Discovering Grammar Basics with Parallel Concordancing in the Beginner-Level EFL Classroom

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The objective of this study has been to find an effective and enjoyable method for learning English grammar at the beginner level. In this case study, we will present findings, from an on-going research project, of the potential for using lexico-grammatical data-driven language learning (DDL) lessons with a Japanese-English parallel corpus and the ParaConc concordancing program. The evaluation of learning outcomes showed this course design was useful for learning grammar basics such as recognizing parts of speech, verb forms, derivations, countable and uncountable nouns, and the sentence position of adverbs, and most importantly, it was effective for understanding the basic patterns of noun phrases. The use of a bilingual concordancing program provided clear and numerous examples, and the translations allowed students to inductively understand both grammar patterns and vocabulary usage. One of the strengths of concordancing use was the discovery aspect—students are not "taught" language patterns but find them themselves (with guidance from handouts), and this kind of discovery can be both powerful and highly motivating. Most students indicated they enjoyed this course and believed it was useful for both grammar and vocabulary learning. We can conclude that corpus-driven language learning using a Japanese-English parallel corpus provides a successful grammar learning tool for beginner-level Japanese EFL students.

Keywords: Grammar, DDL, Japanese-English parallel corpus, beginner-level, EFL, CALL

1. Introduction

An understanding of basic grammar is essential to language acquisition. Traditionally, Japanese learners have been taught English using the grammar-translation method in Japanese high schools and as such have been thoroughly prepared in grammar instruction (Green, 2006). In the last few years, however, we have noticed that many students seem to lack a basic understanding of English grammar, which may be a result of the shift in the Japanese language curriculum from the traditional grammar-based method to a more communicative approach (Green, 2006; Uchibori, et al., 2006). Many beginner level college students lack knowledge of phrase structures, and cannot conjugate verbs correctly. Chujo (2006) found that only 25% of first year university students in her study could identify *a* and *the* as articles and only 20% knew that words ending in *–ly* are typically adverbs. Because grammar can be tedious for students, our challenge as educators is to develop a method for learning grammar that does not rely on memorization or drills, and which helps students to apply principles to a broader understanding of the language.

To date the temptation to use corpus application in the beginner-level language

classroom has been tempered by the difficulty learners have in making sense of monolingual concordancing lines (Tono, 2003; Umesaki, 2004). With the development of parallel corpus concordancing programs, Japanese translation in the first language allows learners to understand the target language concordance lines (see **Figure 1**) and provides a richer context in both languages, enabling learners to be able "to formulate and test their own hypotheses about language behaviour" (Gavioli, 2001:108). We have used Barlow's ParaConc software program (2004) and a specially developed Yomiuri newspaper corpus (Utiyama & Isahara, 2003) as the basis of our project.
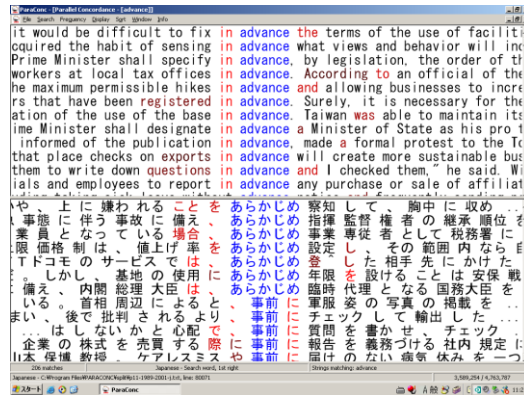
Figure 1 A Japanese-English concordance lines

While some educators propose that an inductive process in grammar learning is essential, others advocate for a deductive approach. In this study, we use both. Corpus-based or data-driven language learning (DDL) involves the inductive learning of grammatical rules or regularities through the discovery of recurring patterns. On the other hand, the computer-assisted language learning (CALL) vocabulary material that we developed focuses on the explicit, deductive learning of word lists. This CALL material can teach more items than DDL, though admittedly at a more superficial level (Cobb, 1999), since DDL often requires more time than is usually available in one 90-minute class. We believe both methods are complementary in this language learning setting and we have combined the strengths of both methods into one integrated approach. Our ongoing three-year study detailed below has shown that this approach provides a successful learning tool for students.

2004 Case Study: DDL Vocabulary (5 weeks) (Chujo, Utiyama and Miura, 2006)

In our first DDL case study, the goal was to see how effective a combined DDL/CALL program could be to improve vocabulary, and to obtain feedback from students on their reactions to this program. This was vocabulary-based rather than grammar-based because as Gaskell and Cobb (2004:302) noted, "adapting concordances for lower level learners' grammar development is less straightforward than for lexical development." After five bilingual concordancing lessons and accompanying CALL units for three classes of university students, it was found that the activities were well received by these beginner-level students and that one of the strengths of the concordancing use was the powerful and highly motivating discovery aspect. Although the evaluation of the learning effect in

this study was mainly based on learners' impressions, we were able to discern from their feedback that this system was both meaningful and useful, and the result presented evidence of the potential for using corpus techniques with beginner-level students in an EFL learning context.

2005 Case Study: DDL grammar (10 weeks) (Chujo and Oghigian, 2006)

The same approach was used in ten DDL lessons for four classes of university students to determine if this might be an effective method for grammar instruction, so that students are not just required to memorize grammatical rules, but "to develop the ability to see patterning in the target language and to form generalizations to account for the patterning" (Johns, 1991). We found that students were able to understand the basic grammatical patterns that lie behind English and Japanese phrases. Students reported that the DDL program was useful for both grammar and vocabulary learning and helpful for retaining their learning outcomes. They also remarked that the student-centered discovery learning through the observation of regularities from a large amount of authentic examples was fun, practical, and active and that they finally understood the basics of English grammar. They expressed their desire to continue taking these DDL combined CALL lessons. We concluded that incorporating bilingual concordancing lessons with appropriate CALL vocabulary teaching material provides a successful learning tool for these EFL students to learn grammar basics. One of the weaknesses of the 2005 study (and something we address in the ongoing portion of this present 2006 study) is the evaluation of learning outcomes. The evaluation of the learning effect in the 2005 study was still mainly based on learners' impressions.

2006 Case Study: DDL grammar (20 weeks) (Current study)

In this paper we will present our 2006 case study using a combined DDL/CALL program for improving grammar basics and expanding vocabulary. Building on the 2004 and 2005 case studies, our 2006 goals were (1) to develop and conduct an expanded (two-semester) DDL/CALL program focused on teaching grammar basics to three classes of university students, and (2) to measure learning outcomes by pre- and post-test scores.

2. Research questions

Our research questions focus on the effectiveness of the DDL lessons for learning grammar basics with beginner-level learners, and with what affect and attitude they experienced the twenty DDL lessons in a CALL environment.

1. Did learners improve their overall English proficiency?
2. Did learners like this course?
3. How did learners rate the parallel concordancing activities?
4. Was the concordancing activity useful for grammar learning, vocabulary learning and retention?
5. Did learners improve their knowledge of grammar basics?

3. Experiment

3. 1 Participants

The case study was conducted in three Japanese university beginner-level English CALL classes, which met for one 90-minute class per week for twenty-two weeks. All were freshmen majoring in engineering and received a total of 30 hours (20 weeks) of instruction over the course of two semesters. The first and last classes were used for administering the pretest and posttest. In this study, the learning outcomes are provided from the largest of the three classes (twenty students). As shown in **Table 1**, prior to this program, most students reported that they did not feel confident in their English proficiency, and only a quarter of the students had a favorable attitude about learning English. The students' course objective was to improve their communicative proficiency such as measured by TOEIC (Test of English for International Communication). This particular class was to be their only exposure to English instruction during this experiment.

Table 1 Students' feelings toward English

Statements	*Average*	20 students (April in 2006)				
		5 strongly agree	**4** agree	**3** neutral	**2** disagree	**1** strongly disagree
I like English.	**2.9**	10% **25%** 15%	40%	20% **35%** 15%		
I have confidence in English.	**2.0**	0% **5%** 5%	15%	45% **80%** 35%		

3.2 Corpus and concordance program

The Japanese-English News Article Alignment Data, developed by Utiyama and Isahara (2003), is comprised of 150,000 translation pairs from the Japanese language *Yomiuri Shimbun* (having 6.1 million Japanese morphemes) and the English language *Daily Yomiuri* (having 4.9 million English words), and these pairs are automatically aligned. From our previous studies, we learned this Yomiuri newspaper corpus is particularly useful for providing students with TOEIC related lexical and grammatical information. For example, suppose that the target word is 'lawyer' and that the target grammatical item is 'noun phrases.' Students can easily find many authentic examples such as *her lawyer*, *a lawyer in Tokyo*, *a 67-year-old lawyer*, *a lawyer representing an association of crime victims*, and *a female lawyer who stands up to gangsters*.

   We used the multilingual concordancer ParaConc, to investigate the similarities and contrasts between two languages. ParaConc is particularly useful since it permits a wide range of investigations of aligned texts between languages. A detailed description of this program can be found in Chujo, Utiyama and Miura (2006).

3.3 Target words and grammatical items for DDL

Since one of the goals of many CALL courses is to improve learners' TOEIC scores, we designed sets of corpus-based activities to teach learners how to use a corpus to identify recurring features of various words frequently appearing in TOEIC, and to show them how to induce generalizations from the samples. Using 400 words from our pre-existing CALL vocabulary teaching material 'TOEIC Vocabulary 1, and 2' (Chujo, 2003), we created 20 DDL lessons to teach grammar basics.

   The targeted grammar basics were grammatical features and structures such as word classes, verb forms, derivations, countable and uncountable nouns, and the sentence position of adverbs, and the most emphasis was on understanding the basic patterns of noun phrases. In this study, it was not possible to include verb phrases, and this aspect will be addressed in our 2007 study.

3.4 Classroom procedures

The classroom procedures are shown in **Table 2**. During a 90-minute class, the DDL activities were integrated with the individualized CALL activities. In the first semester, the DDL activities were performed by pairs of students, and in the second semester, by individual students. In the first 15 minutes, a review test in both DDL grammar and CALL vocabulary from the previous lesson was given.

Table 2 Classroom procedures

Classroom procedure	Time (min.)	Activity
Step 1: Review test	15	Class work
Step 2: DDL activities	30	Pair work (1st semester) Individual (2nd semester)
Step 3: DDL follow-up activities	15	Class work
Step 4: CALL vocabulary & quiz	30	Individual work

Next, the DDL tasks described in the following section were done for 30 minutes. Learners worked in pairs or individually with a self-explanatory DDL handout consisting of several tasks for exploring the lexico-grammatical usage of five to seven[1] targeted query words. In pairs, one student performed the concordancing and the other wrote down the results on the handout. They consulted with each other about how to perform the concordance and how to interpret the patterns and tendencies in the data they found. Students were required to submit the handout after filling out the answers to each task question. The next 15 minutes were used for DDL follow-up activities. Students reported their findings to the class and the teacher provided explanations on grammatical usage.

   As soon as they finished the DDL activities, they had 30 minutes to use the CALL web-based vocabulary to study the 20 target words which included the five to seven DDL

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[1] The number of query words varied, i.e. students initially worked on fewer words until they became more comfortable with the process.

targeted query words. At the end of the lesson, a web quiz was given to confirm their understanding of the vocabulary learned that day.

3.5   DDL Tasks

Since the targeted learners' English proficiency was at the beginner level, the majority of the assigned tasks were purposely made to be fairly simple. There were eleven tasks. In addition to the six tasks which we developed in our 2004 case study[2] and which are mainly focused on understanding patterns and usage in both languages such as the one-to-many meaning relationships between languages and collocation patterns, we added the following five types which focused on grammar basics, listed here from the easiest (1) to the most difficult (5):

(1) examining different verb forms and derivations

Students are asked to search "*develop**"[3] and list both different verb forms and derivations such as *develop*, *develops*, *developed*, *developing*, and *development*. They learn that most regular verbs have a present form, *–s* form, *–ed* form and *–ing* form. They also learn that many commonly used verbs are irregular, i.e., have past tense forms that don't end in *–ed*, and that some have identical past tense and past participle forms, and others don't.

Students also learn that a certain proportion of nouns have identifiable 'noun endings' such as *develop**ment***, *protec**tion***, and *prefer**ence***. Similarly, a lot of adjectives related to nouns or verbs often have certain types of endings, such as *prefer**able***, *original*, *environmen**tal***, *expens**ive***, and *vari**ous***. Students notice that many adverbs end in *–ly* and they learn that a lot of adverbs are formed by adding *–ly* to an adjective, e.g. *relative**ly***, *original**ly***, *prefera**bly***, and *additiona**lly***.

(2) examining countable and uncountable nouns

Students are asked to search "*furniture**, *clothing**, *information**, *convenience**, *passenger**, *sale**, *price**, *shipment**, and *meal**." Countable nouns have a singular and a plural form, e.g. *passenger – passenger**s***, and uncountable nouns have only one form, e.g. *furniture* NOT '*furnitures*.'

(3) examining word classes

Students are asked to search a certain collocation such as "*a * organization*" and list the results such as *a new organization*, *a regional organization*, *a religious organization*, and *a political organization*, to find what class of word comes between *a* and *organization*. From these examples, students learn that the part of speech which comes before a noun within a noun phrase are adjectives, and also the spelling of the end of a word may show that it is an adjective.

(4) examining basic patterns of noun phrases

Students are asked to search a word such as "*quality*" and to list what words

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[2] The six tasks are as follows:
(1) examining Japanese equivalents of an English word
(2) examining English equivalents of a Japanese word
(3) collecting frequently appearing citations of an English word
(4) translating Japanese phrases into English
(5) examining collocation patterns
(6) observing recurrences and inducing generalizations

[3] "*" is a wildcard and "*develop**" refers to all words that begin with *develop*.

frequently come before and after "*quality*." Before "*quality*," they can find determiners such as the article *the*, and possessive adjectives such as *its* and *their*, and modifiers such as adjectives and their comparative forms *good*, *better*, *high*, *higher*, *low*, *lower*, *poor*, and *poorer*, and possessive forms such as *people's*. After "*quality*," they can find the preposition *of.*

Students are asked to search "*the location*" to find what word or group of words come after "*the location.*" They will find prepositional phrases such as *of U.S. military bases*, *of factories*, and *of the attacks*.

Students are asked to search "*nuclear facilities*" to find what word or group of words come before and after "*nuclear facilities*." Before "*nuclear facilities*," they can find determiners such as the article *the*, possessive adjectives such as *its* and *his*, numbers such as *three*, and modifiers such as the adjectives *commercial*, *suspected*, *declared*, *undeclared*, and *unreported*, and possessive forms such as *North Korea's*. After "*nuclear facilities*," they will find prepositional phrases such as *in the South*, *in the former Soviet Union*, and *for military purposes.*

(5) examining the sentence position of adverbs

Students are asked to search *"canceled"* and to find *–ly* words or adverbs, and then to find their sentence position. They will find that *abruptly*, *hurriedly*, *initially*, *subsequently*, *suddenly*, and *promptly* are placed immediately before the main verb "*canceled.*"

Students are also asked to search "*usually*" and to find that "*usually*" is placed before the main verbs, e.g. *taxes are **usually** collected from the banks*; and *official meetings are **usually** organized once a week*, and when we use "(to) be" (*am*, *is*, *are*, *was*, *were*), "*usually*" is placed before the complement, e.g. *organic foods are **usually** expensive*; or *the head of a household is **usually** a man.*

3.6 Evaluation of the DDL activities

After completing all twenty DDL/CALL lessons, students were asked to fill out an online questionnaire using a five-point rating scale from "strongly agree" (rating 5) to "strongly disagree" (rating 1). In addition to this scale, open-ended comment questions were used.

Students were also asked to take two types of posttests which were identical to the pretests. They took the pretest during the first class in April in 2006, and the posttest in the final class in January in 2007. One is a TOEIC Bridge test which is a simplified version of the TOEIC and is also administered by ETS (Educational Testing Service). The TOEIC Bridge test targets beginner and intermediate learners and is a paper-and-pencil test composed of 100 multiple-choice questions, requiring about one hour of testing time. In this study, a retired test that is available to the public was used. Pre- and post-TOEIC Bridge tests were administered, with the pretest establishing the students' existing English proficiency levels, and the posttest measuring the effectiveness of the DDL/CALL instruction in terms of an increase in scores.[4]

The second test consisted of seven groups of questions totaling 98 questions which specifically measure the learning effect on the following grammatical items: (1) word

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[4] Research (Takahashi, Suzuki & Takefuta, 2003) has shown that using the same test as a pre- and posttest was reported not to have affected the end results, since correct answers were not given to the students at any time, and because there was a sufficient interval between the pre- and posttests.

classes, (2) countable and uncountable nouns, (3) verb forms, (4) derivations, (5) noun phrases,[5] (6) sentence position of adverbs, and (7) TOEIC-format grammar questions. They are discussed in detail below.

4. Results and Discussion

4.1 Did learners improve their overall English proficiency?

To see if the learners improved their overall English proficiency in this course, the pretest and posttest scores of the TOEIC Bridge test were compared and are shown in **Figure 2**. The posttest scores showed an average increase of 6.3 points (t = 3.341**, df = 19, p < 0.01)—from 58.7 to 65.0 at the conclusion of this experiment. The result of the two-sample t-test indicates that the increase between the pretest and posttest was statistically significant at the 1% level. (Statistically significant gains are indicated by "**"). Although the difference between the pretest and posttest was significant, the gain was smaller than we expected.

From this observation, we believe there was insufficient lesson follow-up and that we need to give students more in-depth activities after they have discovered patterns and rules in the concordance lines to consolidate learning. As Moran and Diniz (2005) remind us, "follow-up gives them an opportunity to practice using the target form in a meaningful way, which helps students internalize the pattern or rule they discovered in the previous steps." This shortcoming will be addressed in our next study.
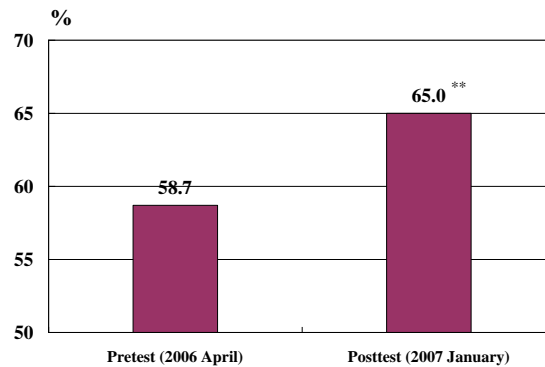

Figure 2 Differences between pre- and post-TOEIC Bridge scores

4.2 Did learners like this course?

As shown in **Table 3**, 65% of students agreed and 5% disagreed with the statement "DDL/CALL class was fun." Seventy-five percent of students thought "DDL/CALL class improves our English skills," and 80% of students indicated they want to study in the DDL/CALL class again.

Overall, we can conclude (1) that most learners liked this DDL/CALL course and (2) that it helped students at the beginner level to improve their English ability as measured by the TOEIC Bridge scores.

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[5] Only the noun phrase-targeted pretest was administered during the first class in September, since noun phrases were taught mainly in the second semester. Students took the posttest in the final class in January with other six groups of questions.

In the following sections, we will see how learners specifically looked at the DDL activity.

Table 3 Students' overall evaluation for this course

Statements	Average	20 students (January in 2007)				
		5 strongly agree	4 agree	3 neutral	2 disagree	1 strongly disagree
DDL/CALL class was fun.	3.8	15% 65%	50%	30%	5% 5%	0%
DDL/CALL class improved our English skills.	3.9	25% 75%	50%	10%	15% 15%	0%
I'd like to take this course again.	4.1	45% 80%	35%	10%	5% 10%	5%

4.3 How did learners rate the parallel concordancing activities?

We asked the students what they thought of parallel concordancing with regard to nine criteria and displayed the results in **Table 4**. The questionnaire items were based on O'Donnell (2003). On a scale of 1 to 5, we can see students considered the DDL to be easy-to-use (3.7), valuable (3.7), useful (3.6), clear (3.6), and meaningful (3.5). Keep in mind that the majority of students in the pretest indicated they did not like English (35%) or were neutral about it (40%) and 80% had no confidence in their English ability. Considering their initial position, the evaluation we see in **Table 4** is rather high. We can say that the DDL activities were well received by these students and they valued the importance of the DDL lessons.

Table 4   Students' impressions of DDL

Statements	Average	20 students (January in 2007)				
		5 strongly agree	4 agree	3 neutral	2 disagree	1 strongly disagree
Easy-to-use	3.7	40% 70%	30%	20%	10% 10%	0%
Valuable	3.7	20% 55%	35%	35%	10% 10%	0%
Useful	3.6	20% 55%	35%	30%	10% 15%	5%
Clear	3.6	35% 50%	15%	30%	15% 20%	5%
Meaningful	3.5	20% 60%	40%	20%	10% 20%	10%
Enjoyable	3.0	20% 35%	15%	25%	25% 40%	15%
Appealing	3.0	10% 35%	25%	25%	35% 40%	5%
Focused	3.0	10% 35%	25%	30%	25% 35%	10%
Exciting	2.6	10% 20%	10%	20%	45% 60%	15%

4.4   Was the concordancing activity useful for grammar learning, vocabulary learning and retention?

Even though "useful" was included as a criterion in the previous research question, it was important to understand in what specific ways it was or was not viewed as useful by the learners. Therefore, we asked the learners to give us feedback regarding grammar learning, vocabulary learning and retention. Looking at **Table 5** we see that 55% of students agreed that the DDL activity was useful for grammar learning, versus 20% who did not. Sixty percent of students agreed that the DDL activity was useful for vocabulary learning, versus 10% who did not. On the whole, learners responded with a positive attitude to the experience. This is underscored by the fact that only one student of 20 responded with a 'strongly disagree' in **Table 5**.

  In addition to the high percentage of students who believed the DDL activity was useful for grammar and vocabulary learning, 70% felt it was also useful for retention. 'Students reporting on results' (Tribble and Jones, 1997) is a necessary classroom feature for giving learners positive feedback and for allowing them to consolidate their learning outcomes. In the 2004 study, the score for retention was as low as 39%. Therefore in both the 2005 study and this study, we tried to provide learners with enough class time to report their findings and share the knowledge they acquired from the concordance activities with peers. We can say this previous shortcoming has improved greatly in this study.

Table 5 The evaluation for the concordancing activity

Statements	Average	20 students (January in 2007)				
		5 strongly agree	4 agree	3 neutral	2 disagree	1 strongly disagree
It's useful for grammar learning.	3.7	40% **55%**	15%	25%	15% **20%**	5%
It's useful for vocabulary learning.	3.8	30% **60%**	30%	30%	5% **10%**	5%
It's useful for retention.	3.9	30% **70%**	40%	20%	5% **10%**	5%

4.5 Did learners improve their knowledge of grammar basics?

In **Table 6**, the seven types of questions, the pretest scores, posttest scores, and the gain between the pretest and posttest are shown. Since the number of test items in each type of questions varied, each test score is expressed as a percentage. The result of a two-sample t-test indicates that the increase between the pretest and posttest of grammatical features from (1) to (5) and except for (6) and (7) was statistically significant at the 1% level. The details of the results are discussed below.

Table 6 Comparisons of the pre- and post test scores on grammatical features[6]

Grammatical features	Pretest (%)	Posttest (%)	Gain (post - pretest)
(1) Word classes	65	80	15[**]
(2) Countable & uncountable nouns	49	76	27[**]
(3) Verb forms	0	63	63[**]
(4) Derivations	31	60	29[**]
(5) Noun phrases	28	58	30[**]
(6) Sentence position of adverbs	39	51	13
(7) TOEIC-format grammar questions	39	38	-1

4.5.1 Word classes

Students were given sentences and asked to write the name of the part of speech to which each word belongs. After the DDL tasks corresponding to this grammatical feature, students were able to recognize word classes such as 'articles,' 'nouns,' 'pronouns' and 'prepositions' more often. However, they still had difficulty in recognizing 'adverbs' such as *clearly* and *immediately*. This finding provides us with another issue to address for our next study.

4.5.2 Countable & uncountable nouns

 "Although the distinction between countable and uncountable is based on the reality of what the nouns describe, the distinction is a grammatical one rather than a real one" (Parrott, 2000:8). We encouraged learners to observe countable and uncountable nouns in the context of the concordance lines to confirm and understand whether the word has both a singular and a plural form, or only one form. After the DDL tasks, students were asked to answer if each of sixteen nouns are countable or uncountable. Students' recognition of uncountable nouns such as *information, furniture, cash, health,* and *darkness* improved considerably.

4.5.3 Verb forms

Although students were supposed to have learned verb conjugation in high school, we found that many cannot conjugate verbs correctly. We encouraged learners to observe the various verb forms in the context of the concordance lines to understand the different verb forms. Initially, it was necessary to teach students to recognize that main verbs have at least three different forms—for example *walks*, *walked* and *walking* are all forms of *walk*.

    In the pretest, all 20 students failed to list all different forms of eight verbs. In the posttest, the percentage of correct answers was 63% on the average, and we can see the

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6 The "**" in the Gain column in Table 6 refer to that the result of the two-sample t-test indicates that the increase between the pretest and posttest was statistically significant at the 1% level.

improvement here. There is a need for more work in this area, but this was an encouraging beginning.

4.5.4 Derivations

Students were asked to fill in the 17 derivative forms in a table which is consisted of nouns, verbs, adjectives and adverbs which have the same stems. Since we did a lot of tasks emphasizing derivations, students were able to write the correct adjective forms which have typical adjective endings such as *financial* and *original*. However, the percentage of correct answers for adverbs such as *productively*, *conceivably*, and *economically* remained lower than 50%. We need to address the derivation of adverbs in the future.

4.5.5 Noun phrases

According to Uchibori et al.'s 2006 study, the grammatical structures that frequently appear in TOEIC grammar sections are, in order of frequency, noun phrases (24.4%), verb phrases (13.0%), preposition phrases (10.7%), subject-predicate relations (10.5%), and adverbs (6.5%). Thus, understanding these structures, and in particular noun phrases, is essential for improving English proficiency as measured by TOEIC.

Since noun phrases were taught mainly in the second semester, students took the noun phrase-targeted pretest during the first class in September, and the posttest in the final class in January. Students were asked to underline the 32 noun phrases found in 15 sentences. The posttest scores showed an average increase of 30 points (t=5.434[**], df=19, p<0.01) and the gain was statistically significant at the 1% level. We can say the enhanced noun phrase DDL instruction conducted in this study was effective.

Some of the noun phrases which students had difficulty in answering correctly were the following three types: 1) noun phrases that consist of one word such as a name, pronoun or noun, 2) noun phrases that also include preposition phrases such as *the trouble **with recent young generations***, and 3) complex noun phrases that include subordinate clauses such as *the woman **I told you about last Friday***. We will incorporate these types in our next study.

4.5.6　Sentence position of adverbs

Although there is considerable flexibility in the position of some adverbs, in this study, we mainly focused on adverbs before main verbs, such as *he **suddenly** canceled his appointment*, and adverbs before the complement with "(to) be" (*am*, *is*, *are*, *was*, *were*) such as *she is **often** ill*. Students were asked to show the correct position of each adverb in four sentences. However as shown in **Table 6**, the gain was much lower than we expected. We will need to address this grammatical feature with more examples in our ongoing 2007 case study which will focus on teaching verb phrases with DDL.

4.5.7　TOEIC-format grammar questions

Students were asked to answer ten fill-in-the-blank questions which were taken from a retired TOEIC Part VI test (The Chauncy Group International, 2000). An example question is as follows, and the answer must be chosen from four choices given for each

question:

We will (   ) have a trip to China next spring. {probable, prove, probably, probability}

The answer is a certain adverb. It is taught that an adverb may be placed before a main verb, and that many adverbs end in *–ly*. In order to choose the correct answer, *probably,* it is important to have an understanding of these two concepts. As we saw in 4.5.1 to 4.5.6, students were rather successful in applying explicit knowledge acquired through the DDL lessons to general grammar questions, but they found it difficult to apply their explicit knowledge of English grammar to the questions that appear on TOEIC.

Compared to the other six types of tests which focus on a single grammar issue, this particular type of TOEIC-format test question is complex and requires students to bring together knowledge of more than one aspect of grammar. In the example, the respondent would have to understand not only that an adverb is required, but that an adverb generally ends in *–ly* and that the adverb could appear in the space indicated. To better prepare students for these kinds of test questions, more complex grammar issues can be added to the DDL program, as well as additional follow up activities.

5. Conclusion

As Conrad (2005:404) tells us, there is a "need for more empirical studies on the impact of using corpus materials and techniques in the classroom." The information gained from the three years of case studies we have done adds to the body of knowledge for parallel concordancing use in the classroom.

In this 2006 case study, we created grammar DDL tasks and gave twenty DDL lessons to beginner-level Japanese university students. We presented our findings of the students' evaluation of the DDL activity, their impressions of DDL, the overall learning effect of the DDL/CALL course, and the learning effect on specific grammatical features and structures. Although almost all of these evaluations showed this program was useful and effective for learning grammar basics and was favorably received by students, we hoped the posttest scores would be higher. Our next goal is to help students to achieve higher retention, gained from further crafting of both the DDL tasks and the follow-up activities. In addition, we'd like to develop DDL tasks focused on verb phrases and to incorporate other issues of interest identified in this study.

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