occurring in each genre (spoken, fiction, magazine, newspaper, and academic) from the year 1990 to 2009 (see Figure 1.2).

DISPLAY		SEE CONTEXT: CLICK ON WORD OR SELECT WORDS + [CONTEXT]		
<input type="radio"/> CHART <input checked="" type="radio"/> LIST <input type="radio"/> COMPARE WORDS			CONTEXT	TOT
SEARCH STRING		1	KNOW	385803
WORD(S) [vv0*]		2	THINK	381242
CONTEXT		3	WANT	202535
POS LIST		4	SAY	171991
USER LISTS [SEARCH] [RESET]		5	SEE	164652
SECTIONS [SHOW]		6	GET	151982

Figure 1. The way to use the formula [vv0*] to search for base verbs.

Note. [vv0*] means base verbs.

DISPLAY		SEE CONTEXT: CLICK ON WORD (ALL SECTIONS), NUMBER (ONE SECTION), OR [CONTEXT] (SELECT)										
<input type="radio"/> CHART <input checked="" type="radio"/> LIST <input type="radio"/> COMPARE WORDS			CONTEXT	TOT	SPOKEN	FICTION	MAGAZINE	NEWSPAPER	ACADEMIC	1990-1994	1995-1999	2000-2004
SEARCH STRING		1	KNOW	382090	251692	67479	27837	23825	11257	81951	102786	97265
WORD(S) [vv0*]		2	THINK	375289	256308	42495	29517	36312	10657	103969	103143	88243
CONTEXT		3	WANT	198140	86836	39141	31361	31367	9435	49835	53660	48856
POS LIST		4	SAY	165544	66857	24917	22914	44332	6524	42726	40936	44478
USER LISTS [SEARCH] [RESET]		5	SEE	161727	38794	32221	31655	17096	41961	41571	46170	37709
SECTIONS [SHOW]												

Figure 2. The way to use the formula [vv0*].

Note. In this case, the SECTION box is checked, so frequencies are broken out.

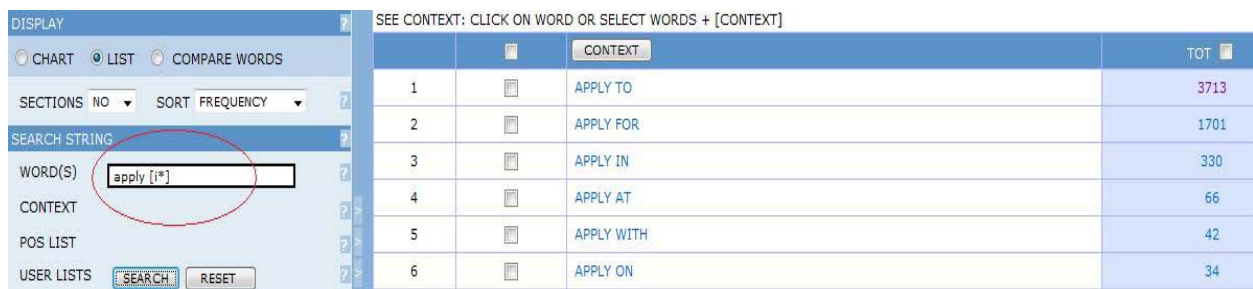
To become a more advanced researcher, I started to search for words or phrases in my own writings or contemporary registers, such as magazines, newspapers, novels, or journals. Because words or phrases in the registers reflect current authentic English, searching on them helped me to not only compare the corpus result with authentic English usage, but also find other ways of searching that are not mentioned in the corpus manual. In fact, it is very important, but hard, for students, to use and expand

upon basic corpus knowledge so that they can apply it to their own writings.

Unfortunately, I cannot say that there is only one definite way to get the intended result.

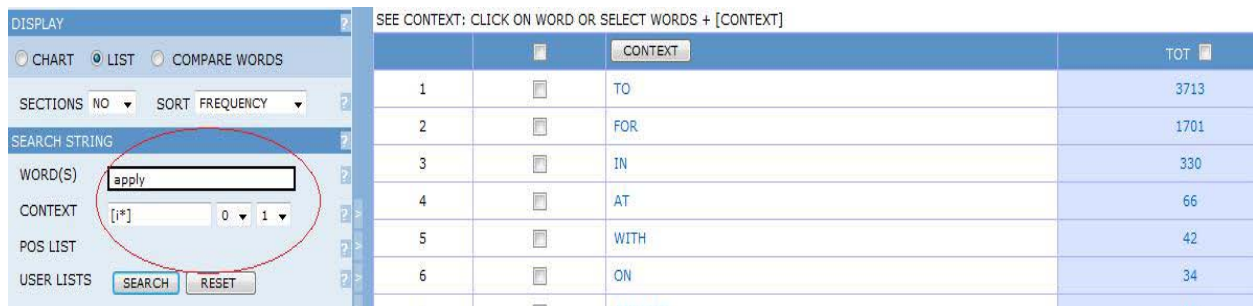
For example, if one student wants to know what prepositions can be used with *apply*, they could type `apply [i*]` (means all prepositions) in the WORD(S) line of the corpus (see Figure 2.1), but another student might get the same result by typing `apply` in the WORD(S) line and `[i*]` in the CONTEXT line of the corpus (see Figure 2.2).

Even though the result showed up in different forms, `apply to` versus `to`, the students arrive at the same information in the end (see Figure 2.1 and 2.2). I believe that through searching for words in different ways, students will find their own ways, perhaps easier ways than those explained in the manual.



		CONTEXT	TOT
1		APPLY TO	3713
2		APPLY FOR	1701
3		APPLY IN	330
4		APPLY AT	66
5		APPLY WITH	42
6		APPLY ON	34

Figure 3. The way to search using the formula `apply [i*]` and the result.



		CONTEXT	TOT
1		TO	3713
2		FOR	1701
3		IN	330
4		AT	66
5		WITH	42
6		ON	34

Figure 4. The way to search using the formula `[i*]`.

Note. You type `apply` in the WORD(s) and `[i*]` in the CONTEXT box. The target was `[i*]` in the CONTEXT box and the result are as shown in the table above.

I also had to think about ways to deliver this information to the students. As a second-language learner, I had many questions about English uses, which even English teachers or native speakers had difficulties explaining. One example is the problems of nearly synonymous lexical items, such as *tall* versus *high*, *through* versus *by*, or *apply to* versus *apply for*. Another is the problem of lexical collocation, which is one of the most difficult ones that L2 learners have. Learners and teachers often try to find rules governing which words can go with certain words; but these collocations always give rise to a struggle. To draw the students' attention to the BYU COCA, I had to present the kind of information that L2 learners have always wanted to know.

In addition, I had to make my own materials for training because I planned to train the students in a limited time, in only three or four sessions. I sorted out the information which students should know from the BYU COCA manual and divided it into four sections: learning procedures for words/phrases/grammatical constructions, procedures for parts of speech (POS), procedures for synonyms, and procedures for comparisons. I also added simple examples in each section to show how to operate the corpus right away. Lastly, I added my own notes, which I had made whenever I found functions that might confuse users.

Here, I will present some of the important points that I noted based on my corpus experience. One example is how to use the WORD(S) and CONTEXT line. The WORD(S) box is always visible, whereas the CONTEXT box is either visible or invisible when you click on it. In this case, the result depends on the words or phrases in the WORD line if the CONTEXT line is invisible. If the CONTEXT line is visible, and there is a word or POS tag, the result depends on what is put in the CONTEXT line.

For example, if you want to know what nouns can follow the verb *estimate*, you can search for this information in two ways. First of all, you put *estimate [n*]* in the WORD line. Here, *[n*]* means nouns. In this case, the CONTEXT line will not be necessary (see Figure 3.1). The result, as seen in Figure 3.1, shows not only the verb *estimate* but also nouns that can follow it.

SEE CONTEXT: CLICK ON WORD (ALL SECTIONS), NUMBER (ONE SECTION), OR [CONTEXT] (SELECT)		TOT	SPOKEN	FICTION	MAGAZINE	NEWSPAPER	ACADEMIC	1990-1994	1995-1999	2000-2004
1	ESTIMATE SYSTEM	27			25	1	1	26		
2	ESTIMATE COSTS	12	1		3	4	4	1	6	1
3	ESTIMATE COST	7	2		1	1	3	3	2	1
4	ESTIMATE DISTANCE	7		1	5		1		3	1
5	ESTIMATE GROUP	6					6		1	5

Figure 5. WORD(S): *estimate [n*]* and the result.

Another way is to insert the word *estimate* in the WORD line, and then the POS tag *[n*]* in the CONTEXT line (see Figure 3.2).

SEE CONTEXT: CLICK ON WORD (ALL SECTIONS), NUMBER (ONE SECTION), OR [CONTEXT] (SELECT)		TOT	SPOKEN	FICTION	MAGAZINE	NEWSPAPER	ACADEMIC	1990-1994	1995-1999	2000-2004
1	SYSTEM	27			25	1	1	26		
2	COSTS	12	1		3	4	4	1	6	1
3	COST	7	2		1	1	3	3	2	1
4	DISTANCE	7		1	5		1		3	1
5	GROUP	6					6		1	5

Figure 6. WORD(S): *estimate*; CONTEXT: *[n*]* and the result.

Here, it is very important to know that you will get results related to a word or POS tag in the CONTEXT box. In other words, the word or POS in the CONTEXT box is the result you will get. The result in Figure 3.2 will only show the list of nouns that collocate with the word *estimate* if *[n*]* is inserted in the CONTEXT box.

Another point that I needed to figure out clearly was what it meant to use the two number boxes after the CONTEXT box. The two numbers indicate by how many words the word in the WORD(S) line and the word (or POS tag) in the CONTEXT line can be separated. For example, if you select 0 and 3 as assigned in Figure 4.1, you will find the words or Part of Speech (POS) in CONTEXT within zero words to the left and a maximum of three words to the right of the word *estimate* (see Figure 4.2). Because the number arrangement is one of the important ways to narrow down results, I had to make sure to clarify its use all through the training period.

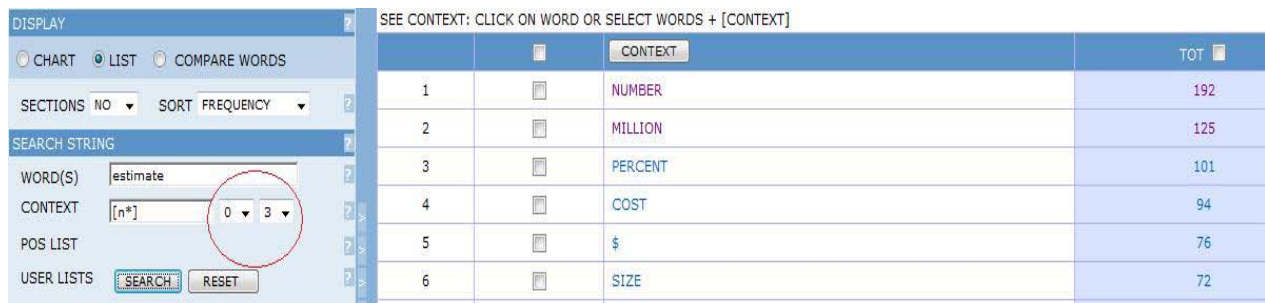


Figure 7. Number assignment (0 and 3).

1	2009	MAG	Astronomy	Sun to faint stars. They also count the brightest stars throughout the galaxy to <u>estimate</u> the <u>number</u> of stars in different galactic structures - the bar, disk, spiral
2	2009	MAG	ScienceNews	be sure, these calculations are still crude. They rely on a rather gross <u>estimate</u> of the <u>number</u> of observers in the multiverse, for example, using the expected
3	2009	NEWS	CSMonitor	after a massive international campaign. He later went into exile. # Christian groups <u>estimate</u> the <u>number</u> of Afghan Christians here ranges between 500 and 8,000
4	2009	ACAD	DrugIssues	Brophy, Conwell, 1971). The register was used as a reference to <u>estimate</u> the <u>number</u> of narcotic users in New York and in the country. Another early
5	2009	ACAD	DrugIssues	, and several researchers and policy makers at the time used the register data to <u>estimate</u> the <u>number</u> of narcotic abusers in the country. Probably the most often
6	2008	NEWS	USAToday	outside the United States. // Still, economists say there is no generally accepted <u>estimate</u> of the <u>number</u> of jobs moved offshore to capitalize on more favorable ta

Figure 8. The results.

Note. You can find the word *number*, one of the nouns ([n*]) typed in the CONTEXT line, within 0 words to the left and 3 words to the right of estimate WORD line of the corpus.

Also, another point was that students sometimes could not get the intended results because the phrases or sentences were not included in the corpus database (see Figure 5.1).

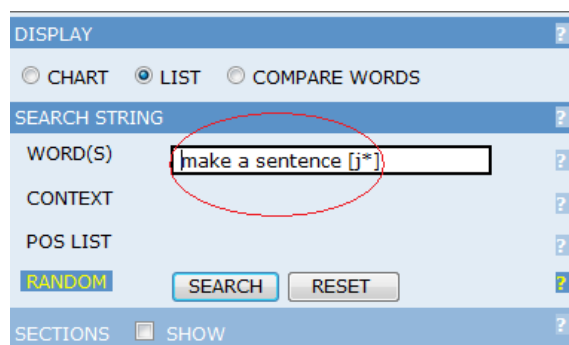


Figure 9. Research on phrases or sentences.

This might mean that the phrases are rarely used in English. One student wrote the following sentence:

“He *makes a sentence beautiful.*”

He tried to find an adjective for a substitute of *beautiful*, so he put *make a sentence [j*]* in the WORD line. However, he did not get any results, as shown below (see Figure 5.2).

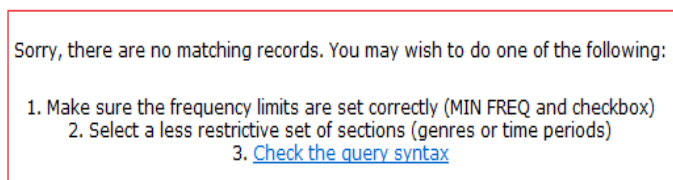


Figure 10. Result of no matching record

In such situations, students have to search in others ways.

It is necessary to know how to narrow down results in the data. I found that there are two ways to narrow results down in the BYUCOCA. One is to select a set of sections, meaning choosing a specific genre of result (Figure 6).



Figure 11. A set of sections.

The other is to set two numbers in the CONTEXT line, as mentioned above.

The most difficult problem is to analyze the result that students get from the corpus. Usually, to find the most appropriate words or phrases or to check grammatical corrections, students will have to read contexts very carefully or try searching in different ways. However, it is really hard for even advanced corpus users or advanced language learners to find from analyzing contexts in the BYU COCA the expressions that are closest to what they wrote. Only repeated practice and extensive corpus experience can overcome this problem.

From these experiences with the corpus, I produced the first handout found in Appendix A.

The First Experiment

Next, I will describe the training process and difficulties faced during the training sessions.

Receiving Information about the BYU COCA

Students were given two group sessions on how to use the BYU COCA: one for the basic features of the corpus and one for ways to do more advanced searching. The training sessions were held in a room where students could access the Internet and see examples of what I was doing on a projector. I explained basic terms, such as symbols

or POS (Part of Speech) tags. Once the explanation was finished, I asked students to practice doing a corpus search with simple examples. Then I showed examples which might be difficult and confusing, based on my searching experience. In many instances, the explanations were prompted by my corpus-searching experience.

Since this study was my first time trying to conduct a corpus class, I encountered some problems in the process of training. First of all, it was difficult to meet with all the participants together. I had three meetings for the first training session with two or three students in each session, and it took at least two hours to introduce the basic features. Secondly, there were technical problems, such as slow internet connections. If the internet speed is too slow to search through the BYU COCA, the training can be delayed or canceled. In addition, the BYU COCA doesn't allow for group training before getting permission from Mark Davies, who designed the BYU COCA. When students searched the same queries at the same time for practice, the corpus could recognize what was happening, and it didn't allow us to use it together. In other words, we stopped being able to use the corpus in the middle of the training session.

One week later, I had the second training session for the more advanced searching. Unfortunately, I had already lost five students. With the remaining four students I started training by reviewing basic concepts that I taught in the first training session. Then, we practiced searching the corpus with examples. The examples were extracted from the BYU COCA manual and words or phrases which had made me confused in my own English learning experience. Because students were asked to bring their own laptops, they could carry out the corpus search individually. The second training session lasted two hours.

At the end of the advanced training, I introduced five specific writing topics to the students (see Appendix B). I asked students to write a one page essay about each of the five topics. Students spent 30 minutes writing a first draft and then e-mailed me their results. They were asked to write a first draft with only language dictionaries, either paper or electronic dictionaries, and then to revise it using only the BYU COCA.

Writing and Correcting with Outside Help

Receiving Information about Their Errors and Specific Directions on How to Search the Corpus

Even though students learned about the corpus through the two group training sessions, I felt that these were not enough to allow students to really be able to use the corpus for their own writing. With careful consideration, Dr. Jenifer Larson-Hall and I decided to provide information about correctable errors and specific directions on how to search for them in the corpus on the first draft. Here, we focused more on lexical errors rather than grammatical errors. Also, I limited the corrections to 10 errors on each paper in order not to make students feel frustrated.

For example, one of the students wrote this.

“It will make them *develop their performance*...”

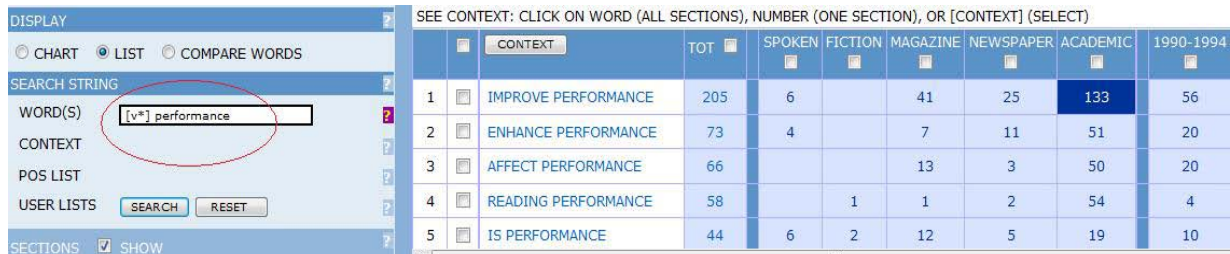
There is no grammatical error here, but it does not sound natural to Americans. He might have chosen the word *develop* as presented in the native language-English dictionary to find a substitute word meaning *grow* or *change over*. In a dictionary, students cannot find enough contexts to see the word’s use in English. As a result, L2 learners have troubles with word selection in L2 writing, even advanced learners.

I provided tips like these in the first draft:

Problem(s): *Inappropriate verb use in a phrase.*

Solution: *find synonyms*

- 1) To find general verbs used with *performance*, type [v*] performance in the WORD line. (see Figure 7.1)



SEARCH STRING: [v*] performance

SEE CONTEXT: CLICK ON WORD (ALL SECTIONS), NUMBER (ONE SECTION), OR [CONTEXT] (SELECT)									
	CONTEXT	TOT	SPOKEN	FICTION	MAGAZINE	NEWSPAPER	ACADEMIC	1990-1994	
1	IMPROVE PERFORMANCE	205	6		41	25	133	56	
2	ENHANCE PERFORMANCE	73	4		7	11	51	20	
3	AFFECT PERFORMANCE	66			13	3	50	20	
4	READING PERFORMANCE	58		1	1	2	54	4	
5	IS PERFORMANCE	44	6	2	12	5	19	10	

Figure 12. [v*] performance and the result.

- 2) To Find synonyms for *develop*, type [=develop] performance in the WORD. (see Figure 7.2)



SEARCH STRING: [=develop] performance

SEE CONTEXT: CLICK ON WORD (ALL SECTIONS), NUMBER (ONE SECTION), OR [CONTEXT] (SELECT)									
	CONTEXT	TOT	SPOKEN	FICTION	MAGAZINE	NEWSPAPER	ACADEMIC	1990-1994	1995-1999
1	IMPROVE PERFORMANCE	205	6		41	25	133	56	55
2	INCREASE PERFORMANCE	23	1		5	3	14	2	3
3	DEVELOP PERFORMANCE	7			1		6	4	1
4	MATURE PERFORMANCE	6			3	1	2		1
5	GET PERFORMANCE	5		1	1	1	2	2	1

Figure 13. [=develop] performance and the result.

Figure 7.2 shows that although the phrase “develop performance” did occur in academic writing, the phrase “improve performance” was much more frequent. Through the information and specific directions about the corpus, I expected students to more quickly familiarize themselves with the BYU COCA. However, I thought that I still needed to meet with them again to explain in detail how to use the corpus better. Based on the first essay, I had a third BYU COCA training. I met students individually and helped them revise their own errors. It took on average one hour per student.

Even after two group training sessions and one individual meeting, students wanted me to meet and train them in person when revising their writings with the corpus. Individual tutoring was time-consuming, but more effective, because in the group trainings I was not sure how much each person had figured out about the corpus and how much they could use, even though I had provided the same information to all students.

Receiving Information about Their Errors but no Directions on the Corpus

Starting with the second writing, Dr. Jenifer Larson Hall and I provided only information about errors, but no directions about how to search the corpus in order to examine whether students could use the corpus to revise their writings. Here, I also limited correction to 10 errors for revision on each paper. For example,

one of the students wrote this:

“As a result, parent will *pay attention on* English education”.

As a response, I gave tips like this: *Incorrect phrase*

After checking their own errors and tips, students searched for ways to correct their compositions with the corpus by themselves. Following this, I met with and helped each student find ways of making their own queries and analyzing the results. I believed that if they faced some problems and tried to solve them by themselves, they could get used to using BYU COCA. I used two computers; one for me and one for a student. I asked each student to search alone first, and then if there were any problems with searching, I showed how I searched and what result I got. I tried to lead students to several ways to search the corpus by constantly asking questions, usually open-ended questions, or by

reviewing the corpus function. It took two hours, on the average, but I believe that it was really helpful to the students.

These were the questions I would ask typically the student:

1. What do you want to know?
2. Do you want to know what this really means in English, even though it is not in your dictionary?
3. How can you know the meaning of the words?
4. Now, you want to compare two words? Where do you need to start?
5. To search for similar words, synonyms, what do you need to do?

This training was really helpful, but there was one problem. Each participant had different types of errors that they frequently made. For instance, one had trouble using prepositions, while another usually used inappropriate nouns or verbs in the context. So, they ended up doing similar types of searches. I wanted them to do different types of searches, so that they would learn how to resolve a variety of errors that they had not made. At this point, I thought about how to make students try to search for as many errors as possible.

From the second writing assignment to the fifth one, I kept giving the individual training sessions. I realized that corpus use in L2 writing would be effective and helpful as a language- learning tool. However, my primary goal was to help students use the corpus and revise their writing by themselves, but unfortunately, students never became independent. I pointed out many of their errors rather than making students find all the errors by themselves. Even though this was somewhat effective for training with the corpus, the first experiment could not achieve its primary goal.

Interviewing Participants after Completion of the First Experiment

At the end of the study, I interviewed students to find out how they felt about the BYU COCA. Questions concerned corpus use and training, and were semi-structured questions (see Appendix C for the questions). I recorded the students' answers and transcribed these recordings. The interviews took about 30 minutes per participant.

The Second Experiment

As I will explain later, I used a different approach in the second experiment. After the first experiment was finished, I decided to conduct further research that would focus more on the corpus training to examine whether or not it is feasible for the corpus to be used to help L2 learners become independent writers without the help of a teacher. In the second experiment, I primarily paid more attention to the training processes and creating the handout. One thing that was different for the second experiment was that students were asked not only to write but also to revise their essays by themselves without further personal training in the process of revision, nor were their errors pointed out to them.

Receiving Information about the BYU COCA

Based on the interview results from the first experiment, I updated the training handouts (see Appendix D for the second handout). I divided the BYU COCA information into four sections, as I also did the training for the first experiment: learning about words/phrases/grammatical constructions; learning about parts of speech (POS); learning about synonyms; and making comparisons between words or phrases. At the

end of each section, I provided simple tests to review the information learned. I added more examples and tried to illustrate the search process by capturing the results from the BYU COCA Web site, to present the information visually, instead of just giving long explanations. Students received training in the BYU COCA in the course of five meetings. On the average, it took two hours for each meeting. Whenever training for one section was over, I revised other handouts for the next step in the training based on the experience I had had with the students that had just taken the test I had designed. At the end of all the training sessions, in the fifth training, I gave a worksheet to test how well students could use the BYU COCA. The worksheet contained not only things that they had learned so far, but also some writing samples, in which to practice finding and revising errors by themselves. As mentioned earlier, because there are several ways to search in the corpus, I asked students to try to find errors in the sample essays and to correct them by using the BYU COCA. This was really helpful, not only so that I could let students know what they were going to do after the final training, but also so that they would be able to become advanced researchers by making queries and learning from the results obtained from the corpus.

Writing and Self-correcting without Outside Help

I asked students to write five essays on specific topics (see Appendix E for the topics). Topics were either academic or non-academic, but were familiar to students. They also spent 30 minutes in writing and one hour in revising a first draft. All writing was done only by students; they did not receive any extra personal help or information about their errors. Then, they e-mailed me both their original and their corrected essays.

I made a writing schedule for students to follow, but it was really hard for them to stay on schedule. I was supposed to finish the second experiment in five weeks, but it was not finished until seven weeks after the experiment had started.

Interviewing Participants after Their Completion of the Second Experiment

The interview was carried out in the same way as I had done for the first experiment. As I mentioned above, students participating in the second experiment completed all the stages of writing process by themselves. In other words, they did not receive any information about their errors and nor any instruction about how to use the corpus. Therefore, a few questions in connection with this were left out of the original question list (see Appendix F for the questions used in the second experiment).

RESULTS

Data Collection and Analysis

Several students dropped out of the study, so at the end of the experiment, the first experiment had been completed by four students and the second experiment by only three students. Each student wrote one-page essays on five topics. Most of the students completed all of the essays, but some of them missed one or two. I collected 19 essays from four students in the first experiment and 14 from three students in the second experiment.

First of all, I will examine quantitatively the number and types of errors that student were able to correct in the first and the second experiments. Then, I will report qualitatively on students' interview responses.

Analysis of the Number and Types of Errors

To examine how well students improved their own essays by using the corpus, I asked two ESL professionals to judge student error correction with the corpus use (results from judges are in Appendix G). Each correction was rated as + (plus), - (minus), and 0 (zero). Here, '+ (plus)' refers to errors which were revised in an improved way or became more natural, '- (minus)' refers to errors which were revised and became worse or less natural English, and '0 (zero)' was marked when there was no change from the original state of the point in question (either both the original one and revised one were bad or both of them were good, as could happen in the second experiment where students picked their own errors to correct). My focus was on whether the corrections showed evidence that students were able to effectively use a corpus to be able to revise

their writing. The ratings of the two native speakers were totaled and averaged in both experiments (see Tables 3 and 4).

Table 3

Number of Corrections Made, Judged for Improvement, in the First Experiment

Total of all corrections	+	0	-
141 (100%)	108 (77%)	25.5 (18%)	7.5 (5%)

Table 4

Number of Corrections Made, Judged for Improvement, in the Second Experiment

Total of all corrections	+	0	-
94 (100%)	44.5 (47%)	36.5 (39%)	13 (14%)

As I explained in the method section, the students in the first experiment corrected the errors that had been pointed out by Dr. Jenifer Larson-Hall and me. My first research question was whether learners who corrected their errors corrected them appropriately in their essays with the help of the corpus. As shown in Table 3 above, 77% of the total errors in the first experiment were corrected to be more natural than the original usage, whereas only 5% became worse. These results show that when learners know where their errors are, with the help of a corpus they do quite well at improving their own writing.

On the other hand, those in the second experiment not only revised their errors with a corpus but had to find their own errors by themselves. In other words, this experiment looks at how well students can function autonomously in revision without the help of teachers. Results for this experiment are shown in Table 4. Here we see that not as many students were able to improve what they perceived to be uncorrected, but only

14% became even worse than before, so we may say that 86% of the corrected errors did not show a decrease in accuracy or naturalness. Clearly, use of the corpus helped learners improve their writing in both experiments.

Students in the second experiment who revised their essays without the help of teachers made fewer improvements than those in the first experiment (77% in the first experiment, 47% in the second experiment, as shown in Tables 3 and 4). If teachers provide even simple information about errors, as in the first experiment, students can make more improvement by using a corpus. This does not mean that students cannot improve their writing independently. Rather, if students receive small tips about errors, they will be able to use the corpus more effectively.

Tables 5 and 6 are added to show the types of errors students intended to correct in their essays. I grouped all errors into four categories: preposition, word choice, grammar, and others (results are in Appendix H). As can be seen, word choice accounted for the largest portion of corrections in both experiments, and this is an area that the corpus excels in.

It is interesting to compare what types of errors an ESL professional and students themselves picked to correct. As mentioned before, in the first experiment an ESL professional and I pointed out errors in students' essays, whereas in the second experiment, students themselves found their own errors and revised them with the corpus independently. Interestingly, the relative percentage of types of errors the ESL professional found was similar to those by students, even though students found the errors by themselves.

Table 5

Total Number of Errors in Four Categories in the First Experiment

Total	Preposition	Word choice	Grammar	Others
141 (100%)	21 (15%)	76 (54%)	26 (18 %)	18 (13%)

Table 6

Total Number of Errors in Four Categories in the Second Experiment

Total	Preposition	Word choice	Grammar	Others
94 (100%)	19 (20%)	57 (61%)	11 (12 %)	7 (7%)

The third research question investigated student attitudes toward the corpus and the ways they were trained to use the corpus in the first experiment and second experiment. These attitudes were revealed by student interview responses.

Students' Interview Responses

As mentioned in the method section, at the end of each experiment, I interviewed students to find out how they felt about the corpus. The interview consisted of two kinds of semi-structured questions: those about corpus use and those about the corpus training. I met the students individually and interviewed them in quiet places on campus. Some students were interviewed in their own apartments. Students answered the questions in their own words, and I recorded their answers. It took about 30 minutes per participant. I transcribed the interviews. I will present finding from interviews in the same order as that of the interview question (found in Appendix I).

Responses to the Questions about Corpus Use

My first question was whether or not students felt they had improved their writing proficiency, and in what parts of English writing they had gained confidence. All participants thought they had improved their English writing from using the corpus. They had become more confident in using appropriate words or common usage patterns in their writing, which had always been trouble spots for English as a Second Language Learners (ESL or L2). In fact, L2 learners tend to just translate what they want to say from their native language into English, but when Americans read their writing, they cannot understand it or they feel that it is unnatural. The students used the corpus for finding appropriate words, especially synonyms, for paraphrasing published articles, and for checking prepositions that go with nouns, verbs or adjectives in collocations. One student, YK, said that, “Corpus helps me find accurate prepositions in collocations and use them in my own writing. In fact, there is no way to know all prepositions which are collocated with a word or words even in the language dictionaries and grammar books, but this is very important in English writing. But the corpus gave me clear answers about prepositions and helped me feel more confident in writing” (*Note.* all comments are transcribed just as my non-native speaker (NNS) participants said them, so they may contain errors. I decided it would be too distracting to use the “[sic.]” notation every time there was an error, so I have not done so.)

Students were asked whether they had used the corpus in their regular writing classes and how frequently they had used it. Having favorable attitudes toward the corpus, most students tried to use the corpus frequently during the study time for their regular writing classes. SH said, “When I really don’t know what words to choose in my

writing, I usually look at the synonyms. Also, I usually use the corpus five times per writing.” One IELI student, JN, said “Even though writing teachers only checked errors without any comments or examples on them, I tried to check them with the corpus by myself.” Some students did not have to use the corpus because they were not taking any classes during the experiment. However, they emphasized that they would use the corpus more frequently if they had writing assignments or formal papers to submit.

With respect to what parts of the BYU COCA they preferred using, some students gave similar responses: the comparison and synonyms parts. The idea of comparing two words and receiving clear evidence of which word was used more frequently, was very new to them. In fact, without the corpus, there was no way to compare two similar words or phrases unless they asked English teachers or native speakers. Thesauruses and language dictionaries also provide some synonyms for each word, but it is rare to see contexts to check the actual usage or meaning of the words in writing. However, students felt insecure in not being able to see the word’s definition, because the corpus does not provide a word’s meaning. One student, YK, said, “the synonym part could make up for the limits of the corpus, which cannot find word definition.” In other words, a synonym search helped students know a word’s meaning and extend word meanings in-depth. However, the large amount of information to choose from which is contained in the corpus was overwhelming to most L2 learners. A dictionary is sometimes much easier to use. Also, students had trouble using POS tags (ex. [n*] for nouns), other symbols (e.g. like [=] for synonyms or * for any number of letters), and WORD(S) and CONTEXT lines used in BYU COCA. It is very important to know how to use these tools well because the result can be different depending on

what one types in the WORD(S) or CONTEXT box. JN said, “When searching English idioms in the corpus, I didn’t know what to type in the WORD(S) or CONTEXT box to get results.” When students typed idioms that are just translated in from their native language, but which are English idioms, they cannot get any results. In this situation, students might become confused, and might not be able to use the corpus. In addition, the more mechanical problems - Internet disconnections or systemic errors - were also on hand. There are some of the other problems that students did not like while they were using the corpus.

Another similar question, mentioned above, in connection with this is what caused the students most difficulties when they used the corpus. SH said, “The procedure to use the corpus is not easy. Looking up the dictionaries or typing words in GOOGLE is much easier to get result that I want.” Also, YK said, “Spending some enough time learning how to use BYU COCA was overwhelming.” Some people who are really busy with their paper work or tests might find it hard to spend enough time learning and practicing using the corpus.

In the questions about the differences between the corpus and language dictionaries or grammar books, students pointed out that all BYU COCA functions are different from those of both types of publications. First of all, being able to see a variety of authentic texts in different kinds of genres, to compare two words, to find synonyms, and to generate word lists with frequency counts are features that exist only when interacting with the corpus. Students thought that they could never get such information from dictionaries or grammar books. Grammar books have very general explanations, and language dictionaries have meanings of words but few examples. CC said, “The

corpus is more specific. The grammar book has so general ideas. Dictionaries have meanings and they have few examples. I can't figure out how to use that." Secondly, students considered BYU COCA to be an interactive language learning tool. JN said, "Corpus is more interactive than general English writing materials. When I use the grammar books, I just find the page or read the lesson to find answers. However, the corpus gives answers directly, and also if I am not sure the result, I can try in several ways." Whenever students type on the keyboard, they can get answers directly and quickly, and if they want to know more information about a word or phrase, they can get different results from different ways of searching. As a result of having had independent problem-solving experience with the corpus, students will take more responsibility for their writing, as well as for their speaking they will be more active learners. Also, students mentioned that in a way it was fun to search for words in a number of information sources and get authentic results directly.

Furthermore, by being able to see the frequency of a word in the corpus, a feature that does not exist in general language materials, students were able to choose the most appropriate and common words that go together with other words.

While putting student responses together, I felt strongly that corpora can indeed be new language learning tools and linguistic resources for language learning.

With regard to the function of the corpus in future English language learning, students said that they would strongly recommend this Web site to their close friends. They believed that the BYU COCA would help learners choose authentic English without teachers' or native speakers' help. However, all students thought that the corpus would be rather difficult for lower-level learners to use. It is true that corpus use

requires a certain level of knowledge about the second language, such as grammar and word knowledge. As a result, students at lower levels of language proficiency might be hindered from using the corpus. For example, beginners may find it difficult to put collocated words in the correct form with target words. In addition, they might not be able to interpret the results or understand the authentic examples and words in the corpus. On the other hand, one student, JN, thought that studying language using a corpus is necessary from a lower level. He said, “the corpus should be started from the lower level. But, if teachers teach a lot of techniques or examples to them they will be confused. You need to teach the functions separately one by one and put other functions more and more when they are used to the corpus.” In an additional question about whether context in the corpus is hard for beginners to understand, he said, “Contexts in the corpus will be useful to the low level students depending on how the contexts are used. Even though they practice corpus with very basic words, students will know how the words are actually used in a situation.” Regardless of English proficiency level students can experience more fruitful English within even a simple context. Also, it would be better to have the assistance of the corpus than to memorize words only from vocabulary textbooks.

Another important question asked is how the corpus will help students in the future. Through the corpus all students hoped to be proficient writers and sound like more native English speakers. One participant, SH, who wants to be an English teacher, planned to introduce this Web site to her students. She said, “I’ll always open and use this Web site in the classroom and use this whenever I need. As an English teacher, I want to provide authentic contexts and information about how to use a word in different

situations or in various genres. Also, the corpus will help students remember a word better than knowing only meanings.”

In summary, my interviews with students led me to conclude that although there are some limitations, corpus use can be a valuable language-learning tool, both for students and for teachers.

Responses to the Questions about Corpus Training

The first question asked about two types of training, group training for basic features and personal training. Here, personal training was conducted only in the first experiment. Students preferred personal training to group training. During the individual training, they could ask any questions in the process of using the corpus to check whether or not their search was correct. In addition, students had more opportunities to use the corpus when meeting in person. They learned more about the corpus through the process of trial and error with me individually. On the other hand, group training took a long time because I needed to check to see whether or not each student could follow my lesson. This bothered students as they tried to concentrate on the training.

Regardless of which experiment they participated in (the first or the second), all the students thought that they needed more training before applying the corpus to their own writing. They believed that at least one month for intensive training would be required. Fortunately, students were satisfied with the content of the handouts, but they also recommended using more examples to practice improving on the different kinds of errors they did not make in their own writing. One participant, JN, suggested pair-work training for further research. He suggested that the teacher could divide all participants

into groups with two students per group and give each group a paragraph writing sample that included wrong or inappropriate words. Then, the two students working together would be asked to correct them. They could discuss what to do and compare answers. Pair work could help students learn more about the corpus than when the teacher explains directly, and save time learning. I was intrigued by this idea and thought it could be quite useful to students and teachers.

Other interesting questions (Q2- Q4) in connection with the first experimental training are whether or not students preferred receiving directions about how to use the corpus. All students who participated in the first experiment received on their first assignment both information about the errors in their essays and specific corpus directions to help understand how to search the corpus to correct their errors. By the second assignment they only received feedback about errors and had to figure out how to use the corpus by themselves. When I gave all the information about the corpus and errors, the students acknowledged that they just followed my directions without thinking. At the end of the experiment, students said that pointing out only errors without directions about the corpus search was ultimately more helpful.

When students were asked whether or not they would be able to correct their own errors by using the corpus independently, they were positive about the possibility. SH said, "While I used the corpus, I could remember better what I did wrong. And, I believe that I will correct my own errors by myself with the corpus." However, one student mentioned the need for continuing native speaker or teacher help. WC, who participated in the second experiment said, "When finishing training I could use all functions in the corpus. First time, I got a lot of errors in the writing and took a lot of time

to search, but now I can use the Web site whatever I want to. The corpus can help me find errors and correct them by myself, but, I still need teachers or helper to check my writing.” Comparing the confidence in corpus use of students in the first experiment and in the second experiment, students in the second experiment were more confident in independent corpus use. I thought that the second training might have been more successful than the first one because of different training materials and methods.

Students were also asked to add their own comments on the processes of training and corpus use in writing. Here are some comments and suggestions:

- “The handout used in the first experiment had too much information to read all of them. When even practicing at home, I rarely used the handout because it was really hard to find what I want. I wanted to make the handout more simply.”
- “You’d better give students simple homework, one or two pages, to keep practicing at home. This is the best way to learn how to use the corpus independently.”
- “You have to think of different ways to train depending on students’ ability to use the computer.”
- “You have to schedule enough time for training before applying the corpus to the revision.”

In light of the interview results and my experience with the corpus, I concluded that because of the study, students had been able to realize the value of the corpus for correcting their own writing, and had indeed been able to use it to make correction. However, I have concerns about how much time and effort is needed to make skilled corpus users. I think that if the corpus is introduced to ESL writing classes, L2 learners will approach writing in English with more confidence.

DISCUSSION

Although previous studies looking at corpus use among second language (L2) learners have studied various aspects of the corpus, no study has looked at learners' writing to find out whether students using a corpus can correct errors in their L2 writing without the help of teachers. The present study has clearly showed that corpora can help students learn from errors by themselves and thus improve their overall writing quality. As shown in the result of the first experiment, 77% of the total errors were corrected to be more natural than original ones by the corpus use if students received information about their writing errors before using the corpus. In addition, the results of the second experiment also supported the results of the first experiment and showed that it is possible for students to find and improve poor writing by themselves. Even though not as many errors were improved in the process of being corrected in the second experiment (47% of total errors), students were able to correct their own errors and use more natural English expression without outside help. This result is enough to build a bridge between corpus research and self-correction in L2 writing.

When judging types of errors students made in the second experiment, over half of the total errors were related to finding appropriate words (word choice), and preposition use; grammatical errors were also caught these additional errors. This result presents two important insights. First of all, students participating in this study had difficulty in choosing natural word selection while writing in English. Through student interview responses, I also found out that students felt they had trouble with this. Second, appropriate word and preposition choice for a particular verb or adjective are always tricky.

Unfortunately, it is hard to generalize this result because the sample size in this study was small. However, these findings provide valuable knowledge for L2 writing teachers who would like to integrate the corpus research into traditional language classrooms.

Limitations

Even though this study showed that corpus research helps students to become independent and proficient writers, the results shown in the second experiment were not enough to fulfill my initial expectations. I believe that the lack of corpus training was one of reasons that students did not perform even better. In addition, because of the small sample size and the fact that this study is exploratory, I cannot generalize the results to say that this outcome would likely happen every time. With well-designed corpus materials, a larger number of students, and enough time to practice corpus research, in the future I hope to be able to examine more closely how L2 learners' writing performance changes with the help of the corpus, but without help of teachers.

Conclusion

The most important implication that can be drawn from this study is that the seven students in this study were able to effectively use a corpus to be able to revise their writing. Authentic linguistic data in the corpus can enhance students' sensitivity to language usage, and thus raise their overall L2 writing capability. In addition, students can take more responsibility and have confidence in their L2 writing. However, it is necessary to spend some time learning the corpus skills in front of computer. If done

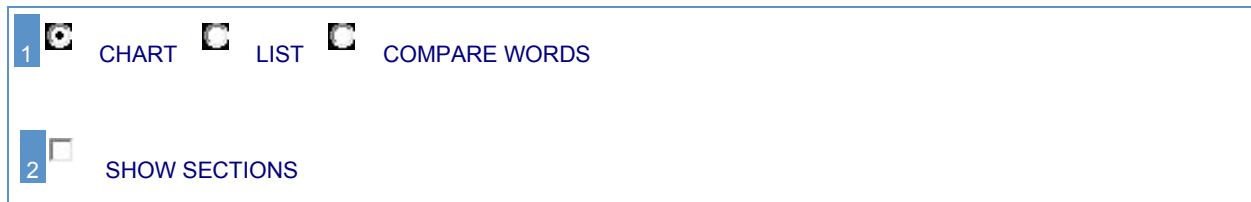
within well-planned corpus training, corpus research will be a most effective tool in the field of language learning and teaching and will contribute to L2 writing development.

APPENDIX A
CORPUS TRAINING HANDOUTS 1

Corpus of Contemporary American English (COCA)

1. Explanation of the chart on the left side

1) Display menu



(1) Chart

- You can see “bar chart” that indicates the overall frequency for all matching words or phrases.

(2) List

- You can see a listing of each individual word or string that matches the query.

(3) Compare words

- You can compare the collocates for two different words which provides insight into the difference in meaning or use of these two words.

(4) Show sections

- [genres] spoken, fiction, magazines, newspapers, academic
- [time blocks] 1990-1994, 1995-1999, 2000-2004, 2005-2008.

When “section” is not selected, you will see the overall frequency for the entire corpus.

2) Sorting the results



(1) When you choose “Frequency”

- You can find ranked entries according to frequency, regardless of 1) the overall frequency of the word in the corpus, 2) how many times the entries occur with competing words, or 3) the number of occurrences in competing registers.

(2) When you choose “Relevance”

- The results are sorted by the “Mutual Information (MI)” score for that word. You will know which words occur most commonly, as a function of their overall frequency in the corpus.

Typically, scores of about 3.0 or above shows a “semantic bonding” between the two words.

- When you have selected two different registers, the RELEVANCE is the ratio of the occurrence in the first register to those in the second register. This means the relative percentage in the two sets of sections.

3) Search String

WORD(S)	<input type="text"/>	1					
CONTEXT	<input type="text"/> 2	5	▼	3	5	▼	4
POS LIST	-select-	▼	5				

(1) The basic search string/word

(2) CONTEXT:

- The [CONTEXT] line must be visible in order to do a CONTEXT search. Otherwise, it will simply look for the string in the WORD(s) field.

(3) – (4) How many words away the word is with (3) and (4)

- If you set 0(3) and 1(4), you can search words or strings right after a word.
- If you set 1(3) and 0(4), you can search words or strings right before a word.

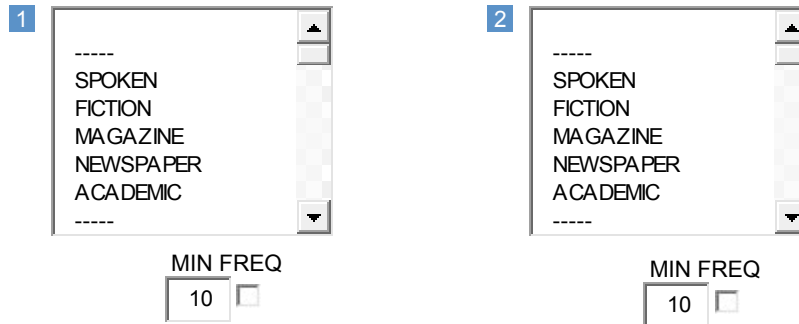
(5) Part Of Speech (POS) List:

- The easiest way to use part of speech tags is by selecting them from the drop-down list (click on [POS LIST] to show it).
By default, the tag will be inserted at the end of the string in the WORD(S) field.
If the [CONTEXT] field is visible, then the tag will be inserted there.
- You can also type the part of speech tags directly into the search form, but make sure that you enclose the tag in brackets, e.g. [n*]=all nouns or [r*]=all adverbs.
- You can use wildcards for the part of speech tag. For example, [v*] = all verbs, [v?d] = past participle of verbs, [*j*] = adjectives (including ambiguous noun/adj tags), etc.

EX) [j*] **eyes** in [1] would find a two word string, composed of a form of eyes immediately preceded by an adjective.

4) Section

- You can sort and limit by frequency in the selected section OR select a second set of sections against which to compare the sections chosen in the first.



2. Functions by use of BYU corpus

1) Learning words/ phrases/ grammatical constructions through contexts

-When memorizing or using appropriate words in a different context, we need to learn a word in context. / you can see authentic examples of a word's use in COCA.

2) Synonyms

-When you want to avoid word or phrase repetition in your writing, you can find the synonyms of a given word and see which synonyms are used more in different contexts or genres.

3) Part of Speech (POS) list

4) Word comparison in ambiguous words

- When we choose the appropriate word from among words with similar meanings

Ex) Provide – “provide” is used in academic

Give – “give” is more used in spoken English than academic writing.

5) Find appropriate words in English, depending on the words near a target word or genres

- When we write in English we often use bilingual dictionary to find a word that we want to use but don't know in English. When there are many similar words with the same meaning, then we need to pick the most appropriate words from among them.

1) Learning words/ phrases/ grammatical constructions in contexts

-You can see words, phrase, and grammatical constructions, and what genre of American English uses an item from this set the most.

(1) Words/phrases in the contexts

Step 1 Choose "list" in the DISPLAY and "Yes" in the SECTION

1 CHART **LIST** COMPARE WORDS

2 SECTIONS **YES**

Step 2 Type any word(s) you want to search

WORD(S)	<input style="width: 90%;" type="text"/>		
CONTEXT	<input style="width: 20%;" type="text"/>	5 <input type="button" value="v"/>	5 <input type="button" value="v"/>
POS LIST	-select- <input type="button" value="v"/>		

Step 3 You can see the result.

Click on a word or phrase to see context the word or phrase in all sections or in selected sections.

When you click on the matching word, you can see contexts in all sections.

See context: **CLICK ON WORD (ALL SECTIONS), NUMBER (ONE SECTION), OR [CONTEXT] (SELECT)**

	CONTEXT	TOT	SPOKEN	FICTION	MAGAZINE	NEWSPAPER	ACADEMIC	1990-1994	1995-1999	2000-2004	2005-2008
1	_LAPTOP	2833	245	558	1272	522	236	306	513	966	1048

(3) Grammatical constructions (like *end up Ving*, *get + V-ed*)

Step 1 Choose “list” in the DISPLAY and “Yes” in the SECTION

1	<input checked="" type="checkbox"/> CHART	<input checked="" type="checkbox"/> LIST	<input type="checkbox"/> COMPARE WORDS
2	<input type="checkbox"/> SECTIONS	<input checked="" type="checkbox"/> YES	

Step 2 Type any word(s) you want to search and click on the “search”.

WORD(S)	<input type="text"/> 1 → get [vvn] : you need “space” between <i>get</i> and <i>[vvn]</i>
CONTEXT	<input type="text"/> 2 5 ▼ 3 5 ▼ 4
POS LIST	<input type="text" value="-select-"/> 5

Step 3 You can see the results for the matching word.

If you're looking at a chart (rather than the table display), feel free to click on [SEE ALL SECTIONS] to compare frequency by sub-section

SEE CONTEXT: CLICK ON WORD (ALL SECTIONS), NUMBER (ONE SECTION), OR [CONTEXT]

	CONTEXT	TOT	SPOKEN	FICION	MAGAZINE	NEWSPAPER	ACADEMIC	1990-1994	1995-1999	2000-2004	2005-2008
1	GET RID	5747	2284	1221	1045	935	262	1693	1533	1454	1067
2	GET MARRIED	2588	831	811	474	387	85	674	782	620	512
3	GET CAUGHT	1635	528	386	319	322	80	394	464	377	400
4	GET STARTED	1601	499	372	429	210	91	368	432	456	345

(3) Genres of America English uses

Step1 Choose “chart” in the DISPLAY

1	<input checked="" type="checkbox"/> CHART	<input type="checkbox"/> LIST	<input type="checkbox"/> COMPARE WORDS
2	<input type="checkbox"/> SECTIONS	YES	

Step2 Type the word you want to search in the WORD(S) field and then search.

WORD(S)	<input type="text"/>		
CONTEXT	<input type="text"/>	5	5
POS LIST	-select-		

Step3 You can see the results for “laptop”.

CLICK ON BARS FOR [LAPTOP] IN CONTEXT

SECTION	SPOKEN	FICTION	MAGAZINE	NEWSPAPER	ACADEMIC	1990-1994	1995-1999	2000-2004	2005-2008
SEE ALL SECTIONS									
PER MIL	3.1	7.5	15.8	6.8	3.1	3.0	5.0	9.4	13.4
SIZE (MW)	78.8	74.9	80.7	76.3	76.2	103.4	103.0	102.6	77.9
FREQ	245	558	1272	522	236	306	513	966	1048

2) Synonyms

Step1 Choose “word comparison” in the DISPLAY

1	<input type="checkbox"/> CHART	<input checked="" type="checkbox"/> LIST	<input type="checkbox"/> COMPARE WORDS
2	<input type="checkbox"/> SECTIONS	<input checked="" type="checkbox"/> YES	

Step2 Sorting result

- You can get different results depending on the sorting results (frequency/relevance).

SORT BY	FREQUENCY	<i>Frequency/Relevance/ Alphabetical</i>
---------	-----------	--

Step3 Type the words and enclose the words in brackets. Ex) [=clean]

WORD(S)	[=beautiful] 1		
CONTEXT	2	5 3	5 4
POS LIST	-select- 5		

Examples	Explanation	Sample words
[=beautiful]	Synonyms of <i>beautiful</i>	attractive, charming
[=clean].[v*]	Synonyms of <i>clean</i> as a verb (without morphological variants)	clean, wipe, dust
[=clean]].[v*]	Synonyms of <i>clean</i> as a verb (with morphological variants)	cleaning, wiped, mopping
[=clean].[v*] the [n*]	All forms of synonyms of <i>CLEAN</i> as a verb + the + a NOUN	wiped the seat, mopping the floor

NOTE!

1. Part of Speech tags
2. glance.[v*] means **verb** glance not noun glance. The period separating the word and POS tag limit a part of speech in a word. Don't forget to type the period !
3. [Word] means all forms of a word. Ex) [do] → do, did, does, doing, done, well-done...
4. The double brackets in cases like [\[\[=tricky\]\]](#).

3) Part of Speech(POS)

-Part of speech (POS) is a group of traditional classifications of words according to their functions in context, such as noun, pronoun, verb, adjective, adverb, preposition, conjunction, interjection, and article.

WORD(S)	<input type="text" value="[j*] eyes"/> 1 → [j*] eyes/ [j*]
CONTEXT	<input type="text" value=""/> 2 5 ▾ 3 5 ▾ 4
POS LIST	<input type="text" value="-select-"/> 5

Ex) [j*] would find frequent adjectives

[j*] eyes would find collocations, composed of a form of eyes immediately preceded by an adjective.

(1) The easiest way to use part of speech tags

Step1 Type the word you want in the [WORD] field with bracket.

Step2 Select the Part of Speech (POS) from the drop-down list.

WORD(S)	<input type="text" value="[eye]"/> 1 Step1)
CONTEXT	
POS LIST	<input type="text" value="adj.ALL"/> 5 Step2)

Step3 The tag will be inserted at the end of the string in the WORD(S) field.

WORD(S)	<input type="text" value="[eye] [j*]"/> 1 [eye] [j*]
CONTEXT	
POS LIST	<input type="text" value="adj.ALL"/> 5

If the [CONTEXT] field is visible, then the tag will be inserted there.

Step4 Click on the “search” and see the result

(2) You can also type the part of speech tags directly into the search form, but make sure that you enclose the tag in brackets, e.g. [n*]=all nouns or [r*]=all adverbs.

WORD(S)	[eye] [j*] 1 [eye] [j*]
---------	--------------------------------

(3) Part of Speech Tags (by handout)

4) Comparison

(1) Compare the adjectives used to describe **boy** and **girl**

Step1 Choose “compare words” in the DISPLAY

1 <input type="checkbox"/>	CHART	<input type="checkbox"/>	LIST	<input checked="" type="checkbox"/>	COMPARE WORDS
2 <input type="checkbox"/>	SECTIONS	<input checked="" type="checkbox"/>	YES		

Step2 Sorting result

- You can get different results depending on the sorting results (frequency/relevance).

SORT BY	RELEVANCE <input type="button" value="v"/> <i>Frequency/Relevance/ Alphabetical</i>
---------	--

Step3 Enter two words in [1] and [2], and then compare the collocates [3] that occur with each of these.

A comparison of the collocates should provide insight into differences in meaning between [1] and [2].

WORD(S)	boy 1 girl 2
CONTEXT	[j*] 3 → [j*] 5 <input type="button" value="v"/> 4 5 <input type="button" value="v"/> 5
POS LIST	-select- <input type="button" value="v"/> 6

Examples

1	2	3	Sort by	Collocates with [1]	Collocates with [2]
hot	warm	[nn*]		tub, tips, shower	glow, embrace, person

small	little	[nn*]		amounts, scale	while, sister
boy	girl	[j*]	Frequency	growing, rude	sexy, working
Democrats	Republicans	[j*]		open-minded, fun	mean-spirited, greedy
Clinton	Bush	[v*]		confessed, groped, inhale	assure, deploying, stumbles
utter.[j*] (adjective <i>utter</i>)	sheer	[nn*]		silence, despair	beauty, joy
ground.[n*]	floor.[n*]	[j*]		common, solid	concrete, dirty
[rob].[v*]	[steal].[v*]	[nn*]		bank, store	cars, money

5) **Find appropriate words in English, depending on the context, genres (Advanced !)**

Once you know how to compare two words and search for synonyms, I want you to know how to apply these in revising your writing.

(1) Knowing Surrounding (context) words

1	2	3 / 4	Explanation	Examples
[thick]	[nn*]	0/4	A form of <i>thick</i> followed by a noun	hair, glasses, smoke
<i>thick</i> [nn*]		0/4		thick hair, thick glasses, thick smoke
look into	[nn*]	0/6	Nouns after a form of <i>look</i> + <i>into</i>	eyes, future

(2) Comparison of the frequency of synonyms in different sections

a. Comparison of the frequency of synonyms of **smart** in Academic vs. Spoken English

Step1

WORD(S)	<input type="text" value="=[smart]"/> → [=smart] or [=smart] [nn*]
CONTEXT	
POS LIST	

Step2 Select section(s) you'd like to compare

SECTION ?

1

IGNORE

 FICTION
 MAGAZINE
 NEWSPAPER
 ACADEMIC

MIN FREQ

2

IGNORE

 SPOKEN
 FICTION
 MAGAZINE
 NEWSPAPER

MIN FREQ

Step3 Results**SEC 1: 78,819,050 WORDS (synonyms of "Smart" in Spoken)**

	WORD/PHRASE	TOKENS 1	TOKENS 2	PM 1	PM 2	RATIO
1	<u>HURT</u>	<u>8144</u>	<u>1182</u>	103.33	15.51	6.66
2	<u>QUICK</u>	<u>6710</u>	<u>2059</u>	85.13	27.02	3.15
3	<u>SMART</u>	<u>3911</u>	<u>873</u>	49.62	11.46	4.33

SEC 2: 76,190,503 WORDS (synonyms of "Smart" in Academic)

	WORD/PHRASE	TOKENS 2	TOKENS 1	PM 2	PM 1	RATIO
1	<u>RAPID</u>	<u>4671</u>	<u>736</u>	61.31	9.34	6.57
2	<u>SHARP</u>	<u>2080</u>	<u>1225</u>	27.30	15.54	1.76
3	<u>QUICK</u>	<u>2059</u>	<u>6710</u>	27.02	85.13	0.32

APPENDIX B
WRITING TOPICS 1

List of Topics in the First Experiment

	Topics
#1 writing	<p>The value of experience from the real world.</p> <p>Many people believe that we cannot learn everything in school. Some say that experience is the best teacher. What is more important to a person's education: things learned in school or through experience in the real world?</p>
#2 writing	<p>Perspectives of English education in your country</p> <p>Ex) Problems in learning English in your country. The roles of the English teacher in your country.</p>
#3 writing	<p>The advantages of a national curriculum for school</p> <p>A national curriculum is a common curriculum which standardizes the content taught across all the schools in a country, in order to make possible a uniform assessment for each school. This is opposite of the curricula of independent schools, which each have their own curriculum.</p>
#4 writing	<p>Benefits of study abroad</p> <p>Do the benefits of study abroad justify the difficulties? What advice would you offer to a prospective student?</p>
#5 writing	<p>Efforts for your well-being.</p> <p>Well-being is defined as a state characterized by happiness, health, or prosperity. What do you do for your well-being?</p>

APPENDIX C
INTERVIEW QUESTIONS

General Questions about Corpus Use

1. Do you think you improved your English writing proficiency by using the corpus?
If you have gained confidence in writing through corpus use, what parts do you think have improved?
Grammar / Idioms (English phrases)/ appropriate word choice etc.
2. Did you use the corpus for your regular class writings? (IELT or UNT classes)
If yes (you often use the corpus), how often do/did you use it?
3. What aspects of the corpus do you like?
Which parts of the corpus are helpful? Why?
Ex) comparison words, synonyms, context etc.
4. What aspects of the corpus don't you like?
Which parts of the corpus are not helpful? Why?
Ex) comparison words, synonyms, context etc
5. What do you feel is most difficult to use about the corpus?
(What kind of problems do you have when you use the corpus?)
6. Do you think that the corpus is different from general language dictionaries or grammar books? If you think so, what are the differences?
7. If you have friends who are struggling with writing in English, do you want to introduce the corpus to your friends? Why?
8. Now that you have completed the experiment, what kinds of things do you think the corpus will help you with in the future?

Questions about Corpus Training

1. Were there any problems in the training? What do you think could be improved?
(difficulties while training)
 - 1) Training for basic features
 - 2) Personal training for corpus use with your own writing
2. For your first writing sample, the researcher provided information about your errors and specific directions on how to search the corpus.
 - 1) Was this a helpful way for figuring out how to use the corpus?
 - 2) If yes, what aspects do you like?
 - 3) If not, what aspects don't you like?
3. For your second writing sample, the researcher provided information about errors, but no directions how to use the corpus.
 - 1) Was this a helpful way for figuring out how to use the corpus?
 - 2) If yes, what aspects do you like?
 - 3) If not, what aspects don't you like?
4. Which do you prefer, information about errors with specific directions about how to use the corpus? OR information about errors without direction about how to use the corpus?
5. Since learning more about ways to use the corpus, do you think you can correct your own errors by yourself without outside help?
6. Please give me any suggestions and comments on the corpus training.

APPENDIX D
CORPUS TRAINING HANDOUTS 2

Corpus of Contemporary American English (COCA)

1. What is a corpus? (*Pl. Corpora*)

- A corpus is large collections of texts which represent a sample of a particular variety or use of language(s) that are presented in machine-readable form.

2. What can you do with the help of a corpus? (Functions)

1) Learning words and phrases with contexts

- You can see ...

(1) whether a word, phrase, grammatical construction, or word meaning has been **increasing or decreasing** over the past 15-20 years,

(2) **what genre of American English uses this the most,**

(3) **how a word or phrase is being used;** what preposition(s) is/are used in collocations with this item.

2) Synonyms

3) Word comparison in ambiguous words

4) Find appropriate words in English, depending on word(s) preceded or followed or genres

3. Where do I start?

1) Go to the Web site; <http://www.americancorpus.org>

2) To start searching for words or phrases you need to log



Step1 You can click “**HELP**” on the upper right side.

Step2 Enter your email address and the password you want to use.

Step3 Confirmation

- You need to go to your email account and confirm your registration.

Now, you are ready to use COCA !!

1. Learning Words/Phrases/Grammatical Construction

Step 1 Search for words or phrases (List/Frequency/Genre)

1) **SECTION:** Choose one in the DISPLAY and “Yes” in the SECTIONS

1	<input checked="" type="checkbox"/> CHART	<input type="checkbox"/> LIST	<input type="checkbox"/> COMPARE WORDS
2	<input type="checkbox"/> SECTIONS YES or NO		

2) **SEARCH STRING:** Type any word(s)/ phrase(s) you want to search

WORD(S)	<input type="text"/> 1 OR look over/ look at/ look for
CONTEXT	
POS LIST	

Step 2 How to see the RESULT (Frequency & Context)-



1) **CHART** – the result of LOOK

SECTION	SPOKEN	FICTION	MAGAZINE	NEWSPAPER	ACADEMIC	1990-1994	1995-1999	2000-2004	2005-2008
SEE ALL SECTIONS									
(1)									
PER MIL	993.5	990.8	521.1	394.7	164.8	570.0	630.4	613.9	646.4
SIZE (MW)	78.8	74.9	80.7	76.3	76.2	103.4	103.0	102.6	77.9
(3) FREQUENCY	78309	74190	42033	30126	12554	58937	64915	62974	50386

(1) Click on the [[SEE ALL SECTIONS](#)], you can compare frequency by sub sections.

When you click on the “Fiction:Movies”(below), you can see the word in the fiction movie context.

	SECTION NAME	# PER MILLION	# TOKENS	# WORDS
1	FIC:Movies	1,461.4	13457	9,208,596
2	SPOK:Indep	1,458.6	6583	4,513,182

3	SPOK:FOX	1,315.6	5109	3,883,546
4	SPOK:NBC	1,281.0	5136	4,009,442
5	SPOK:MSNBC	1,197.6	969	809,105

(2) Click the **BAR** in each SECTION, then you can see the word in CONTEXTs of the section selected.

(3) **Frequency** means how frequently the word occurs in English.

2) LIST & "YES" in the SECTION

	<input type="checkbox"/>	CONTEXT	TOT <input type="checkbox"/>	SPOKEN <input type="checkbox"/>	FICTION <input type="checkbox"/>	MAGAZINE <input type="checkbox"/>	NEWSPAPER <input type="checkbox"/>	ACADEMIC <input type="checkbox"/>	1990-1994 <input type="checkbox"/>	1995-1999 <input type="checkbox"/>	2000-2004 <input type="checkbox"/>	2005-2008 <input type="checkbox"/>
1	<input type="checkbox"/>	LOOK (1)	237212	78309 	74190	42033	30126	12554	58937	64915	62974	50386



(1) Click on the **matching word/ total number**, then you can see the contexts in all sections.

(2) Click on **frequency number in the sub section**, then you can see the only contexts in sections selected.

Step 3 Grammatical Construction

Type "get [v*]" in the [WORD(s)]. ([v*] = all verbs)

WORD(S)	<input type="text" value="get [v*]"/>
CONTEXT	
POS LIST	

↓ (RESULT)

	CONTEXT	TOT <input type="checkbox"/>
1	GET RID	1227
2	GET MARRIED	811
3	GET GOING	437
4	GET DRESSED	409

5	GET CAUGHT	386
---	----------------------------	-----

- ⇒ 1) You will find that the grammar construction of the verb *get* is “get + V-ed (past perfect)”.
- 2) Among all constructions involving *get*, “get rid” is used most frequently in English.

Step 4 SECTION: How to search by genre OR year(s)

- You can sort and limit by frequency in the selected section, such as genres or years.

SECTION ?

1

IGNORE

 FICTION
 MAGAZINE
 NEWSPAPER
 ACADEMIC

MIN FREQ

10

2

 SPOKEN
 FICTION
 MAGAZINE
 NEWSPAPER
 ACADEMIC

MIN FREQ

0

< Examples >

1) Verbs in MAGAZINES-Sports

- (1) Type **[vv0*]** in the **[WORD(S)]**. ([vv0*] = base verbs)

WORD(S)	[w0*] 1
CONTEXT	
POS LIST	

- (2) Select the section you want to know

SECTION ?

1

IGNORE

 SPOKEN
 FICTION
 MAGAZINE
 NEWSPAPER
 ACADEMIC

2

 SPOKEN
 FICTION
 MAGAZINE
 NEWSPAPER
 ACADEMIC

2) Synonyms of *smart* in Fiction

- (1) Type **[=smart]** in the **WORD(s)**. ([=] means “synonyms”)

WORD(S)	
----------------	--

CONTEXT	
POS LIST	

(2) Select the section you want to know

SECTION ?

1

IGNORE

FICTION
MAGAZINE
NEWSPAPER
ACADEMIC

2

SPOKEN
FICTION
MAGAZINE
NEWSPAPER
ACADEMIC

😊 REVIEW OF TODAY'S STUDY 😊

1) Search *provide*
Which SECTION is the word *provide* most frequently used?

2) Search *give*
In which SECTION is the word *give* most frequently used?

3) What *Base Verbs*(=[vv0*]) is most frequently used in Spoken English?



4) Compare with the frequency of synonyms of *strong* in Academic section VS Magazines section?

2. Part of Speech (POS)

Step 1 What is Part Of Speech (POS)?

- The POS of a word is based on how this word functions in combination with other words. For instance, nouns can function as subjects or objects of verbs. Articles are small words that occur to the left of nouns. Adjectives that modify a noun precede this noun; and adjectives can immediately follow linking verbs like *be* or *become* etc.
- See the part of speech tags! (HANDOUT)



How can we use Part of Speech (POS) tags? (Three ways)

Step 2 **TYPE** the part of speech(POS) tag directly in the WORD(S) with **Bracket** (ex. **[v*]**)

You need “**SPACE**” between word(s) and POS tag!



WORD(S)	gorgeous [nn*] 1
---------	------------------

►Test your knowledge

- a. [j*]
- b. [j*] face
- c. [r*] face
- d. face [n*]

1) **Face** VS **Face.[v*]** VS **Face.[n*]**

- *Face* might be a verb or a noun depending on the contexts.
- **Face.[v*]** = verb Face not noun Face.
- Don't forget to type the period (“ . ”)
- The period (“ .”) separating the word and POS tag limits a part of speech in a word.

Step 3 **Select Part Of Speech (POS) tags from the drop-down list**



1) If [CONTEXT] is **not visible (=invisible)**, the tag will be inserted at the end of the word in the WORD(S).

WORD(S)	<input type="text" value=""/>	1
CONTEXT	Invisible	
POS LIST	<input type="text" value="adj.ALL"/>	5



WORD(S)	<input type="text" value="[*]"/>	1 Result !
CONTEXT	Invisible	
POS LIST	<input type="text" value="adj.ALL"/>	5

2) If [CONTEXT] is **visible**, The tag will be inserted in the [CONTEXT].

WORD(S)	<input type="text" value="enroll"/>	1				
CONTEXT (visible)	<input type="text" value=""/>	2	0	3	<input type="text" value="3"/>	4
POS LIST	<input type="text" value="prep.ALL"/>	5				



WORD(S)	<input type="text" value="enroll"/>	1				
CONTEXT (visible)	<input type="text" value="[*]"/>	2 Result!	0	3	<input type="text" value="3"/>	4
POS LIST	<input type="text" value="prep.ALL"/>	5				



Quick Questions

(1) What is the difference of **result** between 1) and 2) in **Step 3**?

►Test your knowledge

a. expensive [n*]	c. [*] [*] :IMP
b. [*] information	d. [vv0*] classes



Step 4 WHAT DO THE NUMBERS MEAN? (EX. 0, 3 below the box)

WORD(S)	<input type="text" value="learn"/> 1
CONTEXT	<input]"="" type="text" value="[n*"/> 2 ? <input type="text" value="0"/> 3 <input type="text" value="3"/> 4 ?

↓ Result

	Context	TOT	Context examples	Hint
1	things	656	Learn things... learn favorite things	1) Which one is first? Learn or things? 2) How many words between <i>learn</i> and <i>things</i> ?
2	Skills	651	Learn skills... learn useful social skills... skills that I learn.. (X)	1) Which one is first? Learn or things? 2) How many words between <i>learn</i> and <i>things</i> ?
3	language	506	Learn language... learn my native languages.. language that I can learn faster... (x)	1) Which one is first? Learn or things? 2) How many words between <i>learn</i> and <i>things</i> ?



Now, can you figure out what the numbers mean? The numbers, 0--3 mean ..
We can find "CONTEXT" within 0 (zero) words to the left and 3(three) words to the right of "WORD(s)".

LEFT	Standard Point	RIGHT
CONTEXT	WORD(S)	CONTEXT
1 or more – 0	-----	0 – 1 or more

=BONUS = More examples to help you understand this better !!

1	2	3	4	example
look into	[nn*]	0/5	Nouns <u>after</u> a form of <i>look</i> + <i>into</i>	Look into her sky blue eyes Look into the bright future
work/job	hard/tough	4/0	<i>Work</i> or <i>job</i> <u>preceded</u> by <i>hard</i> or <i>tough</i>	how hard you had to work it is very hard for people to work



Quick Questions

Look at the results above again.

- 1) What is the POS of the result? Noun or Verb *Learn*?

- 2) Where are the results (ex. things, skills, language) from? WORD(s)? or CONTEXT?
- 3) If you want to get ONLY **ADVERB(s)** used with *learn*, Which POS tag should you choose? AND, Where should you put the POS tag? WORD(s)? or CONTEXT?



Step 5 WHAT/ WHERE should I put?



Find Preposition preceded by *enroll* .. → **enroll + preposition** How ?

QUESTIONS	WORD(S)	CONTEXT
Find prepositions		type <i>[i*]</i> in the CONTEXT
By Enroll (=with Enroll)	Type <i>enroll</i> in the WORD	
Preceded or followed by	CONTEXT is the left of the WORD(s)? OR the right of the WORD(s)? <input type="text" value="0"/> <input type="button" value="▼"/> <input type="text" value="3"/> <input type="button" value="▼"/> <input type="text" value="3"/> <input type="button" value="▼"/> <input type="text" value="4"/>	

Way #1 Type all you want to search

WORD(S)	<input type="text" value="enroll [i*"/> <input type="button" value="1"/>
CONTEXT	Invisible
POS LIST	Invisible

Way#2 If [CONTEXT] is **not visible (=invisible)**, the tag will be inserted at the end of the word in the WORD(S) .

WORD(S)	<input type="text" value="enroll [i*"/> <input type="button" value="1"/>
CONTEXT	Invisible
POS LIST	<input type="text" value="prep.ALL"/> <input type="button" value="▼"/> <input type="button" value="5"/>



Way #3 If [CONTEXT] is **visible**, the tag will be inserted in the [CONTEXT].

WORD(S)	<input type="text" value="enroll"/> <input type="button" value="1"/>
CONTEXT(visible)	<input type="text" value="[i*"/> <input type="button" value="2"/> Result! <input type="text" value="0"/> <input type="button" value="▼"/> <input type="text" value="3"/> <input type="button" value="▼"/> <input type="text" value="3"/> <input type="button" value="▼"/> <input type="text" value="4"/>
POS LIST	<input type="text" value="prep.ALL"/> <input type="button" value="▼"/> <input type="button" value="5"/>

Step 6 Find Appropriate words in English, depending on the YOUR CONTEXT!

I **applied to/for a part time job** as a lunch assistant in Child Development Laboratory (CDL). CDL is a wonderful place where children from all over the world can join together to begin their education. Although I have been working there only for six months, my experience in the classroom has been very rewarding.



Apply for a part time job? OR Apply to a part time job?

WORD(S)	apply [i*] 1
CONTEXT(visible)	job 2 0 3 3 4
POS LIST	Invisible



	<input type="checkbox"/>	CONTEXT	TOT <input type="checkbox"/>
1	<input type="checkbox"/>	<u>JOB</u>	<u>133</u>



1	2008	FIC	has just retired, so at the moment I'm unemployed. I plan to apply for a job as an Assistant District Attorney in Manhattan, but not quite yet
2	2008	FIC	cloth. // Lianne had mentioned karma had brought her here. Today. To apply for the job . Velvet didn't believe in karma any more than she believed
3	2008	FIC	it's the opposite. Best thing I ever did was walk in here and apply for a job . " Belle had taken Callie under her wing years ago,
4	2008	FIC	into the massive parking lot of Universal Systems Inc. " I'm here to apply for a job , " Logan told the first-floor receptionist. She smiled and pointed
5	2008	FIC	for you? " // " My name is Logan Bell. I came to apply for a job . " // " Wonderful. Have a seat. "

- **In this case, you should see the context to make sure.**

Step 7 WHEN CAN WE USE THIS FUNCTION???

- To find appropriate words, which might be verbs, adjectives, adverbs etc.
- When you are confused the preposition use in idioms or collocations.

☺ **REVIEW OF TODAY'S STUDY** ☺

1. Review of the Part of Speech Tags

Tags	Part of Speech	Tags	Part of Speech
[v*]		*	
[j*]		[vv0*]	
[n*]		[v?g*]	
[i*]		[c*]	
[r*]		[xx*]	

2. Select correct forms!

- 1) [j*]clean
- 2) [j*] clean
- 3) Clean,[j*]
- 4) Clean. [j*]
- 5) Clean.[v*]

3. What are the differences between **count.[n*]** and **count.[v*]**?

4. How can you limit or sort broad results? (three ways)

- 1)
- 2)
- 3)

5. Thinks about the result!

WORD(S)	Comment 1
CONTEXT(visible)	[i*] 2 <input type="text"/> 3 <input type="text"/> 4
POS LIST	<input type="text"/> 5

1) What will you find in the result?

(1) comment (2) Preposition (3) comment + preposition

2) If you want to search in order “enroll + preposition”, how should you arrange the number?

(1) 0 – 0 (2) 1 or more – 0 (3) 1 or more – 1 or more (4) 0 – 1 or more

6. Search three frequent words

1) Adjectives before adjective *family*

2) All verbs before noun *temperature*

3) Preposition after *scary*

4) Preposition and nouns used with *call*

Part of Speech List

1. Noun

[nn*]	Noun.all
[n*]	Noun.all+
[*nn1*]	Noun.SG (singular)
[*nn2*]	Noun.PL (plural)
[np*]	Noun.+PROP (singular proper noun)
[nn*]	Noun.-PROP (plural proper noun)

2. Verb

[v*]	Verb.all
[vv0*]	Verb.base
[v?i*]	Verb.INF (verb infinitive)
[vvi*]	Verb.INF/LEX (verb infinitives/lexical verb)
[vm*]	Verb.modal
[v?z*]	Verb.3SG (third person singular)
[v?d*]	Verb.ED (past)
[v?n*]	Verb.EN (past perfect)
[v?g*]	Verb.ING
[vv*]	Verb. LEX (Lexical Verb) Ex) go eat, come eat
[vb*]	Verb.[be]
[vd*]	Verb.[do]
[vh*]	Verb.[have]

3. Adjective

[j*]	Adj.all
[jir*]	Adj.CMP (general comparative adjective) e.g. older, better
[jitt*]	Adj.SPRL (general superlative adjective) e.g. oldest, best

4. Adverb

[r*]	Adv.all
[rp*]	Adv.PRTCL (Preposition adverb, particle) e.g. about, in
[rrq*]	Adv.WH (wh-degree adverb)

5. Possession

[app*]	Poss.all
--------	----------

6. Preposition

[i*]	Prep.all
------	----------

7. Conjunction

[c*]	Conj.all
------	----------

8. Negative

[xx*]	Neg.all
-------	---------

9. Pronoun

[p*]	Pron.all
[pp*]	Pron.pers (personal pronoun) e.g. me, him, herself
[pnq*]	Pron.wh (wh-pronoun) e.g. whom, who
[ppx*]	Pron.REFL (reflexive personal pronoun) e.g. yourself
[pn1*]	Pron.INDF (indefinite pronoun, singular) e.g. anyone, nobody

10. Article

[at*]	Art.all
-------	---------

11. Determiner

[d*]	Det.all e.g.that, this, what. Another
------	---------------------------------------

12. Number

[mc*]	Num.CARD (cardinal number) e.g. two, three
[md*]	Num.ORD (ordinal number) e.g. first, second, next

13. Conjunction

[cc*]	Conj.CRD (conjunction) e.g. and, or
[cs*]	Conj.SUB (subordinating conjunction) e.g. if, because

14. Interjection

[uh*]	Interj (interjection) e.g. oh, yes, um
-------	--

15. Punctuation

[y*]	PUNC (punctuation) e.g. ?, :,), (, !
------	---------------------------------------

3. Synonyms

(=words or synonyms which mean the same as another word or expression)

Step 1 Basic Form: Type the words and enclose the words in BRACKET and EQUEL.

Ex) [=clean]

WORD(S)	[=beautiful] 1
CONTEXT	
POS LIST	

< EXAMPLES >

Examples	Explanation	frequent words
[=clean]	Synonyms of clean	
[=sequel]	Synonyms of sequel	
[=vicious]	Synonyms of <i>vicious</i>	
[=conjecture]	Synonyms of <i>conjecture</i>	

Step 2 [=clean].[v*] VS [=clean].[j*] AND [[=clean]].[v*]

1) [=clean].[v*] VS [=clean].[j*] (Don't forget to type the period !)

- Clean.[v*] = **verb clean** not adjective clean
- The period separating the word and POS tag limits a part of speech in a word.

2) **[[=clean]].[v*]**

- The inner brackets = synonyms.
- The outer (second set of) brackets = all forms of these words.
- [Word] means all forms of a word Ex) [do] → do, did, does, doing, done, well-done...
- [=] means synonym.



< EXAMPLES >

Examples	Explanation	Results
----------	-------------	---------

[move]	A word <i>move</i> All form of a word <i>move</i>	move, moves, moved, moving
[=move]	Synonyms of <i>move</i>	go, change, run...
[[=move]]	Synonyms of <i>move</i> All form of a word <i>move</i>	



Step 3 Search synonyms in/with your contexts

<An Example>

“People can easily **estimate** which school can give students better education”.

1) Check the word's use in the corpus.

You should **type very important words or necessary words!!**

WORD(S)	estimate school 1 OR estimate education
CONTEXT	



Can you find any result?

2) Now, you will want to know more appropriate or natural words!

Find (1) the synonym of **estimate** used with (2) school or education and (3) the synonyms of estimate are followed by school.

(1) **CONTEXT** (the result what you want to get) → _____

(2) **WORD** → Type either *school* or *education*

(3) **NUMBER** (Word order) →



WORD(S)	School 1
CONTEXT	[=estimate] 2 3 3 0 4

Step 4 Compare with synonyms in different sections

1) Synonyms of *smart* in Academic vs. Spoken

WORD(S)	<input type="text" value="=[smart]"/> 1 → [=smart] or [=smart] [nn*]
CONTEXT	Invisible
POS LIST	invisible

2) Select section(s) you'd like to compare

SECTION

1

IGNORE

FICTION

MAGAZINE

NEWSPAPER

ACADEMIC

2

IGNORE

SPOKEN

FICTION

MAGAZINE

NEWSPAPER

MIN FREQ

10

MIN FREQ

10

↓ Result

SEC 1: 78,819,050 WORDS (synonyms of "Smart" in Spoken)

	WORD/PHRASE	TOKENS 1	TOKENS 2	PM 1	PM 2	RATIO
1	<u>HURT</u>	<u>8144</u>	<u>1182</u>	103.33	15.51	6.66
2	<u>QUICK</u>	<u>6710</u>	<u>2059</u>	85.13	27.02	3.15
3	<u>SMART</u>	<u>3911</u>	<u>873</u>	49.62	11.46	4.33
4	<u>COOL</u>	<u>3688</u>	<u>1051</u>	46.79	13.79	3.39

SEC 2: 76,190,503 WORDS (synonyms of "Smart" in Academic)

	WORD/PHRASE	TOKENS 2	TOKENS 1	PM 2	PM 1	RATIO
1	<u>RAPID</u>	<u>4671</u>	<u>736</u>	61.31	9.34	6.57
2	<u>SHARP</u>	<u>2080</u>	<u>1225</u>	27.30	15.54	1.76
3	<u>QUICK</u>	<u>2059</u>	<u>6710</u>	27.02	85.13	0.32

4	<u>BRIGHT</u>	<u>1865</u>	<u>1889</u>	24.48	23.97	1.02
---	---------------	-------------	-------------	-------	-------	------



Step5 WHEN CAN I USE THIS FUNCTION?

- When you want to know **the meaning of the word (Definition)**.
 - You can compare the actual meanings with what you wanted to say in your writing.
 - You need to see context to make sure which words are appropriate in your writing.
- You can find and know the synonyms of the word in the paper or electronic dictionaries, but you are not sure whether the words/synonyms found in native language dictionaries are appropriate or not in your context.
- When you want to **avoid a word repetition (paraphrase)**.
- If you want to know synonyms of words used with specific words or context.

REVIEW OF TODAY'S STUDY



- Please write the basic form to search synonyms. _____
- Let's search the synonyms !

- Synonyms of *pretty*
- Synonyms of *abstemious*
- Synonyms of *prescription*
- Synonyms of *extinct*
- Synonyms of *scuff*

2. Thinks about the result!

They **abstained** () meat because they believed that killing life injured the spirit within.

2) What does abstain mean (definition)?

3) What will you find in the result?

WORD(S)	<input type="text"/>	1
CONTEXT	<input type="text"/> <input type="text"/> 5 <input type="text"/> 5	2 3 4
POS LIST	<input type="text"/> -select-	5

- (1) Abstain (2) Preposition (3) Abstain + Preposition

3) If you want to search in order “abstain+ preposition”, how should you arrange the number?

- (1) 0 – 0 (2) 1 or more – 0 (3) 1 or more – 1 or more (4) 0 – 1 or more

3. Now, you can go to real CORPUS world ~!!

Yellow box presents an inappropriate phrase. Think about more natural phrases.

1)

Eight sources of acute stress that **suit the criteria** were examined in this study.

(1) First of all, you should check this phrase in the corpus. Can you get any result?

(2) If you think ‘no’, you need to find appropriate words. How can you do find it?

WORD(S)	<input style="width: 90%;" type="text"/> 1		
CONTEXT(visible)	<input style="width: 20%;" type="text"/> 2	0 <input type="button" value="v"/> 3	0 <input type="button" value="v"/> 4
POS LIST	prep.ALL <input type="button" value="v"/> 5		

2)

This new process is **a considerable advance** in technology.

(1) First of all, you should check this phrase in the corpus. Can you get any result?

(2) If you think ‘no’, you need to find appropriate words. How can you do find it?

WORD(S)	<input style="width: 90%;" type="text"/> 1		
CONTEXT(visible)	<input style="width: 20%;" type="text"/> 2	0 <input type="button" value="v"/> 3	0 <input type="button" value="v"/> 4
POS LIST	prep.ALL <input type="button" value="v"/> 5		

4. Comparison with two words

Step1 Choose “COMPARE WORDS” in the DISPLAY

1 CHART LIST **COMPARE WORDS**

2 SECTIONS **NO**

1) Sorting result: You can get different results depending on the sorting results

SORT BY *Frequency/Relevance/ Alphabetical*

- (1) Frequency
- (2) Relevance
- (3) Alphabetical



Step2 Enter two words in [1] and [2], and then compare these two words [3] (CONTEXT) that occur with each of these.

1) **Boy VS Girl**



WORD(S)	<input type="text" value="boy"/> 1	<input type="text" value="girl"/> 2	
CONTEXT	<input type="text" value="[j*"/> 3	<input type="text" value="2"/> 4	<input type="text" value="0"/> 5
POS LIST	<input type="text" value="-select-"/> 6		



Quick Questions

- (1) Why do I put [j*](=adjective) in the CONTEXT?
- (2) Why do I arrange the number 2-0?



2) **Give VS Provide**

WORD(S)	<input type="text" value="give"/> 1	<input type="text" value="provide"/> 2	
CONTEXT	<input type="text" value="[n*"/> 3	<input type="text" value="2"/> 4	<input type="text" value="0"/> 5



Quick Questions

- (1) Why do I put [n*](nouns) in this CONTEXT?
- (2) Why do I arrange the number 2-0?



3) **Few VS Little**

WORD(S)	<input type="text" value="few"/> 1	<input type="text" value="little"/> 2
---------	------------------------------------	---------------------------------------

CONTEXT	<input type="text" value="[n*]"/> 3	<input type="text" value="0"/> 4	<input type="text" value="2"/> 5
---------	-------------------------------------	----------------------------------	----------------------------------



Quick Questions

- (1) Why do I put [n*](nouns) in this CONTEXT?
- (2) Why do I arrange the number 0-2?



< Examples >

1	2	3	4-5	Collocates with [1]	Collocates with [2]
hot	warm	[nn*]	0 --- 1 (or more)	water, dogs, spots, air, day	place, room, room, smile
utter.[j*]	sheer	_____	_____		
rob.[v*]	Steal.[v*]	[n*]	0 ---2(or more)		

Step3 Compare two collocations

When you compare two word or phrases, they both must have **the same number of words.**

< Example >

Apply to VS Apply for
 Due to VS Because of
 Due to Vs Because – You cannot search t Different number of words



Quick Questions

- (1) In case of different number of words, what will you do for these?



1) To narrow down the result, you need to control the numbers between the WORD(s) and CONTEXT.

WORD(S)	<input type="text" value="accustomed to"/> 1	<input type="text" value="used to"/> 2	
CONTEXT	<input type="text" value="[n*]"/> 3	<input type="text" value="0"/> 4	<input type="text" value="0"/> 5
POS LIST	<input type="text" value="noun.ALL"/> 6		



Quick Questions

- (1) Why do I put the nouns ([n*]) in the context?
- (2) How should I arrange the number to get the result “**accustomed to + noun** and **used to + noun** ?



Step4 Compare two words with context

<Example>

“People require **the fundamental knowledge.**”



fundamental OR basic ?? Well... Which one is more natural or appropriate with knowledge?

WORD(S)	<input type="text"/> 1	<input type="text"/> 2	
CONTEXT	<input type="text"/> 3	0 ▾ 4	0 ▾ 5
POS LIST	Invisible or visible		

↓ RESULT

WORD 1 (W1): **BASIC** (2.31)

WORD 2 (W2): **FUNDAMENTAL** (0.43)

	WORD	W1	W2	W1/W2	SCORE		WORD	W2	W1	W2/W1	SCORE
1	KNOWLEDGE	281	56	5.0	2.2	1	KNOWLEDGE	56	281	0.2	0.5



Quick Questions

- (1) What does the number mean?
- (2) Which one you would prefer to use?



Step5 WHEN CAN YOU USE THIS FUNCTION?

- When you find a word in dictionaries (ex. paper or electronic native language–English dictionaries), you can find several words matching what you want to know. However, you’re not sure which one sounds natural to Americans (= appropriate one in English).
- You know two words which have same meaning, but you’re not sure which one sounds like more Americans. Now, you can use the BYU corpus comparison function!!
- If you cannot get the result from the comparison in the corpus, you need to search each word again.

REVIEW OF TODAY’S STUDY



1. What is the first step to compare two words ?

2. Think about how to compare two words by the BYU CORPUS !

WORD(S)	<input type="text"/> 1	<input type="text"/> 2	
CONTEXT	<input type="text"/> 3	5 <input type="text"/> 4	5 <input type="text"/> 5
POS LIST	-select- <input type="text"/> 6		



1	2	3	4 - 5	Collocates with [1]	Collocates with [2]
Interesting	Interested	[n*]	(1)	(2)	people
Agree to	Agree with	(3)	0 – 2	(4)	
Run into	Bump into		0--5		

3. There are a few words or phrases that you might not be sure which one is correct or more appropriate in English. How can you search these two words by the BYU corpus?



WORD(S)	<input type="text"/> 1	<input type="text"/> 2	
CONTEXT	<input type="text"/> 3	0 <input type="text"/> 4	0 <input type="text"/> 5
POS LIST	-select- <input type="text"/> 6		

- (1) He was (excited/ exciting).
- (2) Teachers always teach (right / correct) answers.
- (3) The technique, which toddlers use to learn language, was a human feature/traits.



1	2	3	4	5	Which one do you prefer?
Excited	Exciting	(1)	1 or more – 0	(2)	
right	correct	(3)	(4)	(5)	
(6)	(7)	(8)	(9)	(10)	

5. TEST the BYU COCA KNOWLEDGE

1. Review the Part Of Speech (POS) tags.

Tags	Part of Speech	Tags	Part of Speech
[v*]		*	Any number of letters
		at*	
		un*ly	
	adjectives		Base verbs
[n*]		[v?g*]	
[i*]		[c*]	
	Adverbs	[rp*]	
[vm*]		[v?n]	
[vvi*]			

2. What result can we get by searching these?

- 1) laugh.[v*]
- 2) laugh.[n*]
- 3) [=laugh]
- 4) [[=laugh]].[v*]\

3. There are three ways to select Part of Speech (POS) tags in the BYU Corpus. Can you explain the three ways?

- 1) In the [WORD],
_____.
- 2) If [CONTEXT] is invisible,
_____.
- 3) If [CONTEXT] is visible,
_____.

5. How can you narrow down the broad results?

- 1) _____.
- 2) _____.
- 3) _____.

5.1)

WORD(S)

CONTEXT	<input type="text"/>	0	▼	4	▼
POS LIST	-select- ▼				
USER LISTS	SEARCH RESET				

- (1) What does [t*].[v*] mean?
- (2) If you know the meaning of [t*].[v*], how should I arrange the number?
- (3) What will you get in the result?

2) Main source VS Major source

WORD(S)	<input type="text"/>	1	<input type="text"/>	2
CONTEXT	<input type="text"/>	3		

3)-1 Several VS Various

WORD(S)	<input type="text"/>	1	<input type="text"/>	2
CONTEXT	<input type="text"/>	3		

3)-2 There are few other assessments of instruction in community college occupational programs. This may be due to **several/various factors**.

4) In order to maintain my **physical health**, I drink a lot of water **per day/ a day**.

6. Let's guess the meaning of these words.

Exercise has long been **touted** as the **panacea** for everything that **ails** you.

- 1) touted:
- 2) panacea
- 3) ail:

7. Let's make sentences more natural.

- 1) In the modern world, media have been becoming a major source to **catch information**.
- 2) The value of experience from the real world will **make people able to solve problems** quickly.

“make+ SB +V” means

WORD(S)	<input type="text"/>	<input type="text"/>
CONTEXT	<input type="text"/>	

3) The most serious problem is that Thai people **feel uncomfortable to use English** with Americans.

4) I believed that there was **a bias about the news**.

5) All of these benefits help students get an **advanced vision** and they can **adapt** their experience to the future.

8. Let's paraphrase these phrases.

(1) Researchers fear that the number of people who might **be endangered by** the vaccine has expanded exponentially.

(2) Hobbies and activities can **relieve stress** and anxiety, while having a sense of mastery over them can make you feel capable and content.

8. Let's revise these sentences with BYU corpus.

- 1) I wanted that my students feel comfortable and to **desire learning** English through the corpus.
- 2) I want to have a good relationship with my students **through encouraging and praising** and giving them confidence to learn English better.
- 3) I found that most of the students were good at reading and grammar, but they have **hard time** in listening, speaking, and writing.
- 4) While I was doing my master's degree, I realized that the teachers' role is very **important to have good education**.
- 5) We should go out from our classes and looking for something new then we might discover great things **on this world**.
- 6) Experience from the real world is very important **for several ways**.
- 7) Although learning from the real world has more benefits, children still need **to study from school**.
- 8) Children can **earn new things** from the real world faster than school.
- 9) People who want to **apply companies** are always required to have English knowledge.

9. There are two writing samples which have inappropriate words or phrases.
Let's try to revise them by the corpus.



Writing#1 -1

At the first time, as I am an inexperienced teacher, I was very nervous. I spent so much time to prepare for the class lecture. I was not interested in who were in my class and what they were interested in my class. I always focused on how to teach well the textbook contents. However, even though I prepared very much for each class, my students seemed very boring and not motivated to learn more. One day, I brought chocolates for students because it was Valentine's Day. In class, I played an English words game. I told to my student I would give the chocolate to a winner in this game. Most of my students became very active to win the game. After class, I gave the chocolate to all my students. They liked me very much. Also, we had time to talk about very personal things together. I thought my students were beginning to open their heart to me. After this class, I realized that as I am a teacher, not only do I teach English but also I should care and help my students to be good people. In class, whether they did well or not I always praised them a lot unless they did something bad. In addition, if they turned in their homework such as writing essays and grammar exercises, I commented what you needed to study more, and I gave them back to the students on time. I want to have a good relationship with my students through encouraging and praising them and giving them confidence to learn English better.

1) Writing #1-2

At the first time, as I am an inexperienced teacher, I was very nervous. I 1) spent so much time to prepare for the class lecture. I was not interested in who were in my class and what they were interested in my class. I always focused on how to teach well the textbook contents. However, even though I prepared very much for each class, my students 2) seemed very boring and not



motivated to learn more. One day, I brought chocolates for students because it was Valentine's Day. In class, I played an English words game. I told to my student I would give the chocolate to a winner in this game. Most of my students became very active to win the game. After class, I gave the chocolate to all my students. They liked me very much. Also, we had time to talk about very personal things together. I thought my students were beginning to open their heart to me. After this class, I realized that as I am a teacher, not only do I teach English but also I should care and help my students to be good people. In class, whether they did well or not I always praised them a lot unless they did something bad. In addition, if they turned in their homework such as writing essays and grammar exercises, I 3) commented what you needed to study more, and I gave them back to the students on time. I want to have a good relationship with my students 4) through encouraging and praising them and giving them confidence to learn English better.

2) Writing #2

A person's education is 1) the one of the important things that people have to do in their life. Especially, the people in developing countries must go to school due to the law of 2) fundamental education. The curriculum provides the basic knowledge needing for the students 3) to understand their social and the world. For the future, people need to further their study in universities or in the colleges which they are interested in. Graduating from their institutes and universities, people can find their jobs easier than uneducated person, and they have a possibility to earn their appropriate income. To supplement the knowledge from what people have learned from their classes, people will 4) get the benefit of the experience in the real life by practicing their knowledge in the field works

or from their jobs. The more they work the more their smart and they become to be the experts.

In the other hands, many people who learn things through their experience for a long time can be a specialist 5)without educating. For instance, the artists or the chefs in the restaurant learn everything 6)to produce their jobs by doing from their real life.

The classrooms or the teachers can't teach their students everything because no one can 7)suit

all criteria whereas the students can choose to learn what they desire and who they want to learn

from.

APPENDIX E
WRITING TOPICS 2

List of Topics in the Second Experiment

	Topics
--	---------------

#1 writing	Do you agree or disagree with the following statement? Grades (marks) encourage students to learn. Use specific reasons and examples to support your opinion.
#2 writing	Some people spend their entire lives in one place. Others move a number of times throughout their lives, looking for a better job, house, community, or even climate. Which do you prefer: staying in one place or moving in search of another place? Use reasons and specific examples to support your opinion.
#3 writing	The expression "Never, never give up" means to keep trying and never stop working for your goals. Do you agree or disagree with this statement? Use specific reasons and examples to support your answer.
#4 writing	Some people like to travel with a companion. Other people prefer to travel alone. Which do you prefer? Use specific reasons and examples to support your choice.
#5 writing	Schools should ask students to evaluate their teachers. Do you agree or disagree? Use specific reasons and examples to support your answer.

APPENDIX F
INTERVIEW QUESTIONS 2

General Questions about Corpus Use

1. Do you think you improved your English writing proficiency by using the corpus?
If you have gained confidence in writing through corpus use, what parts do you think have improved?

Grammar / Idioms (English phrases)/ appropriate word choice/ use of prepositions, etc.

2. Did you use the corpus for your regular class writings? (IELT or UNT classes)
If yes (you often use the corpus), how often do/did you use it?

3. (1) What aspects of the corpus do you like?
(2) Which parts of the corpus are helpful? Why?
Ex) comparison words, synonyms, context etc.

4. (1) What aspects of the corpus don't you like?
(2) Which parts of the corpus are not helpful? Why?
Ex) comparison words, synonyms, context etc

5. What do you feel is most difficult to use about the corpus?
(What kind of problems do you have when you use the corpus?)

6. Do you think that the corpus is different from general language dictionaries or grammar books? If you think so, what are the differences?

7. If you have friends who are struggling with writing in English, do you want to introduce the corpus to your friends? Why?

8. Now that you have completed the experiment, what kinds of things do you think the corpus will help you with in the future?

Questions about Corpus Training

1. Were there any problems in the training? What do you think could be improved?
(difficulties while training)

- 1) Training for basic features
- 2) Revising your own writing with BYU Corpus
2. Since learning more about ways to use the corpus, do you think you can find your own errors and correct them by yourself without outside help or teachers' feedback?
3. Please give me any suggestions and comments on the corpus training.

APPENDIX G
WRITING ANALYSIS

The First Experiment

1. Purpose of the experiments

- To examine how well students improved their own writings by the corpus.
- To examine effectiveness between providing error information and corpus direction and only providing error information

2. Information

Experiment 2	
# of students	4
# of writings	19
Variables (?)	+ : changed, then good 0 : changed, but no change (not better or worse, nothing, same) - : changed, but wrong
Native judges	Two native speakers (Native Judge1 (NJ1)/ Native Judge2 (NJ2))

1. Results

1) The total number of correction (all participants)

Experiment 1

Native judge (NJ1)

Writing	All correction	+	0	-	Preposition	Word choice	Grammatical errors	others
W1-W5	141	125	3	13	21	76	26	18

Native Judge 2 (NJ2)

Writing	All correction	+	0	-	Preposition	Word choice	Grammatical errors	others
W1- W5	141	91	48	2	21	75	27	18

2) The number of Each participant's correction

a. JN

NJ1

Writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	9	9	0	0	0	6	2	1
W2	8	8	0	0	2	4	2	0
W3	9	7	0	2	1	6	0	2
W4	10	10	0	0	2	8	0	0
W5	9	5	1	3	0	6	3	0
Total	45	39	1	5	5	30	7	3

NJ2

Writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	9	8	1	0	0	6	2	1
W2	8	5	3	0	2	3	3	0
W3	9	4	5	0	1	6	0	2
W4	10	10	0	0	2	8	0	0
W5	9	4	5	0	0	6	3	0
Total	45	28	17	0	5	29	8	3

b. PP

NJ1

Writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	5	5	0	0	2	2	1	0
W2	10	6	0	4	0	5	3	2
W3	8	7	0	1	1	6	1	0
W4	8	8	0	0	0	6	0	2
Total	31	26	0	5	3	19	5	4

NJ2

Writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	5	4	1	0	2	2	1	0
W2	10	7	2	1	0	5	3	2
W3	8	5	3	0	1	6	1	0
W4	8	4	4	0	0	6	0	2
Total	31	20	10	1	3	19	5	4

c. CC

NJ1

Writing	All	+	0	-	Preposition	Word	Grammar	other
---------	-----	---	---	---	-------------	------	---------	-------

	correction					choice		s	
W1	4	4	0	0		2	1	0	1
W2	13	11	1	1		3	1	6	3
W3	5	4	0	1		0	4	0	1
W4	7	6	0	1		2	4	0	1
W5	5	5	0	0		1	4	0	0
Total	34	30	1	3		8	14	6	6

Writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	4	2	2	0	2	1	0	1
W2	13	9	4	0	3	1	6	3
W3	5	2	3	0	0	4	0	1
W4	7	3	3	1	2	4	0	1
W5	5	4	1	0	1	4	0	0
Total	34	20	13	1	8	14	6	6

d. SH

NJ1

Writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	7	7	0	0	1	3	3	0
W2	8	8	0	0	2	3	2	1
W3	7	6	1	0	2	3	1	1
W4	3	3	0	0	0	0	1	2
W5	6	6	0	0	0	4	1	1
Total	31	30	1	0	5	13	8	5

NJ2

Writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	7	7	0	0	1	3	3	0
W2	8	6	2	0	2	3	2	1
W3	7(check)	3	4	0	2	3	1	1
W4	3	2	1	0	0	0	1	2
W5	6	5	1	0	0	4	1	1
Total	31	23	8	0	5	13	8	5

Writing Analysis 2 - The second experiment

1. Purpose of the experiment

-To examine how well students improved their own writings by the corpus (counting all corrections / + / - / 0)

-To examine in what parts of English writings students wanted to revise (preposition / word choice/ grammatical errors/ others)

-How corpus is helpful revise these parts

2. Information

Experiment 2	
# of students	3
# of writings	14
Variables (?)	+ : changed, then good 0 : changed, but no change (not better or worse, nothing, same) - : changed, but wrong
Native judges	Two native speakers (Native Judge1 (NJ1)/ Native Judge2 (NJ2))

2. Results

1) The Total Number of Correction (all participants)

Native judge 1 (NJ1)

All correction	+	0	-	Preposition	Word choice	Grammar	others
94	49	33	12	19	57	11	7

Native Judge 2 (NJ2)

All correction	+	0	-	Preposition	Word choice	Grammar	others
94	40	40	14	19	57	11	7

2) The number of Each participant's correction

a. WC

NJ1

writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	7	2	4	1	0	5	1	1
W2	7	2	4	1	0	5	2	0
W3	4	2	0	2	1	2	0	1
W4	3	1	2	0	0	1	2	0
W5	9	3	5	1	0	6	1	2

Total	30	10	15	5	1	19	6	4
-------	----	----	----	---	---	----	---	---

NJ2

writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	7	1	4	2	0	5	1	1
W2	7	3	3	1	0	5	2	0
W3	4	3	0	1	1	2	0	1
W4	3	0	2	1	0	1	2	0
W5	9	2	5	2	0	6	1	2
Total	30	9	14	7	1	19	6	4

b. JG

NJ1

writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	6	4	2	0	3	3	0	0
W2	9	6	1	2	5	4	0	0
W3	10	6	3	1	1	7	2	0
W4	2	2	0	0	1	1	0	0
W5	4	3	0	1	0	2	0	2
Total	31	21	6	4	10	17	2	2

NJ2

writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	6	3	3	0	3	3	0	0
W2	9	6	2	1	5	4	0	0
W3	10	4	4	2	1	7	2	0
W4	2	2	0	0	1	1	0	0
W5	4	1	2	1	0	2	0	2
Total	31	16	11	4	10	17	2	2

c. YK

NJ1

writing	All correction	+	0	-	Preposition	Word choice	Grammar	other s
W1	11	9	2	0	3	8	0	0
W3	11	6	2	3	1	7	3	0
W4	5	2	3	0	1	3	0	1
W5	6	1	5	0	3	3	0	0
Total	33	18	12	3	8	21	3	1

NJ2

writing	All correction	+	0	-	Preposition	Word choice	Grammar	others
W1	11	7	4	0	3	8	0	0
W3	11	4	4	3	1	7	3	0
W4	5	2	3	0	1	3	0	1
W5	6	2	4	0	3	3	0	0
Total	33	15	15	3	8	21	3	1

3) Categorical Data in the Second Experiment

a. WC

NJ 2	Writing	preposition			Word choice			Grammar			Others		
		+	0	-	+	0	-	+	0	-	+	0	-
	W1				1	4	0			1	1		
	W2				0	4	1	1		1			
	W3	1			1		1				1		
	W4				1				2				
	W5				1	4	1		1		2		
	Total	1	0	0	4	12	3	1	3	2	4		
		1			19			6			4		

NJ 2	Writing	preposition			Word choice			Grammar			Others		
		+	0	-	+	0	-	+	0	-	+	0	-
	W1				1	3	1			1		1	
	W2					2	3	1	1				
	W3	1			1		1						1
	W4					1			1	1			
	W5				1	4	1	1				1	1
	Total	1	0	0	3	10	6	2	2	2	0	2	2
		1			19			6			4		

b. JG

NJ 1	Writing	preposition			Word choice			Grammar			Others		
		+	0	-	+	0	-	+	0	-	+	0	-
	W1	2	1		2	1							
	W2	4		1	2	1	1						
	W3			1	4	3		2					
	W4	1			1								
	W5				1		1				2		
	Total	7	1	2	10	5	2	2	0	0	2	0	0

	10	17	2	2
--	----	----	---	---

NJ 2	Writing	preposition			Word choice			Grammar			Others		
		+	0	-	+	0	-	+	0	-	+	0	-
	W1	2	1		1	2							
	W2	4		1	2	2							
	W3			1	2	4	1	2					
	W4				1								
	W5				1		1					2	
Total		7	1	2	7	8	2	2	0	0	0	2	0
		10			17			2			2		

c. YK

NJ 1	Writing	preposition			Word choice			Grammar			Others		
		+	0	-	+	0	-	+	0	-	+	0	-
	W1	3			6		2						
	W3			1	3	2	2	3					
	W4		1		2	1						1	
	W5	1	2			3							
Total		4	3	1	11	6	4	3	0	0	0	1	0
		8			21			3			1		

NJ 2	Writing	preposition			Word choice			Grammar			Others		
		+	0	-	+	0	-	+	0	-	+	0	-
	W1	2	1		5	3							
	W3			1	2	3	2	2	1				
	W4	1			1	2							
	W5	1	2		1	2							
Total		4	3	1	9	10	2	2	1	0	0	0	0
		8			21			3			1		

APPENDIX H
LIST OF ERROR CORRECTION

1. Prepositions

Original one	Revised one	Rating	
To my opinion	In my opinion	+	+
In the basic education	As a basic education	+	0
Struggle for surviving	Struggle to survive	+	+
Play an important role to standardize	Play an important role in standardizing	+	0
Involving in college	Involving at college	-	+
For several ways	In several ways	+	+
Study from school	Study in school	+	+
What to apply companies	What to apply to companies	-	+
Pay attention on	Pay attention to	+	+
Listen English	Listen to English	+	+
Different ideas from students	Different ideas of students	0	-
Pay attention in	Pay attention to	+	+
On the media	In the media	+	+
Great things on this world	Great things in this world	+	+
Bias about tests	Bias in tests	+	+
Through encouraging	By encouraging	+	+
The answers for the questions	The answers to the questions	+	+
Exercise on the textbook	Exercise in the textbook	+	+
Moved out to Busan from Seoul	Moved to Busan from Seoul	+	0
Transferred school to Busan from school	She transferred school from Seoul to Busan	-	0
In eighteen years old	At eighteen years old	+	+
Result in studying	Result of studying	+	+
Correspond with students	Correspond to	+	+
Effort of studying	Effort to studying	0	0
Factors of	Factors in	+	+
Different to each person	Different for each person	+	+
Problems for children	Problems in children	-	-
Difficulties to make	Difficulties in making	+	+
Very important matter to everyone	Very important matter for everyone	+	+
Into peoples' mind	On people	-	-
Comfortable for	Comfortable with	+	+
Frustrated on her grade	Frustrated by	103	+
One week for an	A week of entrance	+	+

entrance test	exam		
Fight with brain tumor	Fight brain tumor	-	-
Be always respected like	Be always respected as	0	0
Resist teachers	Resist to teachers	0	0
Expense for accommodation	Expense of accommodation	0	+

2. Word choice

Original one	Revised one	Rating	
Get the benefit	Gain/obtain the benefits	+	+
Produce their job	Get a job	+	+
Suit all criteria	Fit all criteria	+	+
The extreme teachers	A great teacher	+	+
The fundamental knowledge	Basic knowledge	+	0
Develop their performance	Improve their performance	+	+
Operate free English language courses	Run --- courses	+	0
Attractive games	Exciting/fun games	+	+
Tries his or her best	Do one's best	-	-
English usage will be common in actual life	English will be used commonly in actual life	+	+
Earn more knowledge	Gain more knowledge	+	+
Control their teaching on the standard	Complete teaching on the standard	-	0
Personal look	personality	+	+
Will discourage their study	Will become/be discouraged in their study	+	+
Make students focus on their lessons	Help students pay attention to their lesson	+	+
Without understanding	Without comprehending	-	0
Involving in college	Studying at college	+	+
Everyday's life	Daily life	+	+
English efficiency	English proficiency	+	+
In the modest world	The modern/current world	+	+
Having good English skills	High level English skills	+	0
Give many benefits	Provide many benefits	+	+
Help students get an advance vision	Give students further ideas	+	+
Adapt their experience	Use their experience	+	0
get merit back	Give it back	-	0
Get merit back	Give the reward back	+	0

merit	worth	-	0
Supporting basic needs	Provide basic needs	+	+
Have good friends	Make good friends	+	0
Control their demand or delete their insufficient needs	Control demand or their insufficient needs	-	0
Limit their emotion	Control their emotion	+	+
Learn new thing	Discover new things	+	0
School style	School system	+	0
Teaching style	Way they want to teach	+	+
Same quality	Same level	+	0
Easy to estimate that which school	Easy to assess	-	0
Give students	Provide students	+	+
Have a good education	Getting a good education	+	+
Personal characteristics	One's personality	+	0
Educational quality	Educational opportunities	+	0
Begin young age	From an early age	+	+
catch	find	+	+
Information	products	+	0
Get out of their countries	Leave their countries	+	+
The standers	The fashion	+	+
Give extra English classes for their children	Have already taken English classes	+	+
Make people able to	Will help people able to	+	0
The labor	A factory worker	+	+
grateful	effective	+	+
Speak wrong	Speak incorrectly	+	+
Make a problem	Cause a problem	+	+
Vocabulary	Vocabulary word	+	+
Mostly used	Commonly used	+	+
Make those sentence beautiful	Those sentence clear	+	+
A basic one	Basic ideas/concepts	+	+
Live easier	Live better/well	-	0
Receive fair grade	Be graded fairly	+	+
Low quality school	Bad schools	+	0
May have bias in grading scores	May grade strictly	+	+
Modern material	Modern methods/systems	+	+
For working	For a job	+	0
well	Perfectly/fluently	+	0
Lots of industrials	Many companies	+	+
Make students to understand	Help students understand	+	+

Foreigner friends	Friends in different countries	+	+
Foreigner mind	Cultures in different countries	+	+
Foreigner	People living in different countries	+	0
Getting open their real mind to me	Getting close to me	+	+
commented	explained	+	+
Desire learning	Want to learn	+	+
To enroll the dorm	Get into the dorm	+	0
Was shocked	Was embarrassed	+	+
To have good education	To provide good education	+	+
Make students participated	Help students participated	+	+
Several classes the school assigned	Several required classes	+	+
Have the same education	Receive same education	+	0
Body health	My health	+	+
Per day	Every day	+	+
Needs 60-70 percent of water	Consists of	+	0
Well-being is not difficult	Achieving well-being is not	+	+
Exciting the interesting of students	Raise the interesting of students	0	+
Have to follow the statement to teach	Need to make a statement	0	0
Limit the ability	Decrease the ability	0	-
Space of teaching	Place of teaching	0	0
drawback	problem	+	0
Meet a lot of problems	See a lot of problems	0	-
Around in the life	Around being	0	-
Affect ability of children	Enhance ability of children	0	0
Use the time	Exercise time	-	-
Increase their ability	Increase their ability	+	0
Get difficult time	The things in my life get difficult	+	+
Another reason to make me	Reason to do me.	-	-

Consider suggests	Consider proposal	+	0
Communicate with their teachers	Talk with their teachers	0	0
Supplies a way	Supply a system	-	0
Get more interesting and happiness	Find more interesting and happiness	0	0
Provide many experience and compliment to teacher	Give teachers many experience and compliment	0	0
Understand and review their teaching	See and study their teaching	0	-
Feel very well	Feel very good	+	+
A controversial subject to	A controversial issue to students	0	0
Stimulus to learn	Motivation for learning	+	0
Grades stir up students	Grades inspire students	+	+
Proper decision	Right choice	0	0
Cultivate their new neighbors' acquaintance	Develop a relationship with their neighbors	+	+
Better life requires	-needs	-	0
Diverse ways	Different ways	+	+
Indomitable patience	Stubborn persistence	+	+
Will	Strong desire	+	+
Small problem	Little problems	0	-
trial	trouble	0	0
Attain what we expect that	accomplish	+	0
The results can change	vary	0	0
Were pronounced incurable	Have a terminal illness	+	0
The characters of the travels	The types of the -	+	+

Increase quality	Improve -	+	+
To realize their deficiencies	To realize their inability to teach	-	-
Decided by	Determined by/achieved by	+	0
The strict education system	The strict education environment	0	0
Serious psychological suffer to	Psychological distress in	+	+
The issues concerned among	Concerns among	+	+
Feel achievement on the studying	Achieve success in studying	0	+
Get confidence to	Gain confidence in	+	+
Reflect themselves in the process of studying	Reflect in how they studied	+	+
Follow them	Carry them out	+	0
An entrance test	an entrance exam	+	0
Deal with	control	+	+
Experience many failure	Have failure experience	-	-
Achieves miracles	Make miracles	0	0
Severe treatment	Acute treatment	0	0
A documentary program	A documentary	+	+
Continuous effort	Constant efforts	+	0
Toward your dream or goal	To come true your dream or goal	-	-
Exposing dangerous crimes	Dangerous places	+	0
My congenial friend	My close friend	+	+
00Strenuous sports	Strenuous activities	0	0
Devise various activities	Plan/create various activities	0	+
Students' expectation	Students' demand	0	0

Give their opinions	Express their opinions	0	0
However	For example	+	0
Have to	Should	+	0
However	Furthermore	+	0
Should	Will	+	0
Should	Had to	+	+
Should	Would	+	0

3. Grammar

Original one	Revised one	Rating	
Their social and	Their society and	+	+
Without educating	Without education	+	+
Get use to	Get used to	+	+
Spend almost time to work and take care	Spend almost time working and taking--	+	0
Before Getting start	Before get started	-	0
Feel relaxing	Feel relaxed	+	+
Spending time to relax	--relaxing	+	+
New vocabulary	New vocabularies	+	+
Become as main language as Chinese	Has become	+	+
Spend private time to learn them	Spend time learning them out of class	+	+
Vocabularies which are taught are useful	Vocabulary which is taught is useful	+	+
Couldn't make a lot improve	Can't make a lot of improvement	+	0
Reality world	Real world	+	+
Due to they can handle	Because they can handle	+	+
Shy to speak English	Shy speaking English	-	0
Get embarrass	Get embarrassed	+	+
pronouncing words	pronounced words	-	-
Spend so much time to prepare	Spend—preparing	+	+

Students seemed very boring	--bored	+	+
Seem not interested	Do not seem interested	+	+
Less speaking opportunities	Few -	+	+
Countries have a curriculum	Countries which have a curriculum	+	+
Go to shopping	Went shopping	+	+
To live well-being	To live well	+	+
To encourage students to learn	To encourage students learning	-	-
To spend a lot of time to make	Spend a lot of time making	0	+
Learn the knowledge	Learning knowledge	+	0
Let me traveling	Let me travel	0	0
Visit more place	Visit places	0	-
Suggest teachers changing	Suggest teachers to change	0	+
All possibilities to find	All possibilities of finding	+	+
Solution or get	getting	+	+
Overcome disability	Overcome a disability	+	0
brain tumor	A brain tumor	+	+
Tough time	A tough time	+	+
Fear of doing	Fear doing	+	+

4. Others

Original one	Revised	Rating	
The one of the important things	One of the most important things	+	+
Strictly to follow the rules	To follow the rules strictly	+	0
Teach every sentence grammar	Teach the grammar of every sentence	+	+
It is limited if students learn English from schools	The type of English learned from schools is limited	+	+
Financial plan and future plan	Financial plan for the future	-	0
Feel uncomfortable to use English with foreigners	Feel uncomfortable with foreigners	-	0
All areas which are reading	All areas of reading	+	0
She was a middle	She was in middle	+	+

students	school		
Well-being	My wellbeing has improved	+	+
To make a statement to follow	To make a statement that we can follow	+	0
I agree	I do agree	+	-
Discuss with our teachers	Discuss that with our teachers	+	0
Condition will benefit	Condition will be a benefit	+	-
Lead competition between teachers	Lead teachers to compete each other	+	0
Education in better quality	Better quality of education	+	0
I went to Oklahoma to go snowboarding	I went to snowboarding in Oklahoma	0	0

APPENDIX I
STUDENTS' INTERVIEW RESPONSES

The First Experiment

General Questions about Corpus Use 1

1. Do you think you improved your English writing proficiency by using the corpus? If you have gained confidence in writing through corpus use, what parts do you think have improved? Grammar / Idioms (English phrases)/ appropriate word choice, etc.

CC: I think I improve my English when I use Corpus because the corpus can help me check not only the grammar, but also I can find similar words and some appropriate/ more suitable words or phrases. I know which one is more common in writing.

They (Corpus) have many lists of words with many sentences, and these are really helpful for me to find out what I want.

I need to see some words always come together, I need to see a lot of examples to make sure whether this is what I wanted or not. Because when I search language dictionaries maybe they just give me one example, but I did not know whether this is more common or another one. There are a lot of results (such as prepositions..) coming with the vocabulary, so this makes me confused.

SH: I can choose more appropriate words through the corpus use. Ex) in the book VS on the book (writing #3)

PP: Writing skill- He couldn't find appropriate word choice in writing essay. In the English class, we can study/learn English grammar or structure, but I can't learn how to write an essay like native speakers.

JN: Especially for idiom parts. Idiom part, different from grammar, is quite difficult to learn. English learners can study grammar with books or teacher's help. In case of grammatical errors, such as tense agreement, subject-verb agreement or spelling errors, we might just make mistakes even though we already know what correct one by teacher's help. However, studying idioms is quite distinguished. English natural idioms are not rule like grammar.

When trying to use idiom in writing or spoken, English learners tend to just translate into their native language. They don't know how to write or speak what they want to do in English. Corpus helps find a lot of expressions close to what he wanted to express.

2. Did you use the corpus for your regular class writings? (IELT or UNT classes)

If yes (you often use the corpus), how often do/did you use it?

CC: Sometimes I used the corpus to check especially prepositions because it is hard to find correct prepositions from a grammar book. It is hard to just check this very quickly. I can use internet to find out which one is more common and useful. But, sometimes, I need to do a lot of homework, I didn't have enough time to write

even composition. I just wrote, but I didn't use the corpus. But, if I have time, I will do that.

SH: When I really don't know what words to choose in my writing, I usually look up the synonyms. Also, I usually use the corpus five times per writing to find appropriate words or idiom (among synonymous words)." Ex) provide= offer, give..., School=class etc.

PP: He is an IELI student. He used corpus when doing homework to find synonyms or appropriate words. Synonyms need to paraphrase sentences, and corpus helps me find appropriate synonyms than general language dictionary. Dictionary provides words that I want to know, but it cannot find appropriate words depending on the contexts. Corpus shows how the words are frequently used in current English, so I can pick most common words in the list of the word. This corpus function helps me use English as native speakers.

JN: Even though writing teachers only checked errors without any comments or examples on them, I tried to check them with the corpus by myself.

He tried to use the corpus in writing class. When giving back essay homework, he often checked the errors or examples which his writing teachers provided to him through BYU COCA. He found that some IELI writing teachers used same examples used in the corpus. But, English expression or grammar which teachers used depended on where the teacher come from or age.

In addition, some experienced teachers gave some examples or explanation on his errors to know what he should know, but some, less experienced, only checked errors, no any comment. Therefore, not all English learners can know idioms from teachers' help. Corpus helps learners study by themselves without teachers. However, corpus has too much information to find or limit examples which are closest meaning he wanted to know. It made him so confused.

3. What aspects of the corpus do you like? / Which parts of the corpus are helpful? Why?
Ex) comparison words, synonyms, context etc.

CC: I like most of the parts, especially comparison part. I never think about I can use comparison to find out what's different and what I made a mistake. I think that comparison is very helpful to me. Preposition is a kind of rule/ kind of grammar. They always come together. I just need to check this. When I translate the Chinese in English, I make some mistake. (to make sure, I have to compare between the one that I used and correct one.)

SH: I think all parts are useful. Especially, comparison is most useful because this is very new skill to me. I can find synonyms or contexts in other Web sites, but I can compare two words in only the BYU corpus Web site. It is really helpful to me.

PP: He likes synonym part and context in corpus functions. When writing a research paper, he has to paraphrase sentences used in the articles or books. Corpus helps him practice paraphrase every sentences. Also, I like to read context with words in the corpus. BYU corpus has authentic contexts in different kind of genres. By the context, not only do I learn grammar but also I can use appropriate and correct sentences.

JN: He liked all parts. Especially, he liked synonyms and comparison part.

He used thesaurus to find synonyms, but sometime he picked wrong word in his context. Even though students can find synonyms in dictionaries or thesaurus, we cannot say that all they are used in the same context. To find appropriate synonyms depending on contexts, students have to consider the words with seeing contexts. In the different register of the corpus, students can limit the context and get the result, synonyms, closer what they want to know.

It was difficult to compare two words which have similar meaning, but in the corpus he just hit the keyboard and showed the clear evidence, frequency, how frequently the words used with others.

4. What aspects of the corpus don't you like? Which parts of the corpus are not helpful? Why? Ex) comparison words, synonyms, context etc.

CC: Actually I forgot! Before when I use this, I feel something it is not useful. I remember... vocabulary. !! First time, in case of vocabulary I want to check the meaning. I just typed the word and choose to search from a lot of examples. And I try to use close meaning to figure out what the meaning is. I need to spend a lot of time.

We can find clear meaning / definition of a word by searching synonyms of the word, but searching synonyms also have a lot of lists and take some time to know the exact meaning. So if I want to know the meaning, I'll use the dictionary to check, not using the corpus.

But, I will use the synonyms a lot when I want to change some words used many times in the composition. It is easier to find correct synonyms (words) than the dictionaries. In addition, when I paraphrase some sentences, synonyms are very helpful.

I don't like using symbols used in the corpus, such as equal (=), space between words or bracket ([]). We need some time to be used to them.

When I want to search the collocations, such as some phrases consisting of more than two words, I have to type all things in the [WORD]. However, I sometimes had hard time putting all words because I need to know some rules like "space" between words or bracket or some symbols etc. It is really more help to see the collocations in the list, but the process is a little bit hard and complicating. To be easier and quickly, I put words in the [context] and [word] separately.

- SH: I like all parts of the corpus, but I really had hard time to look up the context. There are a lot of contexts and these are clear and look good, but I sometimes have hard time to find exactly appropriate word to apply the words or context to my writing context. I am not sure that the word that I found in the corpus context is appropriate in my context. Ex) provide/ offer/ have education
- PP: Generally, corpus is complicating to first users and requires some time to figure it out. He likes all parts of corpus, but he found some problems in using comparison part. When comparing two words, he couldn't sometimes get any result.
- JN: I just translate what I want to write in English into in their native language. As a result, American felt the expression is not natural. When searching English idioms in the corpus, I didn't know what to type in the word or context box to get results. In addition, if I typed idioms which are just translated in their native language, I cannot get any result. In this kind of situation, students cannot find any ways to use the corpus when they want to know idioms from the corpus. Sometimes I preferred to use the idiom books to learn English idioms.

5. What do you feel is most difficult to use about the corpus? (What kind of problems do you have when you use the corpus?)

- CC: I think I usually used the ways I am used to.
I just used small part of the corpus to check. I don't know which one is most difficult part to me, because I always use way that I want or I am used to be.
- SH: The procedure to use the corpus is not easy. When I looked up the dictionaries or typing a word in the GOOGLE, it often much easier to get result that I wanted. I feel difficult in the procedure to revise the errors. Sometimes I don't know how to search the errors to revise them or how I can use to correct answer, such as what I should type to get the result. In addition, I found that there is no way to search." (she might mean that corpus cannot provide all solutions for errors that I want to revise or this is caused by lack of training)
- PP: He felt difficulties in using POS tags and other symbols, such [], [=], or .[]. Users who are not used to BYU corpus need some time to know or remember these. Spending some time learning how to use BYU corpus might be overwhelming (some people who are really busy with their paper work or homework (not linguists or language researcher, or language teachers or educators) might be hard to spend their time learning how to use the corpus. He wanted to something to learn faster than the corpus.
- JN: Same answer as question #

6. Do you think that the corpus is different from general language dictionaries or grammar books? If you think so, what are the differences?

CC: The corpus didn't have meaning. In dictionaries and grammar books, there are a lot of rules. When using the corpus, you just select the word with which specific prepositions, nouns and verbs. I think that these are very different. It's more specific. The grammar book has so general ideas. Dictionaries have meanings and they have few examples. I can't figure out how to use that.

SH: When compared with language dictionaries and grammar books, the corpus consists of authentic words, a lot of examples or contexts, and this is divided into various genres, such as academic, magazines, spoken, newspapers in the United States. When we look up language dictionaries, some might have only definitions. Even though language dictionaries have examples with definitions, the examples are not authentic.

PP: He can find more synonyms in the corpus than in general language dictionary. Because BYU corpus shows synonyms with authentic contexts and frequency of the words, he can find more accurate and authentic synonyms.

In addition, through contexts, he can check whether his sentences are correct or not, especially, collocation. Also, corpus shows various contexts in different kind of genre (various categories) which is not provided in general language dictionaries, so it helps him use English in appropriate context.

JN: Corpus is totally different from the general dictionaries or grammar book. Corpus is more interactive than general English writing materials. When I use the grammar books, I just find the page or read the lesson to find answers. But, when we type some words to search, corpus gives us answers with contexts directly and quickly and helps find appropriate words which users really want to know. Also, we are not sure of the results, we can try different ways to get more clear result. In addition, corpus helps users search that is really hard to find in the general English dictionaries or grammar book.

7. If you have friends who are struggling with writing in English, do you want to introduce the corpus to your friends? Why?

CC: Yes, actually I really want to introduce the corpus to my friends because this is really useful. But, maybe I will think about my friends' writing level. Because when we saw the corpus, we didn't see any direct information about the word. It always go together with another words or something and you need to read a lot of examples or sentences. If you don't know why they always go together or something, you will be more confused about how to use the corpus and how to figure out or which part you want. I will think about my friends' writing level. I think maybe writing level above 3 or 4 in IELT is O.K. But, level 1 or 2 is not o.k. To use corpus effectively learners need English knowledge about basic grammar. Level

4 or 5, they can use their grammar in various ways. Adjective clauses something like these. You want to know how to use different ways or to use different words to explain same situations. I think it is more helpful for the students above writing level 3 in IELT.

SH: I am going to strongly recommend this to the students. First of all, this is free. This is useful tool that we can use through internet. In addition, this is a kind of fun. When I look up the dictionary, we feel like studying, but corpus search feels like a kind of fun. Finally, this is very good tool to study by oneself (self-study). I don't recommend this to use to the beginner. To use the corpus such as synonyms or, they should know basic vocabulary first. If they don't have enough vocabulary, they cannot understand synonyms or contexts in the corpus. In addition, beginners might be hard to make sentences well, so corpus is not a good idea for them. Advanced learners want use English more native and corpus is very useful to extend word areas to more natural and more native writers.

PP: He already asked and persuaded his friends to learn BYU corpus because she really want to improve her English writing. But, she felt overwhelmed spending her time learning the corpus. However, he would recommend BYU corpus to his friends because he thinks that corpus helps non-native speaker use appropriate words in spoken or written English.

JN: I already introduced the corpus to his friends. I think that the corpus should be started from the lower level. They need to learn basic grammar/ structures or enough words/vocabulary to use the corpus. If teachers teach a lot of techniques or examples to them they will be confused. You need to teach the functions separately one by one and put other functions more and more when they are used to the corpus. In fact, it is sometimes difficult for beginners to understand context in the corpus. However, contexts are very useful depending on how they use the context. Even though they search the very basic word in the corpus, they will learn the word with contexts, as a result, they can use the word in appropriate situations. [Author note: Unlike other participants, Jacky thought that students should start using the corpus from the beginning level.]

8. Now that you have completed the experiment, what kinds of things do you think the corpus will help you with in the future?

CC: I think that my writing will be more correct. Because, sometimes I wrote some sentences, my English teacher said, "It's O.K., but they (Americans) do not usually write that." In the future, I can write more correct. Sounds like native speakers.

SH: I'll always open and use this Web site in the classroom and use this whenever I need. As an English teacher, I want to provide authentic contexts and how to use a word in different situations or genres. Also, the corpus will help students remember a word better than knowing only meanings.

PP: He wants to be able to write his research paper more clearly. In addition, through the corpus he hope that he can use English like English native speakers in spoken and written.

JN: He learned the corpus to improve writing proficiency. Now, he checked his writings whenever he has questions about English expressions.

Questions about Corpus Training 1

1. Were there any problems in the training? What do you think could be improved? (difficulties while training)

1) Training for basic features

CC: We trained basic features in person. I think this is good. If we trained in a group, it will take long time to training and I will not concentrate on this. And I can ask you to make sure what I understand.

Comment on Handout- I think handout is O.K. It is very clear and enough.

SH: As I am a Korean, I could explain same information more clearly. In the training, I felt something wanting to meet all participants together because of effectiveness. I had to meet all participants in person because it was impossible to find common time to meet. I preferred individual/personal training because I needed to ask something which I couldn't understand while training.

PP: First of all, he thinks that I had to spend more time training/practicing the BYU corpus. BYU corpus is difficult to use and require some time to be used to that. Because of lack of training time, some students couldn't follow my direction. He told me that content in the handout was very clear, but it didn't provide enough more examples to practice BYU COCA. Also, he wanted to see the search result in a handout to make sure how to use the corpus (like the answer sheet in exam book or text book). In addition, he thought that it would be better to practice BYU COCA with his own writing rather than general writings.

JN: Need more time to train. Want to more examples to practice; I should make some sentences including wrong or inappropriate words, and then ask students to fix by the corpus. This process should be step by step, which means teachers should present from the simplest to difficult words or sentences. Or teachers can take short writings or paragraph or essays from the journal or newspaper and change some words into inappropriate ones, and then ask them fix the word with the corpus and compare with original one. Practice with completed writing samples helps students judge wrong words' use in the whole context and find more appropriate and clear word through the corpus.

2) Personal training for corpus use with your own writing

CC: I can really understand which part I don't know. First time, I just know how to use the corpus, but I need to use this by myself. When I use the corpus by myself, you can make sure and teach me some different ways. Because I know just small parts of corpus, so personal training is really helpful.

Handout: I think that in first training you can find and give some different examples you can use during the training to practice. In the second training, we can practice in different ways. Not with our writing because our writing just focused on small part. You (researcher) use corpus many time and have a lot of experiences. You can make a list and give some more information about how to use the corpus.

SH: Personal training was better than doing in a group. It could be happened that even though some have questions or cannot follow the training, it was really hard to cut the training and ask me question they wanted to know. When meeting in a person, they can ask everything anytime. In addition, students could have more chances to use corpus when meeting in person rather than in a group. Personal training led them to do everything by themselves, and if they had any problem I could help them to solve the errors. They learned more about eh corpus by the process of errors and trial with me.

PP: He liked the personal training, but it was not enough time to practice the corpus.

He wanted me to divide the corpus training into the several sections and do the training step by step with enough time. W/ more examples!!

JN: He really liked the personal training because he can contact directly. Whenever he had specific questions, he could ask them and get answer. Through the personal training, he could learn different ways. He suggested about the training process for the future research; students started learning the corpus basic features in a group. Then, teachers divide all participants into two or three groups. Each group has one writing sample which includes wrong or inappropriate words or phrases, and tried to fix the words through the corpus with pair work. In the process of revision, participants can discuss on how they searched. From the group working, they get to understand better and know about the corpus skills more than teachers explain in a class. In addition, teachers or researcher can save time to teach.

2. For your first writing sample, the researcher provided information about your errors and specific directions on how to search the corpus.

1) Was this a helpful way for figuring out how to use the corpus?

2) If yes, what aspects do you like?

3) If not, what aspects don't you like?

CC: Yes! First time, you gave me a lot of information, and it is really help me remember/ remind what I learned. First time, I want you train us. Second, you can give us practice to apply the corpus in the writing. Then, we start writing and you only point out the errors, not with specific direction. This is step by step. If you give us more information or other ways to use the corpus in the second time (after finishing revising by participants), it is really helpful for them to figure out the corpus and compare between what they and you did. I think that it is easier for us to figure out how to use corpus.

SH: Yes! It was really helpful to figure out how to use the corpus.

PP: Yes! At the first time, he was not familiar with the corpus, even though I explained what it is and how to use. Information about errors and specific directions were good guideline to be familiar with the corpus.

JN: Yes! It was very good for the first writing revision.

3. For your second sample, the researcher provided information about errors, but no directions about how to use the corpus.

1) Was this a helpful way for figuring out how to use the corpus?

2) If yes, what aspects do you like?

3) If not, what aspects don't you like?

CC: Yes, because, when I use the corpus I know the problems I have in the using corpus. I will remember easier how to use this. In addition, it is easy to remember errors in my writing.

SH: Sook could know more ways in search of BYU COCA.

PP: It was o.k. because that was second time to use the corpus with his own writing. In the first time, he just followed the directions that I provided not thinking himself about different ways to search.

JN: When revising second writings, he was not used to the corpus use yet. So, he didn't know how to search the words which I pointed. If students don't know about how to use, it was really hard to do in this way.

4. Which do you prefer, information about errors with specific directions about how to use the corpus? OR information about errors without direction about how to use the corpus?

CC: I prefer the second one. I want to try to find out errors and figure out how to use the corpus by myself. I think I will use the corpus while writing. When I finish all of the writing, I think it is perfect. When I was writing, I will think about problems in

my writing. When I already know some word in Chinese, but I don't know and just want to know the word in English, I might make some mistakes. I will use the corpus to make sure the words that I used

SH: Without the directions, an only pointing error was more helpful for the future. Even though teachers revise students' writing or give some comments on it, if students do not study or check the writing revised again, it would be useless. Not only pointing errors but also provide directions will prevent students to figure out the corpus by themselves, even she does not ask me.

PP: He preferred the second one because to be used to use the corpus, he needed to figure out how to search words with a process of trial and errors by himself.

JN: I prefer not giving anything, only pointing errors. He wanted to try to search how to search by himself. If he had trouble in the corpus use, researchers or teachers can give some help correct them.

5. Since learning more about ways to use the corpus, do you think you can correct your own errors by yourself without outside help?

SH: Yes! While I used the corpus, I could remember better what I did wrong. And, I believe that I will correct my own errors by myself with the corpus.

PP: Yes, but it'll take some time. BYU COCA provides authentic examples/contexts with words. If I can find words or context better than now, I will use right/correct words in my writing without outside help.

JN: It should be possible if I give students more time to practice. However, corpus cannot solve all problem in L2 writing, not 100 percentage but at least 80 percentage, he believed in.

6. Please give me any suggestions and comments on the corpus training.

CC: We need more training time, three or four time.

SH: She thought that I have to do more training, at least for 2 weeks or a month, to be used to the corpus. Also, it will be very helpful to practice with more examples.

PP: He wanted /to have more authentic examples when practicing BYU COCA. /more training time/ to practice with essay or other kinds of writing, then have time to discuss and check the search result with all participants. He felt annoyed when there were systemic errors, such as sudden stop and retry because some time was passed, or no result from comparison search.

JN: Handout: good, but not enough examples.

Training: pair work, more time to practice!

Two or three times training for basic features

It was so fun to use the corpus.

After participants finish revising their paper, researcher provided some comment or answers on the paper.

The Second Experiment General questions about corpus use 2

1. Do you think you improved your English writing proficiency by using the corpus? If you have gained confidence in writing through corpus use, what parts do you think have improved? Grammar / Idioms (English phrases)/ appropriate word choice / use of prepositions, etc.

WC: WC felt that she can improve their English writing. From the BYU corpus she mentioned appropriate word choice as a problem area. Especially, synonyms parts helped her find appropriate words from the synonym.

YK: Corpus helps me find accurate prepositions in collocations and use them in my own writing. In fact, there is no way to know all prepositions which are collocated with a word or words even in the language dictionaries and grammar books, but this is very important in English writing. But the corpus gave me clear answers about prepositions and helped me feel more confident in writing. (YK believed that BYU COCA search would help English learners improve their writing proficiency, not only grammar but also word choices. Appropriate words' use in the written or spoken has been identified as a hallmark of language proficiency. The BYU COCA would provide information on the problems that English learners have had.)

2. Did you use the corpus for your regular class writings? (IELT or UNT classes)
If yes (you often use the corpus), how often do/did you use it?

WC: Unfortunately, she didn't take any classes during the experiment. But, she was sure that she would use the BYU COCA when writing research paper in English.

YK: I used the BYU COCA whenever I had questions about the Web site. I was not even allowed to use the corpus because of exceeding limited numbers of search. I used the corpus to check whether words in my writing were appropriate or not. In addition, authentic examples in the corpus helped me memorize new words. I also searched synonyms to know the word meaning and wide her vocabulary.

3. (1) What aspects of the corpus do you like?
(2) Which parts of the corpus are helpful? Why?
Ex) comparison words, synonyms, context etc.

WC: Comparison and synonyms are most useful to her. She could learn more words with a word searched.

YK: I liked all parts of the corpus, but especially I searched synonyms a lot. When writing academic paper, I need to paraphrase the original article. When looking up dictionaries, there are only synonym list without examples. Even though words' meaning is same, I cannot say that the use of all the synonyms is exactly same. This means that even though learners know even synonyms with one word, their writings might sound unnatural because of inappropriate word choice. This is also one of the problems I have in English writing. In the BYU COCA, I could get appropriate synonym list depending on my own context, by typing context word in the CONTEXT line. Also, when seeing the authentic contexts, she could pick small mistakes, such as prepositions used with a synonym. In addition, the synonyms part coupe make up for the limit of the corpus, which cannot find word meanings.

4. (1) What aspects of the corpus don't you like?
(2) Which parts of the corpus are not helpful? Why?
Ex) comparison words, synonyms, context etc.

WC: I don't like a comparison part of the corpus. There were often systemic errors when comparing two words, as a result, I tried to find other ways to get a result, comparison or search same ways several times.

5. What do you feel is most difficult to use about the corpus?
(What kind of problems do you have when you use the corpus?)

WC: same as the answer of question #4.

YK: Spending some enough time learning how to use BYU COCA was overwhelming. It is not enough to know basic features of the corpus. Actually, it took some time to figure out corpus functions and how to use this. I need to keep using the corpus with enough time and efforts, but it is not easy.

6. Do you think that the corpus is different from general language dictionaries or grammar books? If you think so, what are the differences?

WC: She can get the word meaning, definition, in the general language dictionaries, but she don't know how the words are used depending on contexts. In that case, dictionary cannot solve all problems that English learners have had in English writing. However, contexts in the BYU COCA helped me learn in detail how the words are used in current English."

YK: First of all, corpus was made for linguists or researchers to know currency or change of a language. So, it was impossible for the corpus Web site to cover all writing problems which language learners have had. However, BYU COCA must be different from the general language dictionaries or grammar books, which are general materials for language learning. Corpus, BYU COCA has a lot of database and authentic examples

and helps user see contemporary English. In addition, the Web site is updating right now. In a language dictionary, it is so hard to find authentic examples that we might not be able to use them in real situations, such as writing or speaking. Also, corpus has new functions which are comparing two words, finding synonyms, and checking words' use depending on the contexts. She thought that this function is only possible in the on-line corpus search.

7. If you have friends who are struggling with writing in English, do you want to introduce the corpus to your friends? Why?

WC: It depends what kind of things they want to do. If they wanted to research, she would strongly recommend the corpus, but if only studying English such as learning words, she wouldn't. In addition, she didn't think that the corpus is not really helpful to study language to the beginners because the corpus search requires basic skills and basic knowledge to read and understand context.

8. Now that you have completed the experiment, what kinds of things do you think the corpus will help you with in the future?

WC: She would use the corpus when writing research paper or any academic writings. She also wanted to put appropriate words in their writing to help teachers understand her writing.

YK: Yu Jeung thought that appropriate words' use is a hallmark of language proficiency. She wanted to be a proficient English writer, who writes natural English in speaking and writing.

Questions about Corpus Training 2

1. Were there any problems in the training? What do you think could be improved? (difficulties while training)

1) Training for basic features

WC: more practice/ more examples/ need update more often, because they could get different results from those in the handout already made before training.

YK: It was difficult to meet all participants together. Handout: there so much information that she could get point out to figure out how to use corpus. In addition, more examples to practice were required.

2) Revising your own writing with BYU Corpus

WC: more practice

YK: There was no problem to using BYU COCA to revise writings. In the final review test, there was two writing samples to practice to find errors and revise them by themselves.

She was not sure whether their revision was correct or not, but she felt that BYU COCA was valuable to use in learning language.

2. Since learning more about ways to use the corpus, do you think you can find your own errors and correct them by yourself without outside help or teachers' feedback?

WC: Yes! When finishing training I could use all functions in the corpus. First time, I got a lot of errors and took a lot of time to search, but now I could use the Web site whatever she wanted to. The corpus would help me find her errors and revise them by myself, but I thought I still need teachers or helper to check my writing.

YK: Yes, even though it took some time to become familiar with the BYU COCA, I believe that corpus would be valuable tool for self study.

3. Please give me any suggestions and comments on the corpus training.

WC: More time practice and think of different ways to train depending on students' ability to use the computer. I needed homework, just one page, to be able to practice at home. In the handout, there is too much information. When even practicing at home, I rarely used the handout because it was really hard to find what I want. And it is really hard to find what I want to know. I want to make handout more simply. I wanted you to divide each paper into explanation and examples, not put together. I thought that you don't have to explain all of them.

APPENDIX J
INFORMED CONSENT

University of North Texas Institutional Review Board 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: Effectiveness of on-line corpus research in second language (L2) writing

Principal Investigator: Yu Jeung Kim, University of North Texas (UNT) Department of Linguistics and Technical Communication.

Purpose of the Study: You are being asked to participate in a research study. The purpose of the study will be to enable you to check your own writing errors and improve your writing by yourself by using an on-line corpus. The use of the corpus should result in helping your writing to sound more natural and contain more colloquial expressions in writing.

Study Procedures: You will send their writings to the researcher twice a week. Each writing will have a first draft and a polished draft by corpus use.

1. Procedure: This study will be completed in 5 weeks

(1) First week: I will train participants for corpus search to make you familiar with the corpus. The activity will be carried out step by step. In this way you can practice the corpus research. While you practice the use of corpus, I will analyze your errors from their sample writings to see their frequent errors, with the assistance of Dr. Jenifer Larson-Hall, who is a professor in Linguistics and Technical Communication at the University of North Texas.

(2) Second week through fifth week

You will be asked to write a one-page paper, double spaced, and send these to me. I will present one specific topic to the you each time. The topic can be either academic or nonacademic. All topics must be familiar to you and concern hot issues in the world. During the first 2 weeks, you will write 4 academic papers, and during the following two weeks, you will write nonacademic ones. You will write a first draft using paper or electronic dictionaries, then revise it with corpus search. When you e-mail their first drafts, Dr. Jenifer Larson-Hall and I will point out 10 errors in your writings. Next day, you will be asked to revise your own written work for 1 hour, by yourself, and then send them to me again. You will spend 1 hour and 30 minutes on each completed writing, 30 minutes for writing on the first day and 1 hour for corpus research and revising on the second day. This process will be conducted twice a week for 4 weeks. At the end of the study, I will interview you and record your responses to discover how you feel about corpus use.

Foreseeable Risks: There are no foreseeable risks involved in this study.

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Informed Consent Form (continued)

Benefits to the Subjects or Others: We expect the project to benefit you by helping you improve your English writing proficiency. You will get the free on-line corpus training from the researcher. You will know how to use on-line corpus and apply it to your writing correction through researcher's free training.

Compensation for Participants: There is no compensation provided for participating in this study.

Procedures for Maintaining Confidentiality of Research Records:

Your personal information will not be shared with anyone besides the researchers, Yu Jeung Kim and Jenifer Larson-Hall. Your signed consent forms will be locked away separately from your writing notes. Your writing results will be published, but will not include your name or any other identifiable information, so no one will not be able to connect you to your results. Interview recording will be locked under the personal supervision of Yu Jeung Kim, and Yu Jeung Kim and Dr. Jenifer Larson Hall will be the only people with direct access to these recordings. Recordings will not be made public. All records and recording will be maintained for at least three years locked away under the direct supervision of Yu Jeung Kim. The confidentiality of your individual information will be maintained in any publications or presentations regarding this study.

Questions about the Study: If you have any questions about the study, you may contact Yu Jeung Kim at telephone number 940-465-5400 or the faculty advisor, Dr. Jenifer Larson-Hall, UNT Department of Technical Communication and Linguistics, at telephone number 940-369-8950.

Review for the Protection of Participants: 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.

Research Participants' Rights: 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:

- The principal investigator, Yu Jeung Kim 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 take part in this study, and your refusal to participate or your decision to withdraw will involve

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Informed Consent Form (continued)

- no penalty or loss of rights or benefits. 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

For the Principal Investigator: I certify that I have reviewed the contents of this form with the participant 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

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