Japanese EFL Learners' Acquisition of Parts of Speech

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Abstract

（課に提出したもの）

1. Introduction

The aim of this doctoral thesis is to investigate Japanese EFL learners' acquisition of parts of speech. Parts of speech are classified by 'meaning' of words, 'form' of words, and 'the use' of words, but normally these three are closely related (Takahashi, Kaneko, Kaneda., Sai, Suzuki, Suda & Matsumoto, 2005), and 'parts of speech is the traditional term for the major classes of words that are grammatically distinguished in a language' (Schachter & Shopen, 1985, p.1). Vocabulary, which is the entirety of words necessary for learning language, and parts of speech, which is a category of each word, are also important. Understanding the parts of speech is important in English learning and acquiring these three aspects will facilitate learning of the language.

The researcher investigated these three aspects of parts of speech; specifically, nouns, verbs, adjectives and adverbs. The research questions in this thesis were as follows:

① How do Japanese students comprehend parts of speech? (Are there any differences in the comprehension of parts of speech between 'form', 'meaning' and 'use'?)

② Are Japanese parts of speech really acquired by Japanese students?

③ Are there any common characteristics between Japanese and English regarding the comprehension of parts of speech?

2. Method

There were four studies. The researcher used a booklet as a tool to investigate the acquisition of parts of speech in all study. The booklet consisted of three parts; a

questionnaire, an English section (E-sect), and a Japanese section (J-sect). In Study 1, the E-sect contained three tests: a category judgment test (CJT), a correction test (CT), and a modifier test (MT); and the J-sect contained two tests, a CJT and MT. The maximum time to fill out the questionnaire was five minutes and the maximum time to answer tests was 30 minutes. In Study 2-4, the E-sect contained four tests: a category judgment test (CJT), a brank filling test BFT), a modifier test (MT), and a same form test (SFT); and the J-sect contained two tests, a CJT, BFT and MT.

The participants in each study were high school students and university students. Their mother tongue was Japanese. The students who did not answer a quarter of the total number of questions were removed. The total number of participants exceeded 1000.

3. The results

The characteristic that was common through four studies was that acquisition of nouns by students is insufficient. This is a notable characteristic in this thesis. In previous studies, many researchers have argued that the noun is the easiest part of speech (Rodgers, 1969; Ellis and Beaton, 1993; Yachi, 2002), and some evidence has showed that many second language learners acquired nouns preferentially in the targeted language (Saita, 2008; Vasiljevic, 2010; Horiba, Nishi, Matsumoto, Suzuki, Yi, & Yamagata 2011). However, the researcher's results showed that many students have difficulty with acquisition of nouns not only in English, but also in Japanese. It seems that one of the reasons the researcher's results differed from the previous studies was because many researchers had used a vocabulary size test. Many vocabulary size tests can measure the number of words which the participants acquired. However, in many cases, the aspect that tests can measure is restricted to a meaning aspect. These tests do not measure other aspects of words (especially about the use aspect of words).

In the researcher's studies, the meaning aspect, the form aspect and the use aspect were all investigated.

In addition, many participants had difficulty in morphological and syntactic knowledge. In particular, morphological knowledge of Japanese nouns is insufficient, even though Japanese is their mother tongue. In every Japanese CJT, the words which derived from other parts of speech were contained.

According to Takahashi, Kaneko, Kaneda., Sai, Suzuki, Suda & Matsumoto (2005), there were typical form of nouns which derived from other parts of speech. They showed how to make nouns from other parts of speech with formulas, for example, a verb radical + '-kata' = a noun (ex. 作り方), an adjective radical + '-sa' = a noun (ex. 長さ), and an adjective radical + '-mi' = a noun (ex. 深み). These were typical forms of nouns derived from parts of speech, however many participants did not recognize them. The scores for derived nouns were lower than other nouns.

Insufficient acquisition of syntactic knowledge appeared in English CJT and English MT and English SFT. In English CJT, the participants can use semantic, morphological, and syntactic knowledge in an integrated manner, and it might be possible to answer questions by using only semantic knowledge. However, the semantic knowledge was not main factor to answer the question correctly. It was impossible to answer questions in MT and SFT without syntactic knowledge. The scores for MT and for SFT were remarkably lower than CJT. This result shows that semantic knowledge was acquired than morphological and syntactic knowledge.

4. Conclusion

Regarding acquisition of parts of speech, there were differences among parts of speech.

The noun is one of the most difficult parts of speech. The difficulty in adjectives and in adverbs was different in studies. However, the scores for verbs were relatively high in these studies. In addition, acquisition of 'form' and 'use' was insufficient. The scores were low, when the participants were required to use syntactic knowledge intensively. In addition, there was a possibility that the students did not recognize the difference of forms of parts of speech.

In Japanese parts of speech, at least the students had difficulty in nouns. The recognition of nouns was insufficient, especially in nouns which derived from other parts of speech. In Japanese CJT, the students were required to choose the part of speech which was same as the target part of speech in the examination sentence. When the target word was a noun which derived from other parts of speech, many participants chose the same word as the word of the source of derivation of a noun. If they have used syntactic knowledge, they would have chosen the correct answer. Therefore, at least, the Japanese student did not acquire nouns enough.

There were common characteristics between Japanese and English regarding the comprehension of parts of speech. Acquisition of nouns was insufficient both in English and Japanese morphologically and syntactically.

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Chapter 1

Introduction

Parts of Speech

Parts of speech in this study

The theme of this doctoral thesis is the acquisition of parts of speech. If you go to an English or linguistic section of a library in your university, you will find many books related to parts of speech. However, there exists little research that specifically addresses the acquisition of parts of speech. In this doctoral thesis, vocabulary and parts of speech are defined as follows. Vocabulary is the entirety of the words used in a system of one language (Daijirin: http://www.weblio.jp/cat/dictionary/ssdjj), "the body of words used in a particular language" (Oxford English Dictionary). Thus, it is possible to say that the aggregate of words used in a language is vocabulary. In addition, parts of speech are classified by the "meaning" of words, the "form" of words, and the "use" of words, but normally these three are closely related to each other (Takahashi et al., 2005). "Parts of speech is the traditional term for the major class of words that are grammatically distinguished in a language" (Schachter & Shopen, 1985, p. 1). According to Nation (2005), words have many aspects, and he presents an easy-to-understand chart that expresses what is involved in knowing a word (Figure 1-1). Nation subdivides the three aspects of word knowledge, "form," "meaning," and "use," into three more detailed aspects. Form is broken up into "spoken," "written," and "word parts," meaning into "form and meaning," "concept and referents," and "associations," and use into "grammatical functions," "collocations," and "constraints on use." Then, Nation divides each aspect of words into receptive and productive aspects. Thus, there are eighteen aspects to knowing a word. (Figure 1-1). Nation describes 18 aspects of words vocabulary knowledge.

Form	Spoken	R	Can the learner recognize the spoken form of the word?
		P	Can the learner pronounce the word correctly?
	Written	R	Can the learner recognize the written form of the word?
		P	Can the learner spell and write the word?
	Word parts	R	Can the learner recognize known parts in the word?
		P	Can the learner produce appropriate inflected and derived forms of word?
Meaning	Form and meaning	R	Can the learner recall the appropriate meaning for this word form?
		P	Can the learner produce the appropriate word form to express this meaning?
	Concept and referents	R	Can the learner understand a range of use of the word and its central concept?
		P	Can the learner use the word to refer to a range of items?
	Associations	R	Can the learner produce common associations for this word?
		P	Can the learner recall this word when presented with related ideas?
Use	Grammatical functions	R	Can the learner recognize correct uses of the word in context?
		P	Can the learner use this word in correct grammatical patterns?
	Collocations	R	Can the learner recognize appropriate collocations?
		P	Can the learner produce the word with appropriate collocations?
	Constraints on use: register, frequency	R	Can the learner tell if the word is common, formal, infrequent, etc.?
		P	Can the learner use the word at appropriate times?
Note:	R = receptive knowledge; P = productive knowledge		

Figure 1-1. Content of words (adapted by the researcher from Nation, 2005).

In other words, each word has eighteen aspects. It is possible to develop categories according to each characteristic a given word has; for example, a word may have a noun form, a verb form, and an adjective form.

"Meaning" is the content expressed by words. For example, we may consider "differ," "different," and "difference." "Differ" (違う・異なる) is a verb, "different" (異なった・違った) is an adjective, and "difference" (違い・差異) is a noun, so we can understand which meaning corresponds to which part of speech. However, one must also pay attention to the fact that sometimes meaning shares content among parts of speech. In this example, the part of speech in each word is distinct, but their contents overlap. In the case of "form," each part of speech sometimes has a typical "form," and there are some varieties. For example, in many cases, the "-ly" suffix implies that a word is an adverb, and the "-tion" suffix implies that a word is a noun. In the case of "use," each part of speech has a typical use. Even though a form and meaning of each word overlaps, learners will understand the correct part of speech, if their understanding of parts of speech is correct. For example, "work" has two parts of speech: a verb and a noun. In the sentence "I have a lot of work to do this evening," "work" is easily recognized as a noun, if the speaker has mastered the use of a noun.

Previous Studies Related to Parts of Speech

The researcher's previous studies produced certain findings about the acquisition of parts of speech. For example, previous research established that many learners of English have some problems with the acquisition of parts of speech. These previous studies did not aim to investigate the acquisition of parts of speech, but rather focused on vocabulary, especially depth of vocabulary.

The vocabulary field was generally less popular than other fields of second language

acquisition research until the 1980s (JACET SLA, 2005). Now, vocabulary is of greater interest among researchers, teachers, and materials developers (Huckin & Coady, 1999). Laufer and Nation argued that vocabulary knowledge is important to one's competence in both a first language and a second language (Laufer & Nation, 1999, p. 33).

Research on vocabulary

Vocabulary research is generally divided into two categories: breadth of vocabulary and depth of vocabulary, although depth of vocabulary has not been explored as much as its counterpart. One reason for this is that a reliable test to measure depth of vocabulary has not been established yet.

1. Breadth of vocabulary.

In research about breadth of vocabulary, many researchers mention the number of words a learner knows. This type of research about vocabulary essentially studies the number of words that learners know, which is sometimes referred to as vocabulary size (Meara, 2009). Breadth of vocabulary is thought to be deeply connected to reading ability, and many studies of reading ability and vocabulary size have been conducted. In other words, the number of words in a learner's vocabulary is deeply connected to the learner's reading comprehension. For example, Laufer (1992) researched the minimum vocabulary size needed to read university-level texts, concluding that 3000-word families are needed to read general academic texts. In English education in Japan, the number of words that school students need to learn continues to be limited (JACET SLA, 2005). The number of words in Japanese English education is not sufficient for learners to comprehend academic-level reading.

Many researchers have focused on measuring the breadth of vocabulary knowledge,

developing tools like the Vocabulary Levels Test (Nation, 1983) and the revised 2,000 World Level and University Level Vocabulary Tests (Beglar & Hunt, 1999). The Vocabulary Levels Test, made and improved by Nation (1983, 1990) is typical of this type of test. Its purpose is to measure receptive knowledge (Nation, 2005). A test item has six words on the left-hand side and three word definitions on the right. Learners should match the words on the left with their definitions. Adding the scores for all the items gives an estimate of learners' vocabulary size.

In Japan, there are several vocabulary size tests. One of the most famous is the Mochizuki Test (Mochizuki, Aizawa, & Tono, 2003) (Figure 1-2). The vocabulary size of Japanese learners is generally different from that of English native speakers. The above tests (e.g. the Vocabulary Levels Test, the revised 2,000 World Level and University Level Vocabulary Tests, and the Vocabulary Levels Test) were made based on British National Corpus or other corpus materials and were designed for native English speakers. Mochizuki referred to the frequency of use of English in Japan. The Mochizuki Test is based on the "Hokkaido University English Base Vocabulary List" (Sonoda, 1996), which investigated English vocabulary frequency in Japan (Mochizuki et al., 2003, p. 186). The Mochizuki Test contains not only English, but also Japanese, which makes it easier for native Japanese speakers. The targeted words in each question are English, but the questions referring to each targeted word are written in Japanese, and there are seven levels, from the 1000 words level to the 7000 words level. Each level has 30 questions, which are written in Japanese, and the learners must choose one English answer from six alternatives. By using this test, we can calculate learners' vocabulary size by dividing the "score" by the "total number of questions" and then multiplying this answer to yield "vocabulary size." For example, if you want to measure 1000-4000 word levels and the scores are 29 in the 1000 word level, 26 in the 2000

word level, 19 in 3000 word level, and 15 in 4000 word level, the formula becomes ((29+26+19+15) / 120) × 4000 = 2533. In this example, we can estimate that the vocabulary size of the learner is 2533. In this study, this Mochizuki Test was chosen for the vocabulary size test.

	1. 小麦粉を焼いた菓子		2. 集まり、会		
(1) birthday	(2) cookie	(3) fork	(4) party	(5) star	(6) sweater
	3. 玉ねぎ		4. ぶどう		
(1) grape	(2) lettuce	(3) onion	(4) pear	(5) rose	(6) tree
	5. 丸い入れ物		6. クッションのある長椅子		
(1) bath	(2) lamp	(3) phone	(4) pot	(5) sofa	(6) stove

Figure 1-2. Example of the Mochizuki Test (Mochizuki et al., 2003).

2. Depth of vocabulary.

The research about depth of vocabulary focuses on the investigation of learners' comprehension of words. Depth of vocabulary knowledge can be defined as how well a word is known (Nation, 2005). Learners do not have sufficient depth of vocabulary knowledge when they only have fragmentary knowledge of a word. In addition, depth of vocabulary knowledge ranges from knowing only that you have seen or heard a word form to a full understanding of the word, its various nuances, and how it is used in a variety of contexts, both receptively and productively (Waring & Takaki, 2003). Thus, the depth of vocabulary knowledge covers all of the aspects of word knowledge shown in Figure 1-1. To the researcher, this refers to how many of the aspects involved in knowing a word (Figure 1-1) a learner actually knows.

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There are a range of approaches to measuring vocabulary knowledge. One is the Word Associates Test designed by Read (1993; 1998). This test focuses on the network of the words related to a target word and requires knowledge not only of the meaning of each word, but also of its network of related vocabulary. The participants are required to choose the meaning of the targeted word and a collocation of the targeted word from the given choices. In this test, each question has two parts: the first targeting paradigmatic associates and the other targeting syntagmatic associates. One limitation of this test is that all of the target words are adjectives (Mochizuki et al., 2003; Meara, 2009). In addition, Meara (2009) has also observed that this test focuses too much on the details of single words and argues that it is necessary to think on a larger scale.

Self-Report

Categories

I. I don't remember having seen this word before.

II. I have seen this before, but I don't know what it means.

III. I have seen this word before, and I think it means _____. (Synonym or translation)

IV. I know this word. It means _____. (Synonym or translation)

V. I can use this word in a sentence: _____.

Figure 1-3. Example of vocabulary knowledge test item (Paribakht & Wesche, 1993).

Another test used frequently in this area is the Vocabulary Knowledge Scale (VKS). This test was made by Paribakht and Wesche (1993) to measure the depth of vocabulary knowledge of EFL learners at Ottawa University. Each question has a five-point scale (Figure

1-3). The VKS was designed to measure increments in vocabulary knowledge and to throw light on the process of vocabulary acquisition, and also makes it possible to measure short-term increases in vocabulary knowledge (Mochizuki et al., 2003).

Master's research by the researcher.

As stated above, vocabulary and reading are closely related. The aim of the researcher's master's thesis was to investigate the relationship between reading activity and depth of vocabulary knowledge. Research questions for this study were: 1. Are there incidental gains in depth of vocabulary knowledge through reading? 2. Do explicit vocabulary activities lead to (greater) gains than only reading? 3. What is learners' vocabulary knowledge like? What are the problems?

The participants were first-year students at a Japanese private university who had studied English for at least six years. The number of participants who attended both the pre- and posttests was 90. The same teachers taught all of the participants in a reading skill course. The researcher carried out a pretest and a posttest. The instrument used in the pre- and posttests were the same, but the order of the questions was changed. The main instrument was the vocabulary knowledge scale (VKS) composed of 30 words (Wesche & Paribakht, 1993) adapted by the researcher. The words that were used in the adapted the VKS were taken from the Units 3 and 4 in the reading textbook, or BNC. There were three kinds of words: target words (which were the targets in each unit), text words (which were used in the textbook, but were not the targets in each unit), and non-target words (which were not used in the textbook). Each kind of word had almost the same frequency in the BNC. The pretest was administered before the class lesson in order not to give any information about Units 3 and 4. The posttest was carried out after six lessons.

Compared with the pretest, only target words showed significant gain in the posttest. However, most of the gain in target words was attributed to an increase in the number of words recognized. The gain in depth of meaning was smaller than the researcher's expectations. Knowledge about the form showed significant gains in participants' mental lexicons, but the total knowledge of words, which is depth of knowledge, did not increase significantly. The results showed that participants had problems in their lexicons. The first problem is that there is overestimation of learners' vocabulary knowledge. The second is the learners' confusion with synform, which refers to words similar in form: phonological, graphic, or morphological (Laufer, 1988). Thirdly, many students demonstrated confusion over parts of speech.

In conclusion, there was little incidental gain in the depth of vocabulary knowledge through reading instruction. Explicit vocabulary activities performed through reading instruction promoted great acquisition, though the gain of the participants' vocabulary knowledge occurred only in the form of recognition. The learners recognized that they have already studied the form of the target words, but their meaning and other aspects were not acquired. In addition, the learners have problems with vocabulary knowledge: overestimation, confusion with synforms, confusion of parts of speech, and confusion between English words and Japanese loanwords.

This study revealed that many students had problems with recognizing parts of speech, and many had a poor understanding of the function of each part of speech. A similar tendency emerged in the pilot study performed in connection with the master's thesis. The material used in this pilot study was the VKS. The participants' knowledge of the vocabulary had been investigated individually. The tests had been conducted at the same time, but the words were different for each participant. The participants were asked to each make an original notebook.

In their notebooks were listed words and articles related to the theme of each lesson. The targeted words had been collected from the participants' notebooks beforehand. In the pilot test, the word "bread" appeared in one student's notebook. It was stated that "bread" means 「パン」 in questions III and VI of theVKS, so she had understood this was a noun. However, she had used "bread" as a verb in the question V of the VKS. Though dictionaries do list "bread" as a verb, the frequency of this use is very low and it is not common in English-speaking countries or in Japan. It is rather difficult to believe that the student really understood the use of "bread" as a verb.

These two studies established that many participants have a problem recognizing and using parts of speech. However, the details of the problem were not investigated in these two studies, but rather provided grounds for the research of the current doctoral thesis.

Konishi (2011).

In Konishi (2011), the main theme was the relation between vocabulary size and grammar ability. It was thought that there is a strong relationship between these two important factors. However, it seemed that the relationship between vocabulary size and grammar ability in non-proficient learners was unstable and was not proportionate, from the researcher's experiences. Many previous studies investigated this theoretical area, but numerical investigations were uncommon; therefore, this study aimed to investigate a numerical relationship between vocabulary size and grammar ability.

Twenty-nine students participated in this study; 28 were Japanese and their mother tongue was Japanese. Only one person was Chinese, but she grew up in Japan, and Japanese is the easiest language for her. The participants were divided into two groups. Group 1 contained people who majored in English or linguistics, and Group 2 contained people who

did not major in English or linguistics. All participants took two kinds of tests. One was the Mochizuki Test, which was made to measure English vocabulary size of Japanese learners, and it contained 30 questions in each level. The levels used in this research were 2000 to 6000. The other was a grammar ability test. The researcher adapted this test from past TOEIC questions. This test contained 30 questions. The tests were carried out at the same time.

As a result of the investigation of vocabulary size and grammar ability, the correlation coefficient between vocabulary size and grammar ability was $r = .742$, $p<.01$ among the participants. However, when the participants were divided into two groups, the result was totally different. In group 1, those participants who majored in English or linguistics, the correlation coefficient was $r =.681$, $p<.01$, while in the other group, the correlation coefficient was $r = .497$, $p>.05$. Therefore, knowledge of their specialty and the exposure rate might have affected their grammatical ability, and thus one can surmise that vocabulary size and grammatical ability might not be directly related. Other factors (e.g. the participants' specialty or acquisition of vocabulary knowledge) might also affect the relationship between vocabulary and grammar. It is possible that the correlation between vocabulary size and grammatical ability arises from other factors.

Based on that study, as well as Konishi (2010), the researcher thought that one of the factors that might affect the relationship between vocabulary size and grammatical ability is parts of speech. The participants might know the meaning of words, so they might somehow choose the correct answers. However, these participants might not have acquired a typical form or a typical use of the words, considering the result of the VKS. It is likely that their knowledge of grammar and vocabulary was not ordered in their knowledge of words. Therefore, the researcher carried out an interview with English teachers about their students' acquisition of parts of speech in Konishi (2012).

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Konishi (2012).

The first aim of this study was to construct a theory about the factors of transfer or interference; namely, the researcher thought that the user's ability in Japanese could be transferred to their abilities in English. However, something apparently impedes this conveyance. The researcher tried to discover the reasons why many Japanese students do not acquire English grammatical items, or in other words, why the acquisition of Japanese grammatical items does not transfer to English grammatical items. For the grammatical items to be used in the interview, the researcher prepared the parts of speech, the numbers of the valence of verbs, and the post modification, because these items could be difficult for many Japanese learners of English, based on the researcher's experience as a cram school teacher. Four English teachers who had English teaching experience (over 10 years) participated in the interviews. There was one junior high school teacher, one high school teacher, and two university teachers who had also previously taught in the high school. They were asked about their students' acquisition of these three grammatical items. The one-to-one interviews were recorded on an IC recorder by the researcher. The average time of the interviews was 52 minutes.

Consequently, some suggestions for the research on parts of speech were derived from this research. Several teachers talked extensively about parts of speech, more so than other grammar items. The junior high school teacher said that initially the students had not recognized parts of speech, but they gradually began to recognize them over time. The high school teacher said that the students had not recognized parts of speech, though many English teachers had emphasized the idea of parts of speech. It seemed that the students' knowledge of parts of speech had not been explicit. In addition, the two university teachers said that university students did not have enough knowledge of parts of speech either. Their

knowledge of parts of speech was disordered. One of the two university teachers argued that students' idea of parts of speech in Japanese had been also vague. She said that the students, who had belonged to the lowest class in the intermediate-level university, had taken a lot of time to distinguish parts of speech in Japanese during their English class. The other university teacher pointed out that many students had not thought about parts of speech in English or in Japanese, though they had been taught about parts of speech in their high schools. In the opinions of the two university teachers, students had not recognized the idea of parts of speech either in English or Japanese. Many aspects of English grammar involve correct usage of parts of speech, so a solid comprehension of this subject is fundamental to developing proficiency in English.

The interviews revealed various problems about the acquisition or comprehension of parts of speech. For example, sometimes the meaning of words did not correspond to the form of words or the use of words (Konishi, 2010). In addition, teachers reported, many students did not understand or think about parts of speech, though parts of speech are used very often in English classes (Konishi, 2012). Therefore, the researcher decided to investigate Japanese students' acquisition of parts of speech.

About Parts of Speech in the Previous Studies

Parts of speech are a widely taught and fundamental aspect of grammar, but it is rare that concepts of each part of speech are explained from a viewpoint of metacognition. For example, there are headings for each part of speech and many grammar rules are explained by using parts of speech in *Forest 6th Edition*, which is one of the most popular study-aid books in Japan (Ishiguro, 2009). But in this study-aid book, only several lines are dedicated to explaining the concept of parts of speech. Instead of explaining the concept of parts of

speech, there are many difficult example sentences and many explanations of exceptions. The example sentences should be easy and understandable.

Also, in schools, especially in high schools, many teachers use parts of speech for the explanation of grammar in their classes. However, there is a possibility that the students do not understand parts of speech (Konishi, 2010; Konishi, 2012). In this situation, the students will not understand the explanation of grammar because most grammar explanations use parts of speech. In fact, many university students whom the researcher taught did not understand the function of verbs, adjectives, and adverbs. These students said that they recognized parts of speech, but they did not understand these words.

Chujo, Nishigaki, Uchibori, & Oghigian (2008) investigated an effective way to teach grammar to EFL beginners using Data-Driven Learning (DDL). They created lexico-grammatical DDL tasks for beginner-level Japanese university students. There were 10 lessons on noun phrases for the first semester and lessons on verb phrases for the second semester. The main point was to understand the basic patterns of noun phrases, such as nouns preceded by articles, adjectives, and quantifiers, and verb phrases, such as verbs followed by *that*-clauses, *wh*-interrogatives, infinitival clauses, and gerunds, etc. Chujo et al. prepared many kinds of instruction contents: the categorization of parts of speech, inflections, derivations, complements (*to*-infinitives, gerunds, and *wh*-clauses, etc.), subjects, auxiliary verbs, etc. There were 71 students in the study, who were first-year students in the university. The period of instruction was April to December 2008, and the instructions were implemented 20 times, in addition to a pretest and a posttest. Then the researchers analyzed the data, but at that time the analysis was done regarding data from only 21 students. Consequently, the scores of the posttest increased significantly compared to those of the pretest. In the tests, items asked the names of parts of speech, and the degree of acquisition

was different from word to word. The researchers argued that instruction to increase meta-linguistic ability, in which students can recognize and analyze parts of speech correctly, is necessary because many students' comprehension of vocabulary was not sufficient to use that vocabulary correctly, though they acquired English grammar and vocabulary to a certain degree. Thus they had not understood the form, meaning, and use of words in an integrated manner.

Saita (2008) investigated the relationship between the frequency of use and the difficulty of vocabulary, based on parts of speech. In order to estimate the vocabulary size of freshmen, she made a vocabulary size test based on parts of speech. This test was based on the 1000-5000 words level in JACET 8000. There were 100 questions on the vocabulary size test. Almost 400 freshmen participated in this study. As a consequence of the study, the differences among their understanding of parts of speech were recognized. The difficulty of verbs was higher than that of nouns and adverbs, showing the degree of differences of difficulty among recognizing parts of speech. However, this research investigated vocabulary size, but did not address parts of speech.

Horiba et al. (2011) performed research among Chinese students who studied Japanese as foreign language. They carried out a test concerned with word meaning and a word association test in order to investigate various aspects of vocabulary. Sixty-two Chinese university students participated in this study; these students studied and lived in China. These data were analyzed and compared with the data of 60 Japanese students. In the test concerning word meaning, there were differences in the degree of acquisition of parts of speech, as in Saita (2008). The percentage of correct answers in nouns was the highest both among the Chinese students and the Japanese students. Verbs and other parts of speech followed nouns. The differences among parts of speech in Chinese students were bigger than

those of Japanese students. The researchers argued that parts of speech affected the meaning of knowledge of vocabulary.

Vasiljevic (2010) studied the acquisition of parts of speech by comparing the effect of systematic explicit vocabulary instruction on the acquisition of word meaning and collocation for nouns, verbs, and adjectives. There were 18 high-intermediate-level Japanese students of English. Their TOEIC scores were 770-830. For the test material, six articles were selected from two newspapers. These articles were used in the treatment. The length of the tests was approximately 1400-1800 words. The targeted words in the pretest and posttest included 37 nouns, 18 verbs, and 23 adjectives.

First, this researcher carried out the pretest concerning the targeted words and their collocation. Second, the treatment, which included two homework and two classroom vocabulary activities, was carried out. Third, the vocabulary posttest was carried out. The results showed that parts of speech might be one of the factors in the acquisition and availability of lexical items for production purposes. In both receptive and productive tests of word knowledge, nouns had a clear advantage over the other two parts of speech. Adjectives were acquired more easily than verbs.

Research Theme and Research Questions

The results of previous studies have shown the importance of parts of speech and the differences of the degree of acquisition among parts of speech, and have demonstrated that many Japanese students struggle with this concept when learning English. Therefore, the main research theme of this thesis is to investigate Japanese EFL learners' acquisition of parts of speech.

The research questions in this study are as follows:

1. How do Japanese students comprehend parts of speech? (Are there any differences in the acquisition of parts of speech between "form," "meaning," and "use"?)
2. Have the Japanese students really acquired Japanese parts of speech?
3. Are there any common characteristics about the comprehension of parts of speech in English and Japanese?

Chapter 2

Study 1: Japanese University Students' Knowledge about Parts of Speech

This study investigated Japanese university students' comprehension of parts of speech: namely, nouns, verbs, adjectives, and adverbs. Sixty-five students participated in this study. Their first language was Japanese, and they did not major in English or linguistics at the university. A booklet that consisted of one questionnaire and two sections (an English section and a Japanese section) was used as the test material. The English section (E-sect) contained three tests: a category judgment test (CJT), a correction test (CT), and a modifier test (MT); the Japanese section (J-sect) contained two tests, a CJT and an MT. The researcher printed the questionnaire, the E-sect, and the J-sect in one booklet. The maximum time participants were given to fill out the questionnaire was five minutes and the maximum time to answer the questions was 30 minutes. In this study, the full scores in each test were different; therefore, the researcher used percentages in order to display a mean.

In terms of results, in the CJT of E-sect, the average of each part of speech was as follows: nouns got 74.80%, verbs got 88.20%, adjectives got 88.90%, and adverbs got 74.80%. In the CT of E-sect, the participants' vocabulary knowledge was investigated semantically, morphologically, and syntactically. In other words, they understood "meaning," "form," and "use" in participants' vocabulary knowledge. However, they judged that the words that had wrong forms and uses were correct, if it was possible to understand the meaning. Therefore, there is a possibility that they chose the answers from the meaning of words. In the MT of E-sect, the average score for adjectives was 88.21% and the average score for adverbs was 51.29%.

This tendency also occurred in the CJT of J-sect. In the CJT of J-sect, the average of

each part of speech was as follows: nouns got 69.70%, verbs got 93.30%, adjectives got 86.10%, and adverbs got 90.20%. In the MT of J-sect, adjectives got 75.38% and adverbs got 92.31%. The comprehension of nouns and adverbs in E-sect was insufficient, and the comprehension of nouns in J-sect was insufficient. The correlation coefficient between E-sect and J-sect was $r = .375$, $p<.01$.

Purpose of the Study

Parts of speech have a significant role in the English language. Many English teachers in Japan, especially in Japanese high schools, emphasize parts of speech in their English teaching. However, many learners of English used parts of speech incorrectly in the researcher's previous studies. Despite the importance of this field of pedagogical linguistics, whether learners of English comprehend the content of parts of speech has rarely been investigated.

The main theme of this study is to investigate Japanese university students' comprehension of parts of speech. Another aim is to develop a test that can measure learners' knowledge of parts of speech, because no such test currently exists. The main research questions are:

1. How do Japanese university students comprehend parts of speech (nouns, verbs adjectives, and adverbs)? Is there any difference in the comprehension of parts of speech between "form," "meaning," and "use"?
2. Are there any common characteristics between English and Japanese regarding the comprehension of parts of speech?

The hypothesis of research question 1 is that the meaning and form of words are not a problem for Japanese university students. The researcher expected that many students had

already acquired the "meaning" and "form" of words because the words used in this study are junior and senior high-school level, and because many vocabulary books and study-aid books refer to the characteristic form of each part of speech occasionally; for example, these books often explain that words with "-ly" suffixes are usually adverbs, and words with "-ous" suffixes are usually adjectives. On the other hand, the researcher expected that the comprehension of "use" is insufficient, because of the previous studies Konishi, 2010, 2011, and 2012. In other words, the research expected that students would not know the role of parts of speech; for example, how adverbs modify other parts of speech. Learners sometimes apply the rules of parts of speech incorrectly. In addition, the researcher thought that there were some differences of comprehension among parts of speech. The researcher expected the easiest part of speech would be nouns because previous research shows that nouns are easiest to learn, followed by adjectives, and then verbs, with adverbs being the most challenging to learn (Ellis and Beaton, 1993; Rodgers, 1969; Yachi, 2002).

For research question 2, the researcher hypothesized that there are surely common characteristics between English and Japanese parts of speech. At least, there is a kind of relationship between the English score and Japanese score on the tests, because both English and Japanese are languages used by human beings. If there is a kind of linguistic problem, it could be revealed by the research. In addition, the Japanese tests also serve to discover which participants have problems linguistically. If the participants' scores on the Japanese tests were very low, though Japanese was their mother tongue, this would signal that the students have some linguistic problems. Such linguistic problems in the native language may also surface in the English tests.

Method

Participants

Sixty-eight university students who did not major in English or linguistics participated in this study. There were 33 male and 32 female participants. Fifty-two students belonged to the same public university and 13 students belonged to private universities. The researcher eliminated three students who stayed abroad for more than one year or were returnee students (or students who had experiences living abroad while of school age, though they live in Japan now).

Materials

The booklet for this research consisted of three parts: a questionnaire, an English section, and a Japanese section. In addition, the researcher prepared three kinds of tests for the two sections. All tests investigate comprehension of parts of speech, with each focusing on different areas. A category judgment test (CJT) investigates participants' knowledge of parts of speech semantically, morphologically, and syntactically; a correction test (CT) investigates the participants' morphological and syntactical knowledge about parts of speech, and a modifier test (MT) investigates a comprehension of adjectives and adverbs syntactically. However, the researcher did not prepare a test for nouns or verbs because of time limitations. In addition, the researcher thought that Japanese university students would not have serious problems with nouns or verbs, because these two parts of speech are very common and have some resemblance in English and Japanese.

The English section (E-sect) consists of three tests, the CJT, CT, and MT. The Japanese section (J-sect) consisted of two tests, the CJT and MT. There are tests that have the same names in both E-sect and J-sect. In that case, the number of questions, the way to

answer the questions, and the kinds of parts of speech used are the same. In addition, the researcher did not use the CT in J-sect, because the researcher considered that since the participants could answer the tests questions easily because they are native speakers of Japanese.

In E-sect, the vocabulary was mainly chosen from the top 2500 words of JACET 8000. JACET 8000 is a typical word list that is based on the British National Corpus (and a consideration toward Japanese students' study environment). The top 4250 words of JACET 8000 are available on the web page for the test. First, every word was randomly chosen from the top 2500 words of JACET 8000. Second, the researcher eliminated words with two or more parts of speech, choosing only those words with one part of speech in JACET 8000. For example, "die" is a verb and it has no other part of speech in JACET 8000. Third, the researcher checked whether these words were beyond the eleventh grade level at high school or if they appeared in the internet dictionary Weblio. In Weblio it is possible to search for one word in many kinds of dictionaries; for example, results are given from 14 dictionaries when you look up "die" in Weblio. If a targeted word was beyond the eleventh grade level at high school, the researcher did not use the word. Therefore, all the targeted words were junior high school level or the tenth grade level at the high school. The researcher chose easy words in order to avoid losing participants' motivation.

In J-sect, the researcher tried to choose more difficult words. The words were chosen based on the internet dictionary *Nihongo-kiso-goi-hyo,* which was made by a laboratory at Nagoya University, *Gaikokujin no tame no Nihongo Series*, which is based on JSL, *Daijisen*, and *Meikyo Kokugo-jiten*. First, the researcher randomly chose the words from the *Gaikokujin no tame no Nihongo Series*. These words seemed difficult to the researcher. Second, the researcher chose words classified as B rank (meaning low frequency) or words

that were not handled in *Nihongo-kiso-goi-hyo*. Then the researcher checked whether these words were cited in *Daijisen* or *Meikyo Kokugo-jiten.*

In addition, words that implied their parts of speech explicitly were not used in the booklet for this research. Thus, there were no words like "noun," "verb," "adjective," "adverb," "word-class," or "parts of speech." For the participants, the invigilation explained that this test would investigate their English and Japanese ability.

Details of each test are explained below, but to see the actual tests, please refer to Appendix 1.

1. The category judgment test (CJT).

This test investigates participants' comprehension of parts of speech semantically, morphologically, and syntactically. The participants were instructed to use their knowledge about a meaning, a form, and a use in order to answer questions. The CJT was used both in E-sect and in J-sect.

The words chosen by the researcher were used in the following format. In Figure 2-1, there is one examination sentence and four choices. The researcher underlined targeted words in each sentence. The targeted word in the examination sentence had a specific part of speech. In this example, "dog" is the target word, and the part of speech of "dog" is a noun. The underlined words in the choices each had a different part of speech. The participants are requested to choose one choice containing the same part of speech as the targeted word in the examination sentence; thus, "kitchen" is the answer in this case. The CJT contains 12 questions, and every question has a similar format.

The 12 questions consist of three noun questions, three verb questions, three adjective questions, and three adverb questions. As mentioned, the targeted words are the junior high

school level or the tenth grade level of high school. In addition, all sentences were chosen from dictionaries, and the researcher replaced words that were higher than the eleventh grade level of high school. The order of the question is not systematic; thus, it is difficult to guess which part of speech comes next.

次の文の下線部がと同じ機能を持つものを次の①－④の下線部の中から選びなさい。

Ex.	He plays with a dog.
①	Is there any coffee in the kitchen?
②	This is a golden opportunity.
③	I'll put it here.
④	He spoke slowly

Figure 2-1. Example of the CJT in E-sect.

2. The correction test (CT).

As explained above, the CT is used only in E-sect. The CT investigates comprehension of parts of speech morphologically and syntactically. The participants are required to use their morphological and syntactic knowledge of words when they answer the test's questions.

The CT contains 15 example sentences. There are eight correct sentences and seven incorrect sentences. In the incorrect sentences, the researcher changed the form of the targeted words, as in Figure 2-1. The changed words have the same etymology. For example, "full" is used in Figure 2-1, but the correct word is "fully." All the incorrect sentences have the same format.

The researcher asked the participants to judge whether the examination sentences are

correct or incorrect. The participants were required to draw a circle in an answer section if they judged it was a correct sentence. However, they were required to write X in an answer section and underline an incorrect part if they judged it as an incorrect sentence.

In addition, the process to choose the examination sentences is the same as in the CJT.

次にあげる文のうち間違っている文に×をつけ、更にその個所に印をつけなさい。

They enjoyed Ginza full.	×

Figure 2-2. Example of the CT.

3. The modifier test (MT).

The MT investigates how participants understand the function of adjectives and adverbs. One of the grammatical functions of adjectives is to modify nouns, and the main function of adverbs is to modify verbs, adjectives, and adverbs (Huddleston & Pullman, 2005; Takahashi et al., 2005; Ishiguro, 2009). Thus, this test investigates adjectives and adverbs syntactically.

The chosen words are used in the following format, shown in Figure 2-3. There is one examination sentence with four choices. The researcher underlined the targeted word in each examination sentence so the participants would notice that it was the target word. Four choices were selected from the examination sentence. One of the four choices is modified by an adjective or an adverb. Therefore, the participants were required to pick one choice. All questions have the same format.

The MT consists of six questions in total: three questions for adjectives and three questions for adverbs. The sentences used in the MT were uncomplicated.

下線部が次の①－④のどこを一番説明しているかを選びなさい。

Ex.	She has a <u>big</u> dinner party today.
①	she
②	has
③	dinner party
④	today

Figure 2-3. Example of the MT.

4. The questionnaire.

The researcher prepared a short questionnaire in order to find participants who were not suited for this research. There were eight items: 1. sex, 2. date of birth, 3. specialty in the university, 4. qualifications (ex. TOEIC, TOFLE, and IELTS, etc.), 5. experience of residence abroad, 6. frequency of exposure to English, 7. feeling toward English itself, and 8. feeling toward English study at school. The main items were 1–5, and the others were extra. Six and 7 were items to divert the attention of participants from the real aim of this test. This questionnaire was added to the first page of the booklet.

Procedure.

In this study, five minutes were allotted to fill in the questionnaire and 30 minutes were allotted to answer the five tests (three tests in E-sect and two tests in J-sect), under the supervision of the researcher or cooperators. The researcher or cooperators permitted the participants to use only pens or pencils and a wristwatch during the tests. The participants had to put any other personal items (for example, dictionaries, mobile phones, and textbooks) in their bags.

First, the researcher or the cooperators distributed the booklets to the participants. The participants were forbidden to touch or open the booklets. Second, the researcher and the cooperators explained how to complete the tests. At this time, words implying parts of speech were not used. It took two to three minutes for the explanation. Third, the participants were required to fill in the questionnaire in five minutes. Then the researcher or cooperators checked whether the participants filled in the entire questionnaire or not. Fourth, the researcher and the cooperators instructed the participants to start the tests. They did not allow the participants to check back or re-solve the questions during the tests.

The maximum time to answer the questions was 30 minutes. However, the time to answer the questions depended on each participant. If the participants had finished answering the questions, they did not need to use the full 30 minutes. When they finished, they were required to raise their hands. Then, the researcher or the cooperators gathered their booklets. At this time, the researcher or cooperators checked whether the participants filled in the questionnaire and answered the tests. In addition, the researcher or cooperator walked around and checked in order to confirm whether the participants obeyed the rules during the test.

Scoring.

1. CJT: The maximum score is 12 points. When the answer is correct, the participants get 1 point.
2. CT: The maximum score is 15 points. When the participants decide that a correct sentence is correct, they get 1 point. When the participants decide that an incorrect sentence is incorrect and underline an incorrect part, they get 1 point. However, when their decision about the sentence's correctness or incorrectness is correct and an underlined part is incorrect, they get 0 points.

3. MT: The maximum score is 6 points. When they choose correctly, they get 1 point.

Results

The descriptive statistics in total

In this study, the maximum score of each test is different. The researcher uses a percentage in order to display the scores (see Table 2-1). There was a significant difference between E-sect and J-sect (t (64) = -10.737, p<.000). The mean score in J-sect was remarkably higher, suggesting that participants' ability in Japanese was significantly higher than their ability in English. This result showed that the participants did not have a significant problem in their mother language, and thus the low mean in English was due to their insufficient acquisition of English. In addition, the mean in E-sect was higher than the researcher's expectation because the participants received high scores in the CJT.

Table 2-1. Descriptive statistics (in each language section).

	Mean	SD	N
E-sect	65.12%	0.1473	65
J-sect	84.52%	0.1045	65

The Results of E-sect

1. The difference in each test.

Table 2-2 shows the mean score of each test in E-sect. In E-sect, there were significant differences among the three tests that exceeded the researcher's expectations. The test whose results were most contrary to the researcher's expectation was the CT. In this test, there were many hints morphologically and syntactically. Thus, wrong sentences were very pronounced

and the meaning of the sentences was not so difficult to comprehend. However, the result was different from the researcher's expectation, as seen in Table 2-2, indicating that the participants' comprehension of morphological function was lower than the researcher expected.

Table 2-2. Mean of tests in E-sect.

	Mean	SD	N
CJT	81.79%	0.1666	65
CT	49.95%	0.1983	65
MT	69.74%	0.2242	65

2. The results of the CJT.

The mean of each part of speech in the CJT is shown in Table 2-3. The mean of adjectives is the highest (88.90%), the mean of verbs is in the middle (88.20%), and the mean of nouns and adverbs are lowest (both 74.80%). The fact that adjectives garnered a high score and adverbs garnered a low score was in line with the researcher's expectations, but the results of nouns and verbs were surprising. Participants scored highly on verbs, which differs from previous research asserting that "verbs and adverbs are the most difficult to learn" (Ellis & Beaton, 1993). However, it should also be mentioned that nouns got a low score.

In order to confirm that the differences among parts of speech are statistically significant, one-way layout ANOVA was carried out. The results were F (3, 192) = 8.189, MSe = 0.050, p<.000 and the multiple comparison (Bonferroni, p<.05) showed that verbs and adjectives got a significantly higher score than nouns and adverbs. There were no significant differences between verbs and adjectives, or between nouns and adverbs, because the mean of

nouns and adverbs were exactly the same. According to the data, adjectives scored higher than verbs (n.s.), nouns, and adverbs, and verbs scored higher than nouns and adverbs.

Table 2-3. Mean of each part of speech in the CJT (in E-sect.)

	Mean	SD	N
Nouns	74.80%	0.3007	65
Verbs	88.20%	0.2089	65
Adjectives	88.90%	0.3007	65
Adverbs	74.80%	0.1903	65

In the noun questions, the mean of the following question was the lowest. "Water" in the sentence "Not all water is good to drink" was the targeted word, and "moment" in the sentence: "I'm busy at the moment" was the correct choice. Answers demonstrated that participants tended to understand "moment" as an adjective, a pattern also evident in the questions about nouns. Thus, a concrete noun was easily recognized as a noun, but an abstract noun was not as easily recognized as such. This tendency was common throughout the E-sect.

In verbs and adjectives, there were no characteristic problems. These two parts of speech garnered a higher mean than the other two, over 85% on average.

It was expected that adverbs would receive a low score, since adverb usage is complex. It is possible that many participants did not recognize an adverb without the "-ly" suffix. The pattern of their incorrect choices was uneven and alternated between choosing (incorrectly) a noun or a verb. Therefore, it is possible to surmise that they did not recognize adverbs without the "-ly" suffix.

3. The results of the CT.

The CT was only used in E-sect. There were 15 questions; seven were incorrect sentences and eight were correct sentences. The main targets in this test were seven incorrect sentences. In this test, the researcher did not calculate the mean of each part of speech. The numbers of the parts of speech used were unbalanced, so it was problematic to compare each part of speech to the others.

The CT results showed that the participants did not pay attention to the form of the word more often than the researcher expected. For example, "die" was used in this test. The correct use was "dead mouse," but "die mouse" was used in the question in order to make the participants realize this was incorrect. However, almost 60% of the participants stated that "die mouse" was correct. In addition, the same tendency appeared repeatedly. In every wrong sentence, it seemed that "form" and "use" were ignored. The participants judged the sentences were correct when they somehow understood the meaning of the words, though the use and form of the words were incorrect. It was possible that they did not pay attention to the use of the words. If their recognition of the function of each part of speech had been wrong, they would have likely decided these incorrect sentences were correct. Additionally, the low level of difficulty of the meanings of the words and the simplicity of the sentences may have contributed to the incorrect answers. The meaning of words is easily deduced. Memorizing the meaning of a word is the typical study of vocabulary. This tendency of the participants relying on "meaning" stayed not only on a word level, but also on a part of speech level.

4. The results of the MT.

In the MT, adjectives got a higher score than adverbs. In this test, the mean of

adjectives was 88.21% and the mean of adverbs was 51.29% (see Table 2-4). In addition, a ***t***-test (t (64) = -9.052, p<.000) showed that it was statistically lower than the mean of adjectives (88.20%). In part, this was because the adjectives were always presented next to the modified words; therefore, the participants easily spotted the correct answers.

Table 2-4. Mean of the MT in E-sect.

	Mean	SD	N
Adjectives	88.21%	0.2530	65
Adverbs	51.29%	0.3010	65

In adverb questions, the mean was remarkably low when the modifier was not placed next to the modified word. An example is "Peter shook his head sadly and began to cry." The participants were required to choose the word modified by "sadly," but many participants did not choose the correct answer, instead selecting "head" or "and." This seemed to indicate that the participants did not correctly understand the syntactic function of the adverbs.

In addition, the following question was the most difficult adverb question for the participants, who had to choose the word modified by "quite" in the sentence "She's been calling me quite often in the past few days." The correct choice was "almost" in the sentence "He is almost always at home." There were no common morphological characteristics between the two adverbs. In order to choose the answer correctly, the participants had to apply their syntactic knowledge. In addition, the mean of the questions that contained adverbs with an "-ly" suffix was relatively high, but the mean of questions that contained adverbs without "-ly" was low; for example, this included words like "quite," "almost," and "always." However, this pattern was not as clear as the pattern of noun-related answers. The results

suggest that not only in the CJT, but also in the MT, that the participants' recognition of adverbs was insufficient.

The Results of J-sect

1. The difference in each test of J-sect.

Table 2-5. Mean of tests in J-sect.

	Mean	SD	N
CJT	84.87%	0.1275	65
MT	83.85%	0.1349	65

In J-sect, the mean in each test was lower than the researcher's expectation, but there was no difference between the two tests. However, the researcher thought that correct answers should have totaled nearly 100% because Japanese is the mother tongue for the participants. However, in this study, the difficulty of the J-sect was enhanced, so this might have lowered decreased the Japanese score.

2. The results of the CJT.

Table 2-6 shows the mean of each part of speech. Nouns got 69.70%, which was the lowest mean, verbs got 93.30%, which was the highest score, adjectives got 86.10%, and the adverbs got 90.20%. These results deviated from the results of the CJT in E-sect.

In order to confirm that the difference was statistically significant, one-way layout ANOVA was carried out. The results showed F (3, 192) = 24.016, MSe = 0.030, p<.000, and the result of the multiple comparison (Bonferroni, p<.05). There was a significant difference

between nouns and the other three parts of speech. In addition, there was a significant difference between verbs and adjectives. However, there were no significant differences between verbs and adverbs, or between adjectives and adverbs. This means verbs ≒ adverbs ≒ adjectives > nouns. The mean in nouns of J-sect was extremely low in all the tests.

Table 2-6. Mean of each part of speech in the CJT (J-sect).

	Means	SD	N
Noun	69.70%	0.1526	65
Verb	93.30%	0.1852	65
Adjective	86.10%	0.2747	65
Adverb	90.20%	0.1466	65

In nouns, words derived from other parts of speech got a lower score than simple nouns, like concrete nouns; for example, the noun "atataka-mi"（温かみ）derived from the adjective "atataka-" (温かい), which nowadays is "atataka-mi." Many participants did not recognize "atataka-mi" in the sentence "Kare no kai-ta e wa totemo atataka-mi ga aru" (彼の書いた絵はとても温かみがある。) as a noun (see Appendix 9). Many answered that it was an adjective. The correct choice was "ato-katazuke" (後片付け) in the sentence "Taro mo Hanako mo ato-katazuke ga nigate de aru" (太郎も花子も後片付けが苦手である). "Ato-katazuke" was derived from the verb "katazuke" (片付ける). This tendency could explain why nouns got the lowest mean. Many participants did not recognize these nouns, which derived from other parts of speech, as nouns, though they might have understood the basic concept of nouns.

Based on these results, it is possible to say that the meaning of words had a greater

effect on the comprehension of the words than the function or form of words. Expressed differently, the semantic function of a word could be stronger than the syntactic or morphological functions in vocabulary comprehension. If the participants had analyzed the above sentence syntactically, they would have realized that the answer was the noun, and if they had noticed that "-mi" in "atataka-mi" was the one of the characteristics of the noun, they would not have chosen other parts of speech. The other parts of speech in J-sect did not present significant problems.

Verbs demonstrated no problems, and the mean of correct answers for verbs was over 90%. Verbs' morphological variations were fewer compared to other parts of speech (especially nouns) in this study, and a syntactic function was easily found out. The placement of verbs was not complex in this study.

Adjectives were lower than adverbs in the J-sect, opposite to the results of the E-sect. As mentioned above, Japanese adjectives have verbal and adverbial properties, unlike English and French adjectives (Nagara, 1988), and the researcher included *na*-adjectives, which are called "keiyo-doshi" in Japanese (Nagara, 1988) as adjectives.

For adverb questions, the participants got the second highest mean, though there were many form variations in J-sect. The form variations of adverbs were plentiful and lacked a consistent pattern, but generally it was easy for the participants to determine that the targeted word was an adverb. There were ambiguous and unfamiliar words in the question sentences and the participants chose the words as adverbs, hence the higher rate of correct answers than with other parts of speech

3. The results of the MT.

In the MT, adverbs got a higher score than adjectives. In this test, the mean of

adjectives was 73.38% and the mean of adverbs was 92.31%. In addition, a ***t***-test (t (64) = 6.943, p<.000) showed that adjectives were statistically lower than the mean of adverbs (88.20%) (see Table 2-7). Interestingly, this result was totally opposite to the MT in E-sect. However, in this test, only one adjective got an extremely low score (30.77%). There were no big differences among other questions either in adjectives or adverbs. This low score in one question could affect the total score. The question was "kyu-ni oto wo tate-te hidoku hagesiku ame ga huri-hajimeta"（急に音を立ててひどく激しく雨が降り出した。）. The participants were required to choose the word that "ひどく" modified. "Hidoku" was an indistinct adjective. Sometimes it was classified as an adverb. Therefore, the researcher had to think about this question.

Table 2-7. Mean of each part of speech in the MT (J-sect).

	Means	SD	N
Adjectives	75.38%	0.1795	65
Adverbs	92.31%	0.1533	65

Common features and the correlation of E-sect and J-sect.

Are there any common features between E-sect and J-sect in this study? In order to answer this question, statistical correlation analysis was carried out, demonstrating that the two sections were related in a middle-low positive correlation (r = .375, p<.01). This result was higher than the researcher's estimation. The researcher thought that it would be around r = .2 based upon the tendency of participants' answers and the difference of each mean. However, Figure 2-4 showed that there was scattering in the results. It could not say that the relationship between English and Japanese was strong.

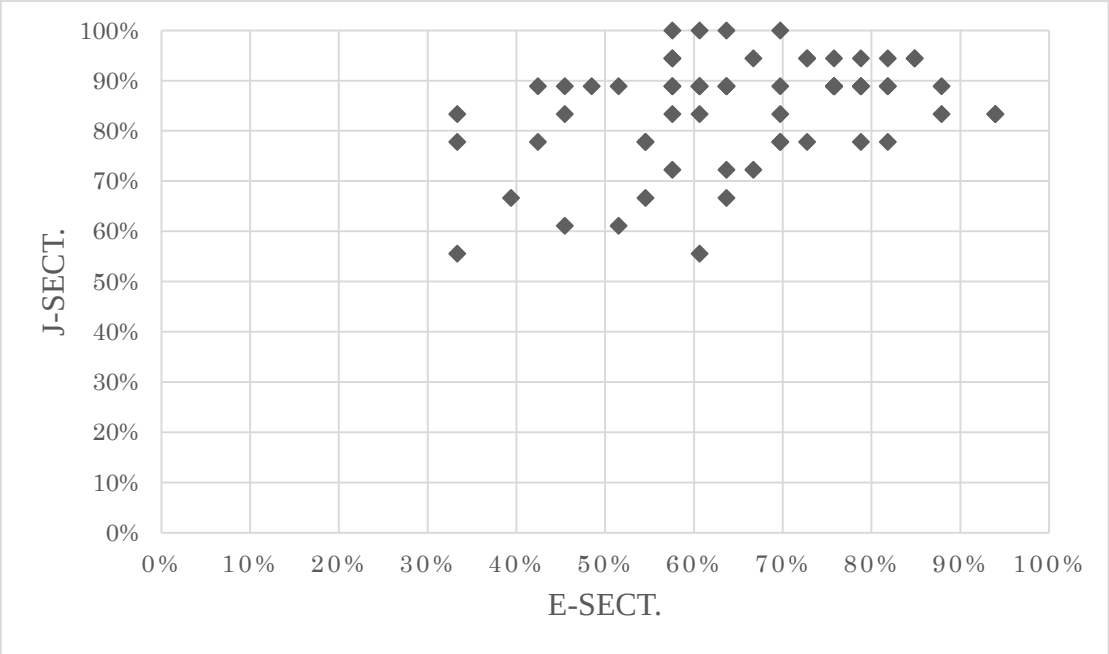

Figure 2-4. Plot of the correlation between E-sect and J-sect.

One of the common features between the two sections is that their mean of nouns was very low: in E-sect, 74.8%, and in J-sect, 69.7%. Both means were lower than the means of the other parts of speech. This ran contrary to previous research, wherein nouns were the easiest and most acquirable part of speech (Ellis & Beaton, 1993; Yachi, 2002; Fujii, 2010). It was remarkable that the recognition of nouns was insufficient not only in English, but also in Japanese.

The next common feature was that the semantic function had an effect on the morphological and syntactic function of each word, especially in nouns. As mentioned above, the participants did not recognize nouns that derived from other parts of speech. Many participants chose the same part of speech as the part of speech from which a noun was derived. Their analytic ability was not adequate, though they at least understood the meaning of the words.

Discussion

Notable points of the results

First, it was notable that the mean of nouns was remarkably low in this study. Ellis and Beaton (1993) said that "nouns are the easiest to learn, adjectives next, whereas verbs and adverbs are the most difficult to learn" (p. 7), and children (in their first language) acquire nouns before other parts of speech (Gentner, 1982; Ellis & Beaton, 1993). In addition, though it was a phonetic experiment, Fujii (2011) investigated the input and uptake in each part of speech. The result showed that nouns were the most learnable part of speech. The intake of nouns was 37.1% and the uptake of nouns was 54.8%, both of which were higher than other parts of speech. However, nouns were the most problematic part of speech in this study. The acquisition of nouns was insufficient both in English and in Japanese. It is possible that the participants' recognition of nouns was insufficient, though Japanese was the participants' first language. One possible cause was the recognition of nouns derived from other parts of speech, meaning that the acquisition of the morpheme of nouns was not established in the participants' mental lexicons. It is also the same with the syntactic function. Better syntactic comprehension could have led the participants to the correct answers even if their morphological understanding of the words was inadequate. Therefore, the recognition of parts of speech was not established morphologically or syntactically. This result is notable and warrants further study. For future study (Chapter 3), it would be better to prepare a special test specifically focusing on nouns.

Second, semantic function plays an important role in participants' mental lexicon, though it is related to the first point discussed above. This tendency was present throughout the test and was pronounced in the CT in E-sect and the CJT in J-sect. In addition, the same tendency was observed in other studies, such as Konishi (2010). In Konishi (2010), the main

research question was to investigate the incidental vocabulary knowledge acquired through reading. In that study, the adapted Vocabulary Knowledge Scale (or VKS, originally VKS, made by Paribakht and Wesche, 1993) was used. In the adapted VKS, the trend that many students did not classify the form and the use of vocabulary became clear. For example, the participants wrote nouns and adjectives at the same time when asked for a synonym of the targeted word, which was an adjective. Furthermore, though they answered that the targeted word was a noun, they used it as a verb in the sentences that they made. Initially, the researcher thought this could signify favorable results. However, there were many answers that reflected the same tendency in the results of Konishi (2010) and this study, suggesting that this was one of the characteristics of learners who had not yet developed proficiency in the English language.

In addition, the meaning of the words was easily understood, as all the targeted words were under the eleventh grade level and within the 2500 words level in JACET 8000. Therefore, it could be surmised that the participants did not pay attention to morphological or syntactic function. The researcher gave consideration to the sentence structures used, but these were still more difficult than the vocabulary level. Thus, it is advisable to consider the sentence structure carefully in future studies.

Points to be improved for future studies

First, the number and the variation of the participants should be increased. The number of the participants was 65, not enough to generalize the result of this study. In addition, the targets were university students; hence, the participants, who did not major in English or linguistics, had already completed their intensive English study. Therefore, the research should involve high school students as the participants. In addition, greater variation of the

participants should be ensured. The participants were roughly divided into public university students and private university students. There was a big difference between these two groups. Table 2-8 shows the differences between two groups. The problem did not depend on whether the students attended a private school or a public school, but on the variation of the participants. The students' level was upper level or low-middle level, and there were no students who filled the gap. In other words, there were few middle level students. The researcher could increase the number of participants in order to resolve this matter.

Table 2-8. Difference of the mean in the private groups and public group.

	E-sect			J-sect	
	CJT	CT	MT	CJT	MT
private groups	60.90%	33.85%	44.87%	73.08%	74.36%
public group	87.02%	53.97%	75.96%	87.82%	86.22%

Second, improvement of the materials is necessary. Specifically, improvements of the tests themselves could be of enormous benefit to future studies. The CJT revealed some characteristics of English learners, but another test is needed in order to explore these characteristics in detail. It is difficult to divide semantic and syntactic aspects (as well as morphological aspects), though the CJT can investigate all of them (see Figure 2-1 or Appendix 1). The CT took a longer amount of time, which could have been a heavy burden to the participants, and some question sentences were ambiguous.

The number of questions in the MT must also be reconsidered, as six questions were not enough to reveal the characteristics of adjectives and adverbs. In addition, there was a problem involving nouns. In this study, the mean score of nouns was very low, and many

participants did not recognize nouns derived from other parts of speech.

Third, a new test needs to divide the contents of each part of speech separately. In this research, the division of each part of speech was broad. Accordingly, the characteristics in each part of speech were not revealed in all the tests. For example, the division of verbs into intransitive and transitive verbs and the division of nouns into abstract and concrete nouns would be necessary for further research, as it would be for other parts of speech as well.

Finally, future research should reconsider the time allotted for tests or the number of tests used. Most of the participants did not require 30 minutes to complete the tests. Normally, 15–20 minutes was enough.

Conclusion

There were two main research questions: (1) How do Japanese university students understand the parts of speech (nouns, verbs, adjectives, and adverbs)? And is there difference among the parts of speech? (2) Are there any common characteristics between English and Japanese knowledge of parts of speech?

The first hypothesis, that the meaning and form of words are not a problem for Japanese university students, was affirmed. The result was that the Japanese university students' comprehension was affected by the semantic function and that the syntactic and morphological functions were not sufficient. Unexpectedly, the participants' morphological comprehension of the words was undeveloped. Thus, they had few problems regarding meaning, but struggled with use and form, and their acquisition degree stayed in a semantic aspect and the relationship to other aspects was immature. In addition, there was a difference among parts of speech. The acquisition of nouns was less sufficient in every aspect than other parts of speech both in English and in Japanese.

The second hypothesis, that there are indeed common characteristics between English and Japanese parts of speech, was affirmed. There was a middle-low correlation between the two languages (r = .375, p<.01). One of the common features was that the acquisition of nouns was insufficient, as stated previously. This tendency was conspicuous among the Japanese participants despite the fact that Japanese is the participants' mother tongue. The second common feature was that the semantic function had an effect on the morphological and syntactic functions of each word, especially in nouns, a tendency that was common throughout the test.

In addition, there were several points to be improved in the study. The researcher should reconsider a) the number and variation of the participants, b) the content of the materials, c) the content of parts of speech to be investigated, and d) the time and number of tests. This study is the first study, and improvement and consideration of its structure are necessary.

Chapter 3

Study 2: Japanese Twelfth Grade High-School Students' Knowledge about Parts of Speech

Abstract

In this study, the main purpose was to investigate high-school students' acquisition of English and Japanese parts of speech, especially in English. There were 86 participants. The participants were twelfth grade private high school students in Tokyo, and their school was in the middle level. The material is a booklet consisting of two sections, one English section (E-sect) and one Japanese section (J-sect). The E-sect contained four tests and the J-sect contained two tests. The researcher printed the questionnaire, the E-sect, and the J-sect in one booklet. The maximum time allotted to answer the questions was 30 minutes. In this study, the full scores in each test were different; therefore, the researcher calculated percentage in order to display a mean. In E-sect, nouns and verbs were difficult for the participants. They did not acquire a morphological aspect and a syntactic aspect, though they understood the meaning aspect of words to a certain degree. It seemed that many participants did not use knowledge of "form" and "use." They probably expected to figure out the answer from only "meaning." In J-sect, nouns were the most difficult for the participants. The mean of nouns was remarkably lower than that of other parts of speech. The participants also had difficulty in the morphological aspect and the syntactic aspect. The correlation coefficient was $r = .521$, $p<.01$.

Purpose of the Study

In the previous study (Study 1), participants were Japanese university students. English

is a mandatory subject in Japanese high school and junior high school, but the junior high school students have not finished studying the foundations of English. Therefore, high school students were chosen as participants in this study. The researcher attempted to improve on shortcomings in the previous study.

The main theme in this study is to investigate Japanese high school students' acquisition of parts of speech. Another aim is to develop a test that can measure the learners' knowledge of parts of speech more accurately, thus filling the need for such a test. The main research questions are as follows:

1. How do Japanese high school students acquire parts of speech (nouns, verbs, adjectives, and adverbs)? Is there any difference between the acquisition of the parts of speech among "form," "meaning," and "use"?
2. Are there any common characteristics between English and Japanese regarding the acquisition of parts of speech?

In the previous study, there were two hypotheses regarding these research questions. The hypothesis for research question 1 is that the students' syntactic and morphological knowledge about parts of speech is not developed, but their semantic knowledge of parts of speech is developed. In addition, the researched predicted there will be no problem in verbs and adjectives, but there will be syntactic and morphological problems in nouns and adverbs. The second hypothesis for research question 2 is that the participants will have difficulty in nouns both in English and Japanese, but the correlation will not be so high (around $r = .3$). Both hypotheses derived from the results of Study 1.

Method

Participants

The participants were 96 twelfth grade high school students who belonged to a middle-level private high school in Tokyo. They intended to look for employment after graduation, and they did not use English except during English classes at this point. The researcher eliminated 10 students; specifically, the students who did not answer a fourth of questions, the students whose mother tongue was not Japanese, and the students who had experience staying abroad more than one year. There were 41 males and 45 females. The researcher did not use tests to measure their English ability, for example, the Test Of English for International Communication (TOEIC), the Test of English as a Foreign Language (TOEFL), or the International English Language Testing System (IELTS), considering that this research was a fact-finding survey, the number of the people who took the test, and the time limitation.

Parts of speech in this study

The targeted parts of speech in this study were the same as in Study 1: nouns, verbs, adjectives, and adverbs. These four are the representative parts of speech in English and Japanese (Huddleston & Pullman, 2005; Takahashi et al., 2005; Ishiguro, 2009). They play an important role in both languages.

Materials (see Appendix 2)

As in Study 1, the researcher used a booklet to investigate the comprehension of parts of speech. The booklet consisted of three parts: a questionnaire, an English section, and a Japanese section. In addition, the researcher prepared four kinds of tests for the two sections. All tests investigate comprehension of parts of speech, but the focus of each test is different.

The first test is a category judgment test (CJT) that investigates participants' knowledge of parts of speech semantically, morphologically, and syntactically. The second test is a blank-filling test (BFT) that investigates the participants' knowledge of nouns morphologically and syntactically. This is a new test designed by the researcher to investigate noun knowledge in detail, given the issues with nouns demonstrated by the previous study. In addition, the researcher used this test to further study verbs.

The third test is a modifier test (MT) about the understanding of adjectives and adverbs. The MT has the same format as the MT used in Study 1. However, the numbers of questions and words are different. The fourth test is a same form test (SFT), which focused on syntactic knowledge in detail; this is also a new test. The SFT has the same format as the CJT, but the targeted words used in the SFT have more than one part of speech. Therefore, it is impossible to answer this question by using only semantic knowledge.

The English section (E-sect) consisted of four tests, which were the CJT, BFT, MT, and SFT. The Japanese section (J-sect) consisted of three tests, which were the CJT, BFT, and MT. The tests with the same name in E-sect and J-sect had the same number of questions, the same method of answering the questions, and the same parts of speech. In addition, the researcher did not use the SFT in J-sect because it was almost impossible to find words that have many kinds of parts of speech, though the form is the same.

In E-sect, the vocabulary for target words of the CJT, BFT, and MT was chosen from the top 2000 of JACET 8000 and the vocabulary used in the textbooks of junior high schools approved by the Ministry of Education. The researcher made the targeted words easier than in Study 1. First, every word was chosen from the top 2000 of JACET 8000 and the textbooks approved by the Ministry of Education. The researcher chose words that did not seem difficult and that did not have other parts of speech in JACET 8000. For example, "die" was a

verb and it had no other part of speech in JACET 8000. Finally, the researcher checked whether these words were beyond the eleventh grade level or appeared in Weblio, an Internet dictionary. If the target word was beyond the eleventh grade student level at the high school, that word was excluded.

For the SFT, the base of the vocabulary was also the top 2000 of JACET 8000 and junior high school textbooks approved by the Ministry of Education. However, the criteria for choosing words were different from the criteria of the other three tests. First, every word was randomly chosen from the top 2000 words of JACET 8000. Second, the researcher chose words with at least two parts of speech. Then, the level of the words was checked in Weblio.

In J-sect, all the words were chosen based on the internet dictionary "Nihongo-kiso-goi-hyo," made by Nagomya University, "Gaikokujin no tame no Nihongo Series," "Daijisen," and "Meikyo Kokugo-jiten." First, the researcher chose the words randomly from the "Gaikokujin no tame no Nihongo Series." Second, words classified as A rank (meaning their frequency is high) in "Nihongo-kiso-goi-hyo" or words that were used in "Daijisen" or "Meikyo Kokugo-jiten," were chosen. In this study, the difficulty of the words used was lower than in Study 1, and the frequency of words was higher than in Study 1, since the mean of the J-sect had been lower than the researcher's expectation.

In addition, any word that revealed its parts of speech explicitly was not used in the booklet. There were no words that implied "noun," "verb," "adjective," "adverb," "word-class," or "parts of speech" in the explanations or questions.

1. The questionnaire.

A questionnaire was administered to determine unsuitable participants. This questionnaire was added to the first page of the booklet of each printed test. There were four

items: 1. sex (male or female) 2. experience of residence abroad, 3. year of residence abroad, and 4. Name, in order to identify the participant.

Some questions were also asked about their qualifications (i.e. TOEIC, TOFLE, and IELTS, etc.) in previous studies. However, this question did not appear in this test because most of the participants had never taken the qualification tests.

2. The category judgment test (CJT).

This test investigates participants' knowledge about parts of speech semantically, morphologically, and syntactically. In order to answer the questions, participants should use the meaning of the words and the place of the words. Based on the morphological aspect of the words, the participants can answer the questions, but the researcher expects that many participants will not pay attention to the words' morphological function, as a result of Study 1.

The words chosen by the researcher followed the format shown in Figure 3-1. There is one examination sentence with four choices in each question. The researcher underlined the targeted words in each sentence. There are 15 questions: four questions on nouns (two abstract nouns and two concrete nouns), four questions on verbs (two intransitive verbs and two transitive verbs), four questions on adjectives (two with attributive use and two with predicative use), and three questions on adverbs (one adverb that modifies a verb, one adverb that modifies an adjective, and one adjective that modifies an adverb). In nouns, the researcher also investigated the effect of markers, including an article, a demonstrative adjective, and a demonstrative pronoun, which can indicate that the word in question is a noun.

次の文の下線部と同じ機能を持つものを次の①－④の下線部の中から選んでください。

Ex.	He plays with a dog.
①	Is there any coffee in the kitchen?
②	This is a golden opportunity.
③	I'll put it here.
④	He spoke slowly.

Figure 3-1. Example of the CJT in E-sect.

3. The blank-filling test (BFT).

This test investigates knowledge about nouns and verbs syntactically and morphologically. In Study 1, many participants had difficulty with nouns, which was different from previous studies, wherein many researchers have argued that the noun is the most easily acquired part of speech (Rodgers, 1969; Ellis & Beaton, 1993; Yachi, 2002). In addition, there was a test for adjectives and adverbs (the MT) in Study 1, but there was no test for verbs. Therefore, the researcher also decided to make a test for verbs. The BFT serves as the test for nouns and verbs.

There are eight questions: four questions on nouns and four questions on verbs. The researcher tried to investigate differences in nouns, which involved two types: nouns as subjects and nouns as objects. In verb questions, the researcher decided not to change the form of the verbs. Therefore, the verb has a third-person singular "s" ending and the form of the verb does not change in the past tense.

Each question involves an examination sentence with a blank, and there are three

choices under each examination sentence (see Figure 3-2). One of the three choices is the targeted word, which is the answer, and the participants must pick one of the three choices. The choices in each question have the same root as the answer. As mentioned above, the targeted word is easy and understandable. However, sometimes the choices are more difficult than the targeted words; thus, these questions are more complex than the junior high school student level or the tenth grade student level. In the previous study, sometimes the learners did not classify the form of the words, and they misunderstood the use of parts of speech (Konishi, 2010; 2012). Therefore, the researcher decided to use words equipped with the same derivation as the targeted word as choices. Words that have the same derivation share the main idea of the word, and each form of each word is similar. Therefore, the participants are required to judge "form" and "use" correctly.

次の問題の(　　)に入るものを次の①－③から選んでください。

Ex.	Mary and Kate (　　) the man.
1	know
2	knowledge
3	knowable

Figure 3-2. Example of the BFT.

4. The modifier test (MT).

One of the grammatical functions of adjectives is to modify nouns, and the main function of adverbs is to modify verbs, adjectives, and adverbs (Huddleston & Pullman, 2005; Takahashi et al., 2005; Ishiguro, 2009). This is the syntactic function of adjectives and adverbs. In this test, the participants are asked questions about modification to study the

syntactical application of adjectives and adverbs.

The chosen words are used according to the format shown in Figure 3-3. There is one examination sentence with four choices. The researcher underlined the targeted word in each examination sentence so that the participants could notice that it is the target word (see Figure 3-3). Four choices followed the examination sentence. One of the four choices is modified by an adjective or an adverb. Therefore, the participants are required to pick one choice. Every question has the same format, and there are 12 questions in total: six questions on targeted adjectives and six questions on targeted adverbs.

In the results of Study 1, the researcher improved the MT. First, the sentences were altered to make them easier for the participants to understand than the ones used in Study 1. The participants are high-school students and their school level is middle to low. It was necessary to tailor the test to their English ability. The tests in this study are easier than those used in Study 1. Second, the researcher increased the number of questions on the test. In Study 1, there were only six questions, which provided an insufficient amount of data to investigate the acquisition of adjectives and adverbs.

下線部が次の①－④のどこを一番説明しているかを選んで下さい。

Ex.	She has a <u>big</u> dinner party today
①	she
②	has
③	dinner party
④	today

Figure 3-3. Example of the MT.

5. The same form test (SFT).

This test is different from the other tests in this study, specifically in the method by which the words are selected. The words used in the other tests have no other parts of speech in JACET 8000, but the words used in SFT have more than one part of speech. The SFT is a developed version of the CJT, which investigates mainly semantic and syntactic knowledge, although it is difficult to determine whether the participants used their semantic knowledge or syntactic knowledge (as well as their morphological knowledge). Therefore, this test served mainly to investigate syntactic knowledge. For example, the word "work" has two main parts of speech: nouns and verbs. The form of the word is the same whether it is a noun or verb. However, the meaning of "work" is different in each case, though its core meaning is the same. The use of "work" depends on its part of speech. Hence, it is necessary to use syntactic knowledge to answer questions about words like this in the SFT.

There are 16 questions and four pairs in this test that have the same form but different parts of speech: nouns and verbs (four questions), nouns and adjectives (four questions), verbs and adjectives (four questions), and adjectives and adverbs (four questions). The number of questions using each part of speech is not equal.

Each targeted word is underlined in each of the examination sentences, which have four choices and different parts of speech; thus, words appear as nouns, verbs, adjectives, and adverbs in the examination sentences (see Figure 3-4). They are also underlined. The sentences used in the SFT were chosen from dictionaries, and the words in each sentence were replaced with easier words if the words exceeded the tenth grade students' level. Therefore, the sentences are easy to understand, and there is no complex grammar in the SFT.

次の文の下線部がと同じ機能を持つものを次の①－④の下線部の中から選んでください。

Ex.	She is very pretty.
①	John is quite pity.
②	There is a big tree.
③	It suddenly started.
④	We cook dinner every day.

Figure 3-4. Example of the SFT.

Scoring.

1. CJT: When the answer is correct, the participants get 1 point.
2. BFT: When the answer is correct, the participants get 1 point.
3. MT: When the participants choose a correct choice, they get 1 point.
4. SFT: When the participants choose a correct choice, they get 1 point.

Procedure.

In this study, there was one assistant who carried out the tests in compliance with the researcher's instructions. The maximum time to fill in a short questionnaire and to answer seven tests (four tests in E-sect and three tests in J-sect) was 30 minutes. The participants filled in the questionnaire and answered the test questions under the supervision of the assistant.

First, the assistant distributed the booklets to each participant. Second, he explained how to answer the tests without using words that imply their parts of speech. Students had to fill in a questionnaire and complete the tests in 30 minutes. When they finished the tests, they

were required to raise their hands. The assistant went to their desks and gathered the booklets. In this time, he checked whether each item of the mini-questionnaire was answered. In addition, he walked around and checked during the test time in order to confirm the participants obeyed the rules, as in Study 1.

Results

In this study, the researcher used percentages to express the scores of each test in E-sect and J-sect, because each test has a different total score.

Overall results

There was a notable difference between E-sect and J-sect (see Table 3-1). The mean of E-sect was 41.29% and the mean of J-sect was 79.14%. The mean in J-sect was remarkably higher, indicating, as one might expect, that participants' ability in Japanese was significantly higher than their ability in English. This result showed that most of the participants did not have a significant problem in their language ability, and thus the low mean in English was related to their insufficient acquisition of English, as in Study 2.

Table 3-1. Mean of each section.

	Mean	SD	N
E-sect	41.29%	0.1248	86
J-sect	79.14%	0.1294	86

The results of E-sect

1. The difference in each test.

The mean in E-sect is 41.29%, but a breakdown of E-sect offers more granular revelations. For example, the mean of the CJT is 59.90%, the highest mean in E-sect. The means of the other tests are 39.53% in the BF, 32.56% in the MT, and 34.08% in the SFT (see Table 3-2). Per ANOVA, there is a main effect (F (3, 255) = 56.229, MSe = 0.019, p<.01), and the result of the multiple comparison (Bonferroni) showed that CJT > BFT, CJT > MT, CJT > SFT, and BFT > MT. Thus it was statistically confirmed that the CJT got the highest mean among the four tests in E-sect. In the CJT, participants may have used semantic, syntactic, and morphological knowledge. However, the other tests focused more on syntactic or morphological function. The BFT focused on morphological and syntactic knowledge, and the MT and SFT focused on syntactic knowledge. The means of the tests, except the CJT, were under 40%, suggesting that the meaning of words plays an important role in the students' English learning and affects the form and the use of words.

Table 3-2. Mean of each test (E-sect).

	Mean	SD	N
CJT	59.90%	0.1876	86
BFT	39.53%	0.1407	86
MT	32.56%	0.1708	86
SFT	34.08%	0.1714	86

2. The result of the CJT.

The CJT investigates four parts of speech semantically, morphologically, and

syntactically. The mean of each part of speech is as follows: nouns (54.94%), verbs (63.95%), adjectives (59.88%), and adverbs (46.12%) (see Table 3-3). Verbs got the highest score and adverbs got the lowest score. The fact that nouns and adverbs got a low score is similar to the results of Study 1. The researcher carried out one-way ANOVA, and the result shows a main effect (F (2.699, 229.373) = 8.506, MSe = 0.066, p<.01: corrected by Greenhouse-Geisser). In addition, the multiple comparison with Bonferroni procedure shows verbs > adverbs and adjectives > adverbs. Though the mean of nouns is low, there are no differences between nouns and verbs or between nouns and adjectives.

Table 3-3. Mean of each part of speech in the CJT.

	Mean	SD	N
Nouns	54.94%	0.2624	86
Verbs	63.95%	0.2834	86
Adjectives	59.88%	0.2773	86
Adverbs	46.12%	0.3032	86

The researcher investigated two kinds of nouns (concrete and abstract) and the effect of markers that serve as hints toward identifying that a given word is a noun (such as articles, demonstrative adjectives, and demonstrative pronouns). Concrete nouns got a higher score than abstract nouns. The mean of the two concrete nouns is 70.93%, but the mean of abstract nouns is 38.95%, a significant difference (t (85) = 5.902, p<.01). Therefore, there is also a difference with respect to nouns. In addition, the researcher thought that the article would be a strong hint leading participants to determine the correct answer; however, this might not have been the case. In addition, nouns with a marker got 47.09% and nouns without a marker

got 62.79%. This result warrants further investigation to determine its cause.

In verbs, the researcher prepared intransitive verbs and transitive verbs. The mean of intransitive verbs is 72.67% and the mean of transitive verbs is 55.23%, a significant difference (t (85) = 4.628, p<.01). The reason why the participants got a higher score in intransitive verbs is inconclusive, but one possible factor is the form of the sentence. The sentences containing intransitive verbs are probably easier for participants to understand. The means of the other three questions are over 65%, but one question involving transitive verbs garnered a remarkably low score. In this question, the verb was used in an imperative sentence, which might have been difficult for the participants to understand.

In adjectives, the researcher prepared questions with an attributive use and a predicative use. The mean of the attributive use is 60.47% and the mean of the predicative use is 59.30%. However, there is no significant difference between an attributive use and a predicative use in the results.

For adverbs, the researcher prepared one adverb that modifies a verb, one adverb that modifies an adjective, and one adverb that modifies an adverb. The means are as follows: a verb modifier 60.47%, an adjective modifier 26.74%, and an adverb modifier 51.16%. There is only one question per each kind of adverb, insufficient to make comparisons, so the researcher did not carry out ANOVA.

3. The result of the BFT.

The BFT is the test for nouns and verbs. The mean of nouns is 36.63% and the mean of verbs is 42.44% (see Table 3-4). The mean of nouns is lower than that of verbs, but there is no statistically significant difference.

In nouns, there are two types: nouns used as an object and nouns used as a subject. The

object use got 25.58% and the subject use got 47.67%. There is a significant difference between the object use and the subject use (t (28) = 4.2448, p<.01). The subject use is the basic use of nouns. On the other hand, the object use seems to be more difficult for learners to understand than the subject use. Therefore, the participants might overlook the object use because they focused the position of the subject.

Table 3-4. Mean of each part of speech in the BFT.

	Mean	SD	N
Nouns	36.63%	86	0.2018
Verbs	42.44%	86	0.2271

In addition, verbs presented some problems. There are two verb questions with auxiliary verbs, one verb question with an infinitive, and one question with present and plural forms of a verb (therefore, the form of verbs in each question was not changed from the base form). The mean of the latter is 88.37%, but the mean of the verb question with auxiliary verbs is 8.72%, and the mean of the verb question with an infinitive is 11.63%.

The participants could not answer the question without morphological and syntactic knowledge of the words because of the formation of the sentences. The meaning of targeted words is easy, and each choice in each question shares the words' core meaning. Thus, the meaning of words should have presented minimal problems to students. The participants may not have used their morphological or syntactic knowledge, or their morphological and syntactic knowledge may have been inadequate.

4. The results of the MT.

The MT was designed specifically to investigate the characteristics of adjectives and adverbs. This test reveals learners' syntactic knowledge of these two parts of speech. The mean of adjectives is 43.60% and the mean of adverbs is 21.51% (Table 3-5). There is a significant difference between adjectives and adverbs (t (85) = -6.512, p<.01).

Table 3-5. Mean of each part of speech in the MT.

	Mean	SD	N
Adjectives	43.60%	0.2683	86
Adverbs	21.51%	0.1894	86

All adjective questions involved the attributive use of adjectives. The participants chose an incorrect answer equally. The researcher made two sentences in which adjectives were placed after another word. One of the postpositive questions got 23.26%, the lowest score for adjective questions. In the examination sentence "There must be something heavy in the box," the participants had to choose the word modified by "heavy." However, many participants chose "box" in this case. It seemed that the participants recognized that a preposition was not a word modified by adjectives, and they may have assumed the word modified by adjectives had to be placed after the adjective, suggesting that they did not recognize the postpositive as one of the uses of adjectives.

There were three kinds of adverb questions, involving an adverb that modified verbs, an adverb that modified adjectives, and an adverb that modified adverbs. There was no stable tendency among three kinds of adverbs in the results. The only clear result is that the participants had not developed a proficient understanding of adverbs. This proficiency might

depend on the sentences in the questions. The sentences could be long and complex for the participants. Some sentences were a little bit long in order to provide four choices from each sentence. There is a possibility that the long sentences might put psychological pressure on the participants. From the researcher's experience, it is clear that sometimes the learners feel psychological pressure when they encounter long sentences. The researcher thought these sentences were of a suitable length, but these sentences still might be long for the participants.

Through the MT, it became clear that many participants did not understand what parts of speech are modified by adjectives or adverbs, and they demonstrated a particular lack of understanding of adverbs. This tendency also appeared in the CJT, which was expected by the researcher, given the complexity of the proper idiomatic use of adverbs.

5. The result of the SFT.

The SFT is an improved version of the CJT. The participants were instructed to explicitly use their syntactic knowledge. It became apparent that many participants had difficulty with the acquisition of nouns.

Table 3-6. Mean of each part of speech in the SFT.

	Mean	SD	N
Nouns	22.67%	0.2289	86
Verbs	33.72%	0.2989	86
Adjectives	39.15%	0.2283	86
Adverbs	42.44%	0.3949	86

The mean of each part of speech is as follows: nouns, 22.67%, verbs, 33.72%, adjectives, 39.15%, and adverbs, 42.44% (Table 3-6). The researcher carried out one way ANOVA, and the result shows a main effect (F (2.646, 224.886) = 9.195, MSe = 0.080, p<.01: corrected by Greenhouse-Geisser). In addition, a multiple comparison with Bonferroni procedure shows nouns < verbs, nouns < adjectives, and nouns < adverbs.

Nouns got the lowest mean in the SFT. Each word has at least two parts of speech. Therefore, syntactic knowledge was required to answer the questions. Participants' tendency to struggle with their understanding of nouns became more apparent. In addition, there are no significant differences among verbs, adjective, and adverbs in the results.

However, one of the interesting results is that adverbs got the highest score. There is no difference between adverbs used in the CJT and adverbs used in the SFT. One possible reason for this result is the number of questions on adverbs in the test. There are four pairs: nouns and verbs (four questions), nouns and adjectives (four questions), verbs and adjectives (four questions), and adjectives and adverbs (four questions). Hence, the number of the adverbs is fewer than the other parts of speech used in the test. The number of the items affects the result statistically. Therefore, there is a possibility that the participants accidentally got high scores in adverbs. However, the result resembles that of the CJT in J-sect.

The results of J-sect

1. The differences in each test.

In J-sect, the total mean of the scoring rates is 79.14%, and its breakdown is 75.58% in the CJT, 98.55% in the BFT, and 70.64% in the MT (see Table 3-7). The total mean of this study was lower than the total mean in Study 1. In addition, the mean balance among tests was not equal to the results of Study 1.

Participants in Study 1 were university students. However, the content of J-sect was easier than in Study 1, because the researcher made the words easier. One possible cause of this result is that there were students whose mean in J-sect was under 60%. There were some students whose scores were much lower than the scores of the other students. From the vestiges which the participants wrote in the booklet during the test time, they likely solved these questions seriously. Therefore they might have some kind of linguistic problem.

Table 3-7. Mean of each test (J-sect).

	Mean	SD	N
CJT	75.58%	0.2037	86
BFT	98.55%	0.0845	86
MT	70.64%	0.2080	86

The highest mean in J-sect is 98.55% in the BFT. Most students got a perfect score (eight points) on this test. The mean in the other two tests is over 70%. Via ANOVA, the researcher determined the presence of a main effect (F (1.785, 151.688) = 75.017, MSe = 0.028, p<.01: corrected by Greenhouse-Geisser), and the multiple comparison (Bonferroni) showed that BFT > CJT, and BFT > MT. Thus, the BFT garnered a much higher mean scoring rate than the other two tests.

According to this result, the BFT might reflect the intuition of language, because the BFT in J-sect also requires syntactic and morphological knowledge, but the sentence becomes unnatural if a word with an incorrect part of speech is put in the blank. In E-sect, the BFT is also higher than the MT.

2. The results of the CJT.

The CJT investigates four parts of speech semantically, morphologically, and syntactically. The mean of each part of speech is as follows: nouns (61.05%), verbs (80.23%), adjectives (79.07%), and adverbs (84.11%) (see Table 3-8).

Adverbs got the highest score and nouns got the lowest score. The researcher carried out one-way ANOVA, showing a main effect (F (2.623, 222.943) = 26.124, MSe = 0.040, p<.01: corrected by Greenhouse-Geisser). In addition, multiple comparison with Bonferroni procedure shows nouns < verbs, nouns < adjective, and nouns < adverbs. However, there are no differences among verbs, adjectives, and adverbs.

Table 3-8. Mean of each part of speech in the CJT.

	Mean	SD	N
Nouns	61.05%	0.2618	86
Verbs	80.23%	0.2715	86
Adjectives	79.07%	0.2451	86
Adverbs	84.11%	0.2593	86

Nouns got the lowest score, as in the SFT in E-sect. This tendency also appeared in Study 1, in which nouns and adverbs got the lowest score in the CJT. Many participants did not recognize nouns derived from other parts of speech. There are two nouns derived from other parts of speech in the test, for which the corresponding scores are 36.05% and 41.86%, which are significantly lower than the scores of the other questions involving nouns. The part of speech that the participants chose incorrectly was the same as the derivation source of the

nouns used in the CJT. For example, the targeted word "kaer-" (帰り) derived from the verb "kaer-u" (帰る). In this case, many participants chose a verb from four choices. The meaning of words affects form and use in this test.

In addition, verbs, adjectives, and adverbs have no special characteristics in these results. Their means were very similar, though sometimes the participants made mistakes. The incorrect answers had no patterns, so it is difficult to analyze the results. Japanese is the mother tongue of the participants; therefore, the basic functions of each part of speech are acquired.

3. The results of the BFT.

The mean of nouns is 98.84% and the mean of verbs is 98.26%. There is no difference in the results between nouns and verbs, and the mean scores for both parts of speech are very high.

Table 3-9. Mean of each part of speech in the BFT.

	Mean	SD	N
Verbs	98.26%	0.0923	86
Nouns	98.84%	0.0849	86

4. The results of the MT.

Table 3-10. Mean of each part of speech in the MT.

	Mean	SD	N
Adjectives	75.39%	0.2283	86
Adverbs	65.89%	0.2370	86

The mean of adjectives is 75.39%, and the mean of adverbs is 65.89%. There is a significant difference in the results between adjectives and adverbs (t (85) = 4.223, p<.01), similar to the MT in E-sect. The mean of adverbs is lower than that of adjectives.

Common features.

The researcher investigated whether there is a relation between the results of E-sect and J-sect. The result shows a significant correlation (r = .521, p<.01) between the two sections. In Study 2, the same pattern emerged between E-sect and J-sect, and thus the correlation coefficient was high. The correlation coefficient in Study 1 was (r = .375, p<.01). The plot of this correlation is shown in Figure 3-5. There was only one outlier and the other points dispersed. From the plot shown in Figure 3-5, it is possible to say that the relationship between Japanese and English was not strong.

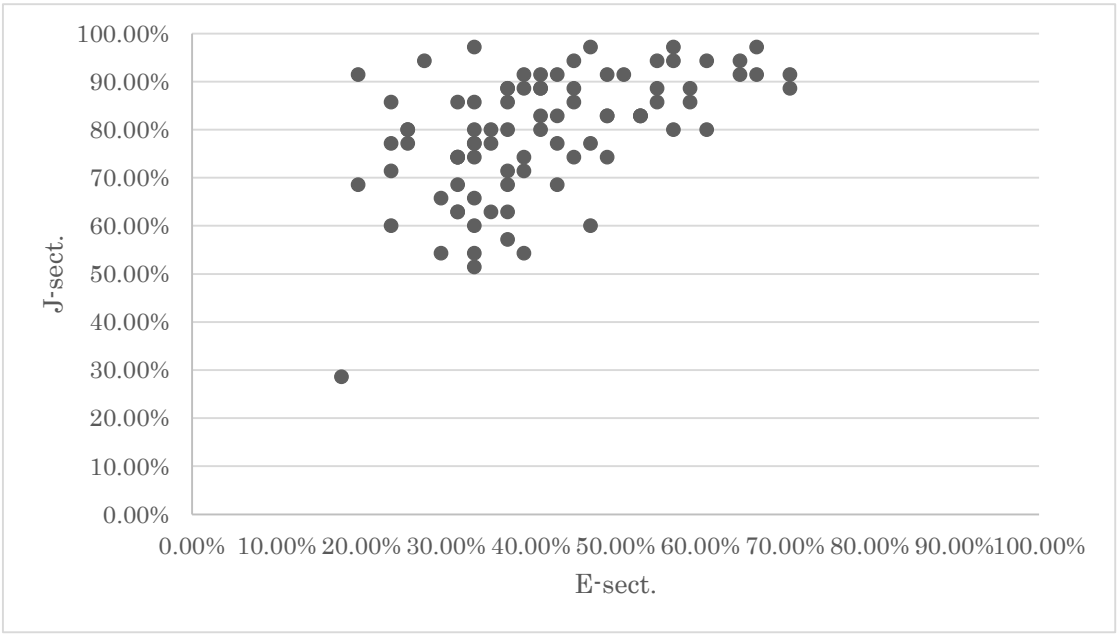

Figure 3-5. Scatter plot of E-sect and J-sect.

The common features in Study 2 are the same as those in Study 1. First, nouns are one of the most difficult parts of speech for the participants. Particularly, the participants' acquisition of the use of nouns is insufficient. In addition, the participants' recognition of nouns is also insufficient, especially in Japanese.

Second, the participants are deeply dependent on the meaning of words as they answer questions. This tendency was common both in English and in Japanese. Without the support of a given meaning, the scores declined, as in the BFT, MT, and SFT. Especially in the case of Japanese nouns derived from other parts of speech, many participants chose that part of speech which was the same as the nouns derived from it. The participants, therefore, seemed to judge a part of speech not from morphological or syntactic knowledge, but from the meaning of words.

Discussion

Considerable points from the results

This study shows that the difficulty involved in understanding nouns demonstrated in Study 1 was not an aberration; instead, this study reiterated that finding. Other studies have established the noun as the most acquirable part of speech (Ellis & Beaton, 1993; Yachi, 2002; Fujii, 2010). However, in Study 1 and this study, nouns received a low score in every test involving nouns as a target, not only with respect to syntactic knowledge, but also with respect to morphological and semantic knowledge. Even in Japanese, the participants' recognition of nouns is not acquired. Though the participants understand the meaning of English nouns, sometimes they may not recognize them as nouns because their recognition of Japanese nouns is similarly undeveloped. For example, there is a possibility that they did not recognize that "soto" (外), "omo-mi" (重み), and "toku-cho" (特徴) belong to the same parts

of speech.

However, why these results differ so widely from previous research is not clear. One of the possibilities is that this research investigated not only the semantic aspect of nouns, but also their morphological and the syntactic aspects. The acquisition of meaning is not difficult for the participants. Memorizing words is the typical method of learning for many participants. Many learners of English, especially high school students, use word books and practice memorization exercises. It is relatively easy to memorize concrete nouns, especially because learners can easily recall a real thing (as opposed to a more conceptual or abstract noun). Therefore, the number of nouns in a learners' vocabulary can be large. For example, Fujii (2010) investigated the number of input and uptake in each part of speech (nouns, verbs, adjectives, and adverbs) in a Japanese cram school's English class (2010). In the class the students studied a long passage reading question. In this research, the number of nouns is larger than the numbers of other parts of speech both in the input and the uptake. Though the number of nouns is larger than other parts of speech, the acquisition of nouns was insufficient.

For the next study.

These tests show room for improvement. The researcher encountered the same problem with nouns and syntactic knowledge as in Study 1. Therefore the researcher developed two tests, the BFT and the SFT, for this study. The BFT presents questions with an auxiliary verb and with an infinitive, which increases the complexity of the test material. In this study, the target of the study changed from university students to high school students. The high school students are exposed to English more frequently, while some university students never study English in their university life.

The number of participants also increased, as opposed to Study 1. However, the range of participants is still insufficient. The deviation value of participants is middle level. There were no lower level or upper level students. The researcher needs to involve a wider range of participants in future studies.

Conclusion

In this study, there were two research questions: how do Japanese university students acquire parts of speech (nouns, verbs, adjectives, and adverbs)? Is there any difference in the acquisition of parts of speech among "form," "meaning," and "use"? In addition, the study explored whether there are any common characteristics between English and Japanese concerning the acquisition of parts of speech.

For research question 1, the participants' acquisition of parts of speech was insufficient. There were differences of the degree of acquisition among the different parts of speech. Nouns and adverbs were more difficult for the participants than the other two parts of speech. In addition, the participants' acquisition of parts of speech depended on "meaning." The participants did not pay much attention to "form" or "use." Sometimes "meaning" affected the recognition of "form" and "use," especially in Japanese nouns.

For research question 2, it was found that there were common characteristics. The correlation coefficient was $r = .521$, $p<.01$, so there was a significant correlation between English and Japanese. There were two common characteristics between English and Japanese. The first characteristic is that the acquisition of nouns is inadequate in both languages. Both in English and Japanese, nouns received a low score, especially in Japanese. As mentioned above, this contradicts the findings of previous research.

Chapter 4

Study 3: Japanese University Students' Knowledge about Parts of Speech

~ in the case of English major students~

Abstract

In this study, the main purpose was to investigate university students' acquisition of English and Japanese parts of speech, especially in English. Twenty-nine English majors participated in this study. The participants attended a Japanese private university at a lower-intermediate level. The material was a booklet that consisted of three parts: a questionnaire, an English section (E-sect), and a Japanese section (J-sect). E-sect contained four tests and J-sect contained two tests. The researcher printed the questionnaire, the E-sect, and the J-sect in one booklet. The maximum time to fill in the questionnaire and to answer the questions was 30 minutes. In this study, the full scores in each test were different, so the researcher used percentages in order to display a mean. As with Study 1 and Study 2, the participants had difficulty with the acquisition of nouns both in E-sect and J-sect. However, the difference of the level of acquisition among parts of speech was not clearer than in the last two studies. In other words, the differences among them were smaller than in the last studies. In the last two studies nouns scored extremely low. However, the differences in the scores among each part of speech were smaller than in the last two studies. In addition, the participants' syntactic knowledge in English was insufficient. This result also appeared in Study 1 and Study 2. There was a significant relation between English and Japanese (r = .882, p<.01). This result was significantly higher than the result of the last two studies.

Purpose of the Study

In Study 1, the participants were Japanese university students, but they did not major in English or linguistics. Study 2 involved participants who were students attending an intermediate level high school.

This study sought to investigate Japanese university students' acquisition of parts of speech as well, but focusing specifically on English majors. An additional aim of this study is to develop a reliable test to gauge these skills. The main research questions are:

1. How do the Japanese university students who major in English acquire parts of speech (nouns, verbs, adjectives, and adverbs)? Is there any difference in the acquisition of parts of speech among "form," "meaning," and "use"?
2. Are there any common characteristics between English and Japanese involving the acquisition of parts of speech?

There are two hypotheses associated with these research questions. Considering the results of Study 1 and Study 2, the hypothesis for research question 1 is that the participants' syntactic and morphological knowledge about parts of speech is not sufficiently acquired, but they will have acquired more sufficient semantic knowledge of parts of speech than syntactic or morphological knowledge. However, these participants' major is English. Therefore, the degree of the acquisition of syntactic and morphological functions will be higher than that of the high school students in Study 2. In addition, the differences of the degree of acquisition among parts of speech will be smaller in than the last two studies because the participants study English intensively.

The second hypothesis for research question 2 is that the participants will have

difficulty with nouns both in English and Japanese, but the correlation will not be as high (around r = .3). These two hypotheses derive from the results of the last two studies.

Method

Participants

The participants were 29 university students who attended a lower-intermediate private university in Japan. All the participants majored in English, and their English ability was low to intermediate. The researcher did not use tests to measure their English ability, for example, the Test of English for International Communication (TOEIC), the Test of English as a Foreign Language (TOEFL), or the International English Language Testing System (IELTS). Because this research was a fact-finding survey, the number of people who took the test was not sufficient to investigate statistically, and the time that the researcher could use was limited. However, a questionnaire that the researcher prepared showed that there were 19 students who took the TOEIC, and their score ranged from 295 to 810.

Parts of speech in this study

The targeted parts of speech used in this study were exactly the same as those used in Study 1 and Study 2: nouns, verbs, adjectives, and adverbs. These are representative of parts of speech in English and Japanese and they play an important role in both languages. However, in contrast to Study 1 and Study 2, the use of adverbs in the CJT and the SFT was restricted to a verb modifier.

Materials (see Appendix 3)

As in Study 1 and Study 2, the researcher used a booklet as material to investigate the

comprehension of parts of speech. The booklet consisted of three parts: a questionnaire, an English section, and a Japanese section. In addition, the researcher prepared four kinds of tests for the two sections. All of the tests investigate a comprehension of parts of speech, but the focus of each test is different.

The first test is a category judgment test (CJT) that investigates participants' knowledge of parts of speech semantically, morphologically, and syntactically. The second test is a blank-filling test (BFT), which investigates the participants' knowledge of nouns morphologically and syntactically. The third test is a modifier test (MT), which measures understanding of adjectives and adverbs. The fourth test is a same form test (SFT), which focused on syntactic knowledge in detail. The SFT was structured like the CJT, but the targeted words used in the SFT have more than one part of speech. Therefore, it is impossible to answer this question by only applying semantic knowledge.

The English section (E-sect) consisted of four tests: the CJT, BFT, MT, and SFT. The Japanese section (J-sect) consisted of three tests: the CJT, BFT, and MT. The tests that have the same names in E-sect and J-sect had the same number of questions, the same type of choices for answering the questions, and the same parts of speech. In addition, the researcher did not use the SFT in J-sect because it was almost impossible to find words that have multiple parts of speech with the same form.

Both in E-sect and J-sect, the selection criterion for the words was the same as in Study 2. However, the words used in this study were easier than the words used in Study 2, as were the sentences. The researcher tried not to use relatives, auxiliary verbs, or verbs that changed to plural or past tense form whenever possible.

In the booklet, words that implied their parts of speech explicitly were not used. Thus, there were no words like "noun," "verb," "adjective," "adverb," "word-class," or "parts of

speech."

1. The questionnaire.

There was a short questionnaire printed on the reverse side of the cover of the booklet. The main aim of the questionnaire was to find unsuitable participants for this study. There were four items in the questionnaire: 1. the participant's mother tongue, 2. overseas living experience, 3. score or a grade to confirm their English ability, and 4. name, in order to identify them.

The item that asked the participant's score to confirm their English ability (ex. TOEIC, TOFLE, and IELTS, etc.) was excluded in Study 2, but the participants in Study 3 are university students, so the researcher added this question. In addition, the question about the sex of the participant was cut from the questionnaire.

2. The category judgment test (CJT).

This test investigates participants' knowledge about parts of speech semantically, morphologically, and syntactically. In order to answer the questions, participants should use the meaning of words and the use of words. From the morphological aspect, the participants are able answer the questions, but the researcher expects that many participants will not pay attention to the morphological function, as in the results of Study 1 and Study 2. The words chosen by the researcher were used in the same format as in Study 1 and Study 2 (see Figure 4-1).

There are 15 questions: four questions on nouns, four questions on verbs, four questions on adjectives, and three questions on adverbs. In E-sect, the researcher tried to investigate more details. Each part of speech was targeted as follows: nouns (two abstract

nouns and two concrete nouns), verbs (two intransitive verbs and two transitive verbs), adjectives (two attributive uses and two predicative uses), and adverbs (in the English CJT, the researcher limited the use of adverbs to a verb modifier). In addition, the researcher investigated the effect of the existence of markers that can hint that a given word is a noun (such as articles, demonstrative adjectives, and demonstrative pronouns) in noun questions.

次の文の下線部と同じ機能を持つものを次の①－④の下線部の中から選んでください。

Ex.	He plays with a dog.
①	Is there any coffee in the kitchen?
②	This is a golden opportunity.
③	I'll put it here.
④	He spoke slowly.

Figure 4-1. Example of the CJT in E-sect.

3. The blank-filling test (BFT).

This test investigates knowledge of nouns and verbs syntactically and morphologically, using the same format as Study 2.

There are eight questions: four questions on nouns and four questions on verbs. For nouns, there are two uses of nouns: as an object and as a subject. For verbs, the researcher prepared intransitive verbs and transitive verbs.

Each question has an examination sentence with a blank, and there are three choices under each examination sentence (see Figure 4-2). One of three choices is a targeted word,

which is the answer, so the participants must select one choice among the three. As a result of the findings of Study 2, there are no examination sentences that use an infinitive or an auxiliary verb. Targeted verbs are presented in their base forms. In short, there were no paradigms of verbs as the targeted words. Therefore, the participants do not need to concern themselves with verbal form, only the form of each part of speech.

次の問題の(　　)に入るものを次の①－③から選んでください。

Ex.	Mary and Kate (　　) the man.
1	know
2	knowledge
3	knowable

Figure 4-2. Example of the BFT.

The choices in each question have the same root as the answer word. In other words, the researcher decided to use words equipped with the same derivation as the targeted word as choices. As mentioned above, the targeted word is easy and understandable and its frequency is very high. However, sometimes the choices are more difficult than the targeted words, beyond the junior high school student level or the tenth grade student level.

4. The modifier test (MT).

One of the grammatical functions of adjectives is to modify nouns, and the main function of adverbs is to modify verbs, adjectives, adverbs, etc. (Huddleston & Pullman, 2005; Takahashi et al., 2005; Ishiguro, 2009). Thus, this test investigates adjectives and adverbs syntactically.

The format of the MT is identical to the MT used in Study 2. There is one examination sentence with four choices. The researcher underlined the targeted word in each examination sentence to denote it as the target word. Four choices were selected from the examination sentence (see Figure 4-3). One of the four choices was modified by an adjective or an adverb, and participants were required to select one choice. Every question has the same format. There are 12 questions, six questions with targeted adjectives and six questions with targeted adverbs.

From the results of Study 1 and Study 2, the researcher improved the MT. The examination sentences and words used in this study are easier than the sentences and words used in the last two studies.

下線部が次の①－④のどこを一番説明しているかを選んで下さい。

Ex.	She has a big party today
①	she
②	has
③	party
④	today

Figure 4-3. Example of the MT.

5. The same form test (SFT).

This test is different from the other tests in this study. The SFT is the developed version of the CJT, which investigates mainly semantic and syntactic knowledge of words, but it is difficult to decide whether the participants used their semantic knowledge or syntactic knowledge (as well as their morphological knowledge). Therefore, this test served mainly to

investigate syntactic knowledge. The targeted words used in the SFT have at least two parts of speech, while the targeted words used in other three tests have no other parts of speech. Therefore, it is impossible to answer the questions without syntactic knowledge in the SFT.

There are 16 questions consisting of four pairs of words that have the same form but different parts of speech: nouns and verbs (four questions), nouns and adjectives (four questions), verbs and adjectives (four questions), and adjectives and adverbs (four questions). The number of instances of each part of speech is not equal, but the researcher thought that it would be better to prepare more combinations of parts of speech rather than preparing the same number of parts of speech. The combination of parts of speech helps to make apparent the degree of acquisition of different parts of speech.

The researcher investigated the effect of the marker in nouns, as in the CJT. There are two kinds of verbs, intransitive and transitive. Adjectives are also subdivided into attributive use and predicative use.

Each targeted word is underlined in each examination sentence. Each examination sentence has four choices and has different parts of speech (see Figure 4-4); thus, there are nouns, verbs, adjectives, and adverbs in the examination sentences. These words are also underlined. The sentences used in the SFT are chosen from dictionaries, and words were changed if they exceeded the tenth grade level. The sentences are easy and understandable, and there is no complex grammar in the SFT.

次の文の下線部がと同じ機能を持つものを次の①－④の下線部の中から選んでください。

Ex.	They know the use of the words.	Ex.	They use a lot of money for sweets.
①	I take the bus.	①	I want to eat a hot thing.
②	Your watch is similar to mine.	②	We paid that to you instead.
③	I'll show you the way.	③	Kate and Beth always say the same thing.
④	I nearly finished my homework.	④	Josh was late for school.

Figure 4-4. Example of the SFT.

Scoring.

In every test, the scoring is exactly the same as in Study 2.

Procedure.

The test procedure also followed that of Study 2. The maximum time to fill in a short questionnaire and to answer seven tests (four tests in E-sect and three tests in J-sect) was 30 minutes. The participants filled in the questionnaire and answered the tests under the supervision of the cooperator.

Results

In this study, the researcher uses percentages to express the scores of each test in E-sect and J-sect, because each test has a different overall score.

Japanese EFL Learners' Acquisition of Parts of Speech

Overall results

There was a difference between E-sect and J-sect. The mean in J-sect was higher than in E-sect, suggesting the participants' ability in Japanese was significantly higher than their ability in English (see Table 4-1). This indicated that their problem was not with language per se, and thus the mean in E-sect was contingent on their insufficient acquisition of English. This result was the same as in Study 2. In contrast to Study 2, however, there were no students who seemed to have linguistic problems.

Table 4-1. The Mean of each section.

	Mean	SD	N
E-sect	67.68%	0.2282	29
J-sect	87.65%	0.1061	29

The results of E-sect

1. **The difference in each test.**

The mean in E-sect is 67.68%. The CJT was 76.78%, the BFT was 68.53%, the MT was 60.63%, and the SFT was 61.21% (see Table 4-2). In order to confirm whether the differences were statistically significant, the researcher carried out one-way ANOVA, showing a main effect (F (2.643, 74.016) = 12.892, MSe = 0.014, p<.01: corrected by Greenhouse-Geisser), and the result of the multiple comparison (Bonferroni) showed that CJT > MT and CJT > SFT. The difference among the tests in E-sect was smaller than in the last two studies.

Table 4-2. Mean of each test (E-sect).

	Mean	SD	N
CJT	76.78%	0.2401	29
BFT	68.53%	0.2644	29
MT	60.63%	0.2709	29
SFT	61.21%	0.2474	29

2. The results of the CJT.

The mean of each part of speech was calculated: nouns (75.00%), verbs (79.31%), adjectives (81.03%), and adverbs (70.11%) (see Table 4-3). Nouns and adverbs got a lower score than the other two parts of speech. However, ANOVA shows that there is no main effect (F (2.534, 70.965) = 2.558, MSe = 0.014, p>.05: corrected by Greenhouse-Geisser). Though there was no significant difference among the parts of speech, the results suggest that the acquisition of nouns and adverbs is lower than the other parts of speech; these results reflect the results of the CJT in Study 1 and Study 2.

Table 4-3. The mean of each part of speech in the CJT.

	Mean	SD	N
Nouns	75.00%	0.2673	29
Verbs	79.31%	0.2918	29
Adjectives	81.03%	0.2558	29
Adverbs	70.11%	0.3001	29

The participants can ideally use their semantic knowledge, morphological knowledge,

and syntactic knowledge. However, it seemed that participants heavily depended on meaning when answering the test questions. The score is higher than the MT and the SFT, in which the participants were required to use syntactic knowledge intensively. Naturally, the score of each part of speech was high.

However, it is clear that there is no statistically significant difference of acquisition among the parts of speech. This may be attributed to the fact that the participants' academic major of English. Their English ability spanned a wide range, according to their TOEIC scores, and the average was not very high. However, since the participants' major is English, they could be expected to use and study English more frequently than the participants in Study 1. It is likely that their English ability and analytic ability for English developed in an unsatisfactory manner. It seemed that they had higher analytic knowledge than the participants in Study 1 and 2 because of their major, but this knowledge was still insufficient and their English ability was immature.

The characteristics in each part of speech are as follows: the mean of concrete nouns is 79.31% and the mean of abstract nouns is 63.79%. There is a significant difference between the two types (t (28) = 2.531, p<.05). The concrete nouns also got a higher score than the abstract nouns in Study 2. In addition, there is a difference between nouns with a marker and nouns without a marker (t (28) = -2.816, p< .01). As in Study 2, the markers showing that the words were nouns did not seem to work as hints. The mean of nouns with the marker is 65.52%, and the mean of nouns without the marker is 84.48%. In Study 2, the researcher thought the marker had not been a hint for the participants, and the difference might have depended on the difficulty of the nouns. However, the same result occurred in Study 3. In other words, this result is not an aberration, and it is possible that the marker could in fact confuse the participants.

The researcher prepared two types of verbs: intransitive verbs and transitive verbs. The mean for intransitive verbs is 77.59% and the mean for transitive verbs is 81.03%. There is no significant difference between the two kinds of verbs, which is different from the result in Study 2. In Study 2, there was a significant difference, and intransitive verbs got a higher score. This may be attributed to the fact that these results depended on the word itself, not on a characteristic of the word's function. In other words, the word may have been difficult for the participants in this study, so the word's function (for example, whether it is an intransitive verb or a transitive verb) does not relate to the result.

The researcher prepared two kinds of uses of adjectives in the test: predicative and attributive. There are no significant differences between the two, as in Study 2. At least in Study 2 and Study 3, these two uses (predicative and attributive) are not a problem for the students.

In adverbs, the use was restricted to the verb modifier, and hence there was no difference in their use. The score of adverbs increased notably in comparison to the last two studies. Perhaps questions of adverbs were easily understood because of the restrictions on adverbs' use. This use was the typical use of adverbs, so many participants might have understood this type of use.

3. The results of the BFT.

The BFT is the test for nouns and verbs. The means are nouns (69.83%) and verbs (67.24%) (see Table 4-4). The result of the *t*-test shows there is no significant difference between nouns and verbs in the BFT. There was also no significant difference between nouns and verbs in Study 2.

Table 4-4. Mean of each part of speech in the BFT.

	Mean	SD	N
Nouns	69.83%	0.2941	29
Verbs	67.24%	0.2843	29

For the noun questions, the researcher studied the use of nouns as objects and as subjects. The mean of the object use is 77.59% and the mean of the subject use is 62.07%. There is a significant difference between these two uses (t (28) = 2.073, p<.05). In addition, using nouns as an object was easier for the participants. This result is opposite to the results of Study 2.

The researcher prepared two kinds of verbs, intransitive verbs and transitive verbs. The mean of intransitive verbs is 56.90% and the mean of transitive verbs is 77.59%. Transitive verbs got a higher score than intransitive verbs. However, there is no clear significant difference between intransitive verbs and transitive verbs (t (28) = -2.052, p=.05), though there is a possibility that it could be easier for the participants to understand if an object is placed next to the verb.

4. The results of the MT.

The MT investigates the characteristics of adjectives and adverbs. There were six adjective questions and six adverb questions, but the researcher eliminated one adverb question because of a misprint. The mean of adjectives is 69.54% and the mean of adverbs is 42.07% (see Table 4-5). Statistically, adjectives got a higher score than adverbs (t (28) = 5.982, p<.00). Therefore, it was also confirmed in the MT that adverbs are more difficult than adjectives for the participants. In Study 2, adverbs were one of the difficult parts of speech in

the English section (except in the SFT). The results of Study 3 reflect those of Study 2.

Table 4-5. Mean of each part of speech in the MT.

	Mean	SD	N
Adjectives	69.54%	0.2990	29
Adverbs	42.07%	0.3437	29

The researcher prepared two kinds of uses of adjectives. All of the adjective questions in the MT were attributive, but two of the four examples of attributive use were placed behind the noun. There is a significant difference between a normal attributive use and a postpositive use (t (28) = 5.982, p<.01). The postpositive use was difficult for the participants, which may be expected. However, some students answered correctly only when adjectives were postpositive.

As in the questions involving adjectives, there is a noteworthy difference among the adverb questions, but only one question garnered a remarkably high score. The score of other adverb questions ranged from 31% to 41%, but this question got 68.97%. The participants were required to choose a word modified by "even" from the sentence "Even now she is teaching English." In this case, the word modified by the adverb was placed immediately next to "even." Many other adverb questions also involved an adverb that modified the word placed next to them; however, in the question above, "even" was placed at the beginning of the sentence. Therefore, it might have been easy for the participants to eliminate other choices.

5. The results of the SFT.

The SFT focused particularly on syntactic knowledge. This is an adapted version of the CJT. The mean of each part of speech is nouns (37. 93%), verbs (75.86%), adjectives (64.94%), and adverbs (67.24%) (see Table 4-6). The result shows a main effect (F (2.423, 67.853) = 12.980, MSe = 0.074, p<.01: corrected by Greenhouse-Geisser), and the result of the multiple comparison (Bonferroni) showed that nouns < verbs, nouns < adjectives, and nouns < adverbs. The trend showing that the participants are not skilled in using nouns became clearer, as opposed to the trend that emerged from the results of the CJT of E-sect.

Table 4-6. Mean of each part of speech in the SFT.

	Mean	SD	N
Nouns	37.93%	0.2883	29
Verbs	75.86%	0.3503	29
Adjectives	64.94%	0.2864	29
Adverbs	67.24%	0.3844	29

In the SFT, the researcher prepared nouns with markers and nouns without markers. The mean of nouns with markers is 27.59% and the mean of nouns without markers is 48.28%. There is a significant difference between the two (t (29) = -2.286, p<.05). This data suggests that the use of markers is not a hint for the participants as to the nature of the targeted word, but actually contributes to their confusion. This result also appeared in the CJT of E-sect.

There were two kinds of verbs, intransitive verbs and transitive verbs. The mean of intransitive verbs is 67.24% and the mean of transitive verbs is 84.48%, a significant

difference (t (28) =3.025, p<.01). As with the CJT, transitive verbs got a higher score than intransitive verbs. This result is contrary to the results of the CJT in Study 2, for reasons that are unclear. One possibility is that there were some problems in the sentence structure of the verb questions in the CJT, which indicates that the researcher should improve the sentence structure used in subsequent tests.

For adverb questions, the researcher prepared two types of uses, attributive and predicative. The attributive use got 66.67% and the predicative use got 63.22%. There is no significant difference between the two uses, as in the CJT of E-sect in Study 2.

The result of J-sect

1. The difference in each test.

In J-sect, the total mean of the scoring rate is 87.65%, and its breakdown is 86.90% in the CJT, 99.57% in the BFT, and 86.21% in the MT (see Table 4-7). The BFT garnered a remarkably high score. ANOVA shows the main effect (F (1.528, 42.758) = 23.447, MSe = 0.009, p<.01: corrected by Greenhouse-Geisser), and the result of the multiple comparison (Bonferroni) showed that the BFT > CJT and the BFT > MT.

The mean of each test does not indicate any significant problems. This result is higher than the result of J-sect in Study 2.

Table 4-7. Mean of each test in J-sect.

	Mean	SD	N
CJT	86.90%	0.1538	29
BFT	99.57%	0.0232	29
MT	86.21%	0.1027	29

2. The results of the CJT.

The score of the CJT in J-sect is higher than that of E-sect. The mean of each part of speech is nouns (78.45%), verbs (87.07%), adjectives (87.36%), and adverbs (93.10%) (see Table 4-8). ANOVA shows the main effect (F (2.918, 81.717) = 3.495, MSe = 0.031, p<.05: corrected by Greenhouse-Geisser), and the result of the multiple comparison (Bonferroni) showed that nouns < adverbs. However, there is no difference among the other three parts of speech.

Table 4-8. Mean of each part of speech in the CJT.

	Mean	SD	N
Nouns	78.45%	0.2188	29
Verbs	87.07%	0.2724	29
Adjectives	87.36%	0.2256	29
Adverbs	93.10%	0.1374	29

The difference among the parts of speech is not clearer than in the CJT in the English section, but the score of the nouns is the lowest of the four parts of speech and the score of adverbs is the highest, similar to the results of the CJT of J-sect in Study 2.

Semantic knowledge affects morphological and syntactic knowledge. As in Study 1 and Study 2, many participants did not recognize nouns derived from other parts of speech. Participants often incorrectly chose the same part of speech as that from which the nouns used in the CJT are derived. If the participants had greater morphological and syntactic knowledge, they might have chosen correctly.

3. The results of the BFT.

As with Study 2, the score of the BFT in J-sect is higher than in the other two tests. Most of the participants scored 100% (see Table 4-9). Only one student chose the wrong answer. In other words, the students who chose the correct answers in the BFT might have linguistic problems.

Table 4-9. Mean of each part of speech in the BFT.

	Mean	SD	N
Nouns	100.00%	0.0000	29
Verbs	99.14%	0.0464	29

4. The results of the MT.

The mean of each part of speech in the MT is adjectives (95.98%) and adverbs (76.44%) (see Table 4-10). There is a significant difference between adjectives and adverbs ($t(28) = 7.844$, $p<.01$), as in Study 2. However, the score of adjectives and adverbs runs contrary to the results of the CJT. The MT investigates syntactic knowledge of adjectives and adverbs. Syntactic knowledge of adverbs is more difficult to acquire than syntactic knowledge of adjectives because adverbs can modify more than one part of speech.

Table 4-10. Mean of each part of speech in the MT.

	Mean	SD	N
Adjective	95.98%	0.0852	29
Adverb	76.44%	0.1512	29

Common points and the correlation of E-sect and J-sect

First, the researcher investigated the correlation coefficient, and the result shows a significant relation between E-sect and J-sect (r = .882, p<.01). This result is significantly higher than the results of the last two studies, perhaps due to improvement of the materials and the increased number of participants. In this test, the words in E-sect were much easier to understand. Therefore, the difficulty of meaning of English words was lower, and the difference between E-sect and J-sect decreased.

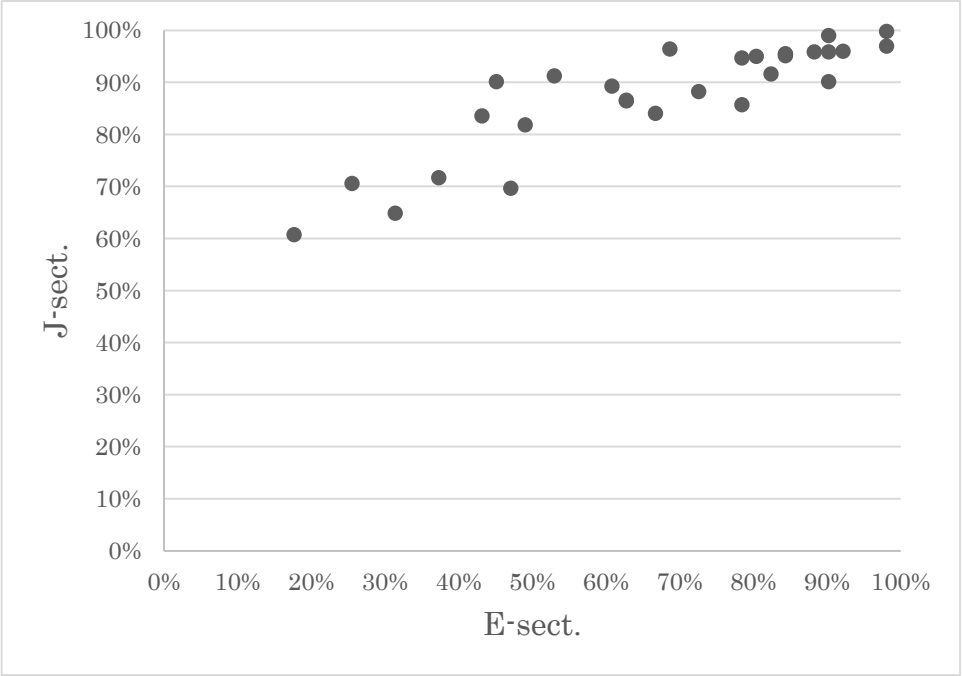

Figure 4-5. Scatter plot of E-sect and J-sect.

First, nouns are one of the most difficult parts of speech to acquire both in English and in Japanese. Though the difference was not clear in the English CJT, the scores of nouns in the English CJT, the Japanese CJT, and the SFT were one of the lowest parts of speech, a result repeated in Study 1, Study 2, and also in Study 3. It is possible to say that this difficulty

learners have in learning nouns is a characteristic feature in the acquisition of parts of speech.

Second, the difference among the four parts of speech both in the English CJT and in the Japanese CJT was smaller than in the other two studies, especially in E-sect. There was no significant difference among the four parts of speech in the English CJT, probably because participants were English majors and presumably had ample opportunity to study the language. Therefore, the tendency resembled the English CJT in Study 1 and Study 2, but the differences among the parts of speech are not clear.

Third, the inadequacy of the participants' acquisition of English parts of speech regarding syntactic knowledge and morphological knowledge is a common characteristic in the results. However, it does not appear in every test. In English, this tendency is clear. The results of each test showed the difference of the participants' acquisition of the different parts of speech. In E-sect, the mean of each test were as follows: the CJT was 76.78%, the BFT was 68.53%, the MT was 60.63%, and the SFT was 61.21%. On the other hand, the mean of each test in J-sect was CJT (86.90%), BFT (99.57%), and MT (86.21%).

Discussion

There is a difference of degree in the participants' acquisition of the various parts of speech, but some of the results of this Study resembled the results of Study 1 and Study 2: the acquisition of nouns was insufficient, the participants' syntactic knowledge was underdeveloped, and a relationship between the participants' English and Japanese abilities was demonstrated. However, the differences of the degree of acquisition of the different parts of speech varied in the English CJT and SFT and the Japanese CJT. The differences among the four parts of speech were not clearer in this study than in Study 1 and Study 2. One possible reason for this is that the participants' major was English in this study. The previous

studies by the researcher showed that individuals who majored in English had a strong balance in the number of words they knew and their grammatical ability. In other words, the difference between vocabulary and grammatical ability was smaller than in the previous studies, where the participants did not major in English. The same phenomenon might have occurred with respect to parts of speech in this study.

The other possible cause is the improvement of the material. In this test, the researcher investigated each part of speech in detail. Nouns were subject to a more granular classification: for example, this study involved the different uses of nouns (as objects and as subjects) and different kinds of nouns (concrete and abstract). In other parts of speech, an intransitive verb and a transitive verb were both incorporated into the test, and an attributive use and a predicative use were included among the questions on adjectives. The variation of words was also wider than in last two studies. In addition, the examination sentences were also changed slightly.

Conclusion

This study addressed two main research questions: 1. How do Japanese university students who major in English acquire parts of speech? Is there any difference in the acquisition of parts of speech among "form," "meaning," and "use"? 2. Is there any common characteristic between English and Japanese regarding the acquisition of parts of speech?

The results for research question 1 are as follows: in E-sect, the difference of acquisition among parts of speech showed no difference in the CJT, but there was a significant difference in the acquisition of the four parts of speech in the SFT. However, nouns got a low score both in the English CJT and in the SFT. In every test, verbs and adjectives got a high score. Interestingly, the score of adverbs was not constant in this

research. In the CJT, adverbs got the lowest score, but adverbs got the second highest score in the SFT. In J-sect, there was a significant difference among the scores of the parts of speech in the CJT. Nouns got the lowest score in the Japanese CJT. In addition, there was a difference in the acquisition of meaning, form, and use in E-sect because the CJT received the highest score and the other tests received lower scores. However, it is difficult to determine what the difference among these was in J-sect because the BFT, which investigated the learners' syntactic knowledge, received the highest score among the three tests.

For research question 2, there were some common characteristics. First, the acquisition of nouns was insufficient. Second, the difference among the four parts of speech both in the English CJT and in the Japanese CJT was smaller than in the other two studies, especially in E-sect. Third, participants seemed to struggle with the application of syntactic knowledge. The first and the third characteristics appeared repeatedly in the researcher's studies.

The trends of Study 3 resembled those of Study 1 and Study 2, a phenomenon that warrants further study.

Chapter 5

Study 4: Japanese High-School Students' Knowledge about Parts of Speech

~ from the tenth grade to the twelfth grade ~

Abstract

The main purpose of this study was to investigate high-school students' acquisition of English and Japanese parts of speech. The study involved 1055 high school students. The researcher removed 43 students from the data (whose mother tongue was not Japanese and those who did not answer a quarter of the tests). There were 88 questions on the tests, and the students who did not answer more than 22 questions were removed. Of the 1055 participants, 956 were students who had no experience with an overseas stay (general students), and 56 were students who had returned from abroad (returnee students). The material was a booklet consisting of three parts: a questionnaire, an English section (E-sect), and a Japanese section (J-sect). E-sect contained four tests and J-sect contained two tests. The researcher printed the questionnaire, the E-sect., and the J-sect in one booklet. The maximum time to fill in the questionnaire and to answer the questions was 30 minutes. In this study, the full scores in each test were different, so the researcher used percentages in order to display means.

The results of this study showed that the general students had difficulty acquiring nouns. Throughout Study 1, Study 2, Study 3, and this study, the same tendency was found. The scores for the noun questions were remarkably lower than those for the other parts of speech. This tendency also appeared in the data regarding the returnee students. However, the differences among the parts of speech were not clear. The acquisition of morphological and syntactic knowledge about parts of speech was insufficient among the general students. However, many returnee students earned high scores on every test. Therefore, it can be

inferred that the returnee students acquired all of the relevant aspects of parts of speech. In addition, the correlation coefficient between E-sect and J-sect was $r = .547$, $p<.01$ for the general students, and $r = .579$, $p<.01$ for the returnee students.

Purpose of the Study

In the results of the last three studies, the researcher realized the necessity of increasing the number and range of participants. Study 2 targeted twelfth grade students (third year students in high school). Subsequently, the researcher tried to investigate students from the tenth grade to the twelfth grade in this study.

The main theme in this study is to investigate Japanese high school students' acquisition of parts of speech. The other aim of this study is to develop a test to measure learners' knowledge of parts of speech, because there is no existing test to measure the ability of learners regarding parts of speech. The main research questions are as follows:

1. How do Japanese high-school students acquire parts of speech (nouns, verbs, adjectives, and adverbs)? Is there any difference in the acquisition of parts of speech among "form," "meaning," and "use"?
2. Is there any common characteristic between English and Japanese concerning the acquisition of parts of speech?

Method

Participants

One thousand and fifty-five high-school students participated in this study. The researcher removed 43 students: students whose mother tongue was not Japanese and

students who did not answer a quarter of the test questions, leaving 1012 students who were suited for participation.

Of 1012 participants, 956 were had no experience of an overseas stay, and 56 were students who had lived abroad in their school age (also called returnee students). The returnee students had stayed abroad from a year and a half to sixteen years. These participants lived in a variety of countries, both English-speaking and non-English-speaking countries; for example, students had stayed in the United States of America, Canada, the United Kingdom, the Republic of Peru, the Federative Republic of Brazil, the People's Republic of China, and the Federation of Malaysia. The length of the stay also varied. In this research, the researcher did not classify the students by the country in which they stayed or by the length of the stay; this will be investigated in other research. However, students who stay abroad usually have many chances to study and use English, if they stay in an English-speaking country. It is true that many schools for Japanese outside of Japan have special programs for English (Tokyo Gakugei Kokusai Kyoiku Center, 2009, 2010, 2011, 2012a, 2012b, 2013).

Five high schools participated in this study. Four were public schools and one was a private school. In this study, the schools' academic levels were determined by a deviation value. The researcher judged each deviation value from the ranking on the website "Koko Hensa-chi Navi" and "Koko Juken Navi." There are three categories: 1. a low to low-intermediate level (a deviation value under 50), 2. an intermediate level (a deviation value of 50–55), and 3. a high-intermediate to high level (a deviation value over 55).

As illustrated in Table 5-1, there were many kinds of students involved in this study, and the number of participants remarkably increased from the other three studies. Hence, this study ensured greater variety among the participants and thus made the study's results more valid.

Table 5-1. Breakdown of the effectual participants.

	Low to lower-intermediate (~ 49)	Intermediate (50–55)	High-intermediate to high (56 ~)	Total
general participants (no experience living abroad)	406	466	84	956
participant had returned from abroad	2	6	48	56

Parts of speech in this study

The targeted parts of speech were, as in Study 1, Study 2, and Study 3, nouns, verbs, adjectives, and adverbs. However, in E-sect, the use of adverbs in this study was restricted to use as verb modifiers.

Materials (see Appendix 4)

As with the last three studies, the researcher used a booklet consisting of three parts: an English section, a Japanese section, and a questionnaire. In addition, the researcher prepared four kinds of tests for the two sections. All the tests investigate comprehension of parts of speech, but the focus of each test is different. Other tests measuring English ability were not used.

The first test is a category judgment test (CJT), which investigates participants' knowledge of parts of speech semantically, morphologically, and syntactically. The second test is a blank filling test (BFT), which investigates the participants' knowledge of nouns

morphologically and syntactically. The third test is a modifier test (MT), which concerns adjective and adverb use. The fourth test is the same form test (SFT), which focuses on syntactic knowledge in detail. The SFT and CJT have the same format, but the targeted words used in the SFT have at least two parts of speech. The words used in this test have two uses, though they have the same forms and the same core meanings. Therefore, it would be difficult to answer the questions without syntactic knowledge.

The English section (E-sect) consisted of four tests: the CJT, BFT, MT, and SFT. The Japanese section (J-sect) consisted of three tests, the CJT, BFT, and MT. The tests with the same names in E-sect and J-sect had the same number of questions, the same procedure for answering the questions, and the same parts of speech. In addition, the researcher did not use the SFT in J-sect because it was almost impossible to find words that have the same form but two different parts of speech.

Both in E-sect and J-sect, the selection criteria of words were the same as in Study 3. However, the words used in this study were a little easier than the words in Study 3. High frequency words were chosen. The sentences were also easier than the sentences used in Study 3, and complex sentence structures were simplified. The researcher minimized the use of relative and auxiliary verbs. In addition, the plural form and past tense of verbs were not used because the form of the verb changes in these cases. The sentences were chosen from dictionaries, but the researcher altered the words if they were beyond a tenth grade level.

In the booklet, no words explicitly revealing parts of speech were used. Thus, the booklet had no words like "noun," "verb," "adjective," "adverb," "word-class," or "parts of speech."

Japanese EFL Learners' Acquisition of Parts of Speech

1. The category judgment test (CJT).

This test investigates participants' knowledge of parts of speech semantically, morphologically, and syntactically. In order to answer the questions, participants should utilize the meaning of the words and the place of the words. It was assumed that some participants might be able to answer some questions based on the morphological features of the target words. However, the researcher expected that many participants would overlook the morphological function of the words, as had occurred in Study 1, Study 2, and Study 3.

次の文の下線部と同じ機能を持つものを次の①－④の下線部の中から選んでください。

Ex.	He plays with a dog.
①	Is there any coffee in the kitchen?
②	This is a golden opportunity.
③	I'll put it here.
④	He spoke slowly.

Figure 5-1. Example of the CJT in E-sect.

The words chosen by the researcher were used in the format shown in Figure 5-1. In this test, the questions involved one examination sentence followed by four choices. The researcher underlined the targeted words in each sentence. There are 15 questions: four questions on nouns (abstract nouns and concrete nouns), four questions on verbs (intransitive verbs and transitive verbs), four questions on adjectives (an attributive use and a predicative use), and three questions on adverbs (as verb modifiers). In nouns, the researcher also investigated the effect of markers that provide a hint that a given word is a noun (such as

articles, demonstrative adjectives, and demonstrative pronouns).

2. The blank filling test (BFT).

This test investigates knowledge of nouns and verbs syntactically and morphologically. The researcher sought to investigate differences in the participants' acquisition of each part of speech. There are eight questions (four on nouns and four on verbs). There were two types of nouns (objects and subjects). In addition, there are two kinds of verbs: intransitive verbs and transitive verbs. In verb questions, the researcher tried not to change the form of the verbs. Therefore, the verbs used in this test do not have the third-person singular morpheme "s," and past tense is also not used in this test.

次の問題の(　　)に入るものを次の①－③から選んでください。

Ex.	Mary and Kate (　　) the man.
1	know
2	knowledge
3	knowable

Figure 5-2. Example of the BFT.

Each question has an examination sentence with a blank, and there are three choices under each examination sentence. One of the three choices is a targeted answer word (see Figure 5-2). Each choice has a different part of speech, and the choices in each question have the same root as the targeted word. As mentioned above, the targeted word is easily understood and its frequency is very high. However, sometimes the choices are more difficult than the targeted words. These words are higher than the junior high school student level or

the tenth grade high school student level.

3. The modifier test (MT).

One of the grammatical functions of adjectives is to modify nouns, and the main function of adverbs is to modify verbs, adjectives, and adverbs, etc. (Huddleston & Pullman, 2005; Takahashi et al., 2005; Ishiguro, 2009). This test measures the acquisition of these syntactic functions.

下線部が次の①－④のどこを一番説明しているかを選んで下さい。

Ex.	She has a <u>big</u> dinner party today
①	she
②	has
③	dinner party
④	today

Figure 5-3. Example of the MT.

The chosen words are used as shown in Figure 5-3; there is one examination sentence with four choices. The targeted words in the examination sentence were underlined to indicate that they are the target words. Four choices were selected from the words used in the examination sentence. One of the four choices is modified by an adjective or an adverb. Therefore, the participants are required to select the correct answer from four choices. Every question has the same format, and there are 12 in total: six questions targeting adjectives and six questions targeting adverbs.

4. The same form test (SFT).

This test is different from the other tests in this study because the targeted words have at least two parts of speech. The method of selecting the words used was the same as in Study 2 and 3.

The number of questions is 16; there are four pairs that have the same form but different parts of speech: nouns and verbs (four questions), nouns and adjectives (four questions), verbs and adjectives (four questions), and adjectives and adverbs (four questions). The number of each part of speech used is not equal.

次の文の下線部がと同じ機能を持つものを次の①－④の下線部の中から選んでください。

Ex.	They know the use of the words.	Ex.	They use a lot of money for sweets.
①	I take the bus.	①	I want to eat a hot thing.
②	Your watch is similar to mine.	②	We paid that to you instead.
③	I'll show you the way.	③	Kate and Beth always say the same thing.
④	I nearly finished my homework.	④	Josh was late for school.

Figure 5-4. Example of the SFT.

The aim was to investigate each part of speech syntactically. For nouns, the researcher prepared concrete nouns and abstract nouns, and also investigated the effect of markers hinting that words are nouns (such as articles, demonstrative adjectives, and demonstrative pronouns). The researcher prepared two kinds of verbs and two uses of adjectives: intransitive verbs and transitive verbs, and the attributive use and the predicative use for

adjectives.

Each targeted word is underlined in each examination sentence. Each examination sentence has four choices and contains words that have different parts of speech; thus there are nouns, verbs, adjectives, and adverbs in the sentences. They are also underlined (see Figure 5-4).

5. The questionnaire.

The researcher prepared a brief questionnaire to determine unsuitable students (whose mother tongue is not Japanese) and returnee students. There were three items on the questionnaire: 1. mother tongue, 2. experience of residence in abroad, 3. qualifications (ex. TOEIC, TOFLE, EIKEN, etc.).

Scoring.

In every test, the scoring is the same as in Study 2 and Study 3

Procedure.

In this study, there were five cooperators who administered the tests in compliance with the researcher's instructions. The maximum time to answer the seven tests (four tests in E-sect and three tests in J-sect) and to fill in the short questionnaire was 30 minutes.

Results

In this study, the researcher uses a percentage to express the scores of each test in E-sect and J-sect because the maximum point score of each test is different.

Japanese EFL Learners' Acquisition of Parts of Speech

Overall results

For the general participants (those who had no experience with overseas stay), there was a difference between E-sect and J-sect. E-sect was 57.91% and J-sect was 88.01%. The mean in J-sect was statistically higher than that of E-sect (see Table 5-2). This difference was confirmed statistically (t (955) = -60.522, p<.01), suggesting participants' ability in Japanese was significantly higher than their ability in English, and that the participants generally did not have a problem with language ability itself. Thus, the mean in E-sect was contingent on their insufficient acquisition of English, just as in Study 1, Study 2, and Study 3.

Table 5-2. Mean of each test (according to participants).

		Mean	SD	N
general participants (no experience with overseas stay)	E-sect	57.91%	0.1824	956
	J-sect	88.01%	0.1180	956
returnee students	E-sect	86.85%	0.1280	56
	J-sect	95.39%	0.0569	56

For the returnee students, the score for E-sect is 86.85% and the score for J-sect is 95.39% (see Table 5-2). The difference was statistically significant (t (55) = -6.043, p<.01). This result is widely divergent from those of the other studies. The returnee students did not necessarily live in English-speaking countries and the length of their overseas stays were different for each student. However, their English score is generally higher than English score of general students.

The result of the general participants (no experience of living abroad)

1. The results of E-sect.

1.1 The difference in each test.

The scores for each test were as follows: CJT (69.52%), BFT (48.79%), MT (52.89%), and SFT (51.77%) (see Table 5-3). There are differences among the scores of the four tests. In order to confirm whether the differences are statistically significant, the researcher carried out one-way ANOVA. The result shows a main effect (F (3, 2733.416) = 376.329, MSe = 0.023, p<.01: corrected by Greenhouse-Geisser), and the result of the multiple comparison (Bonferroni) showed that the CJT > MT, CJT > BFT, CJT > SFT, BFT < MT, and BFT < SFT. Thus it was statistically confirmed that the CJT got the highest mean among the four tests in E-sect. In the CJT, it was possible that the participants used semantic, syntactic, and morphological knowledge in an integrated manner. However, the other tests focused more on syntactic or morphological function. The BFT focused on morphological and syntactic knowledge, and the MT and SFT focused specifically on syntactic knowledge. The results demonstrate that the meaning of words plays an important role in the students' English learning and affects the recognition of the forms and uses of words.

Table 5-3. Mean of tests (in E-sect).

	Mean	SD	N
ECJT	69.53%	0.2160	956
EBFT	48.79%	0.2359	956
EMT	52.89%	0.2016	956
ESFT	51.77%	0.2025	956

1.2 The results of the CJT.

The scores for each test are 63.44% for nouns, 75.34% for verbs, 70.27% for adjectives, and 71.44% for adverbs (see Table 5-4). In order to confirm whether these differences are statistically significant, the researcher carried out one-way ANOVA. The result shows a main effect of (F (2.977, 2842.079) = 58.696, MSe = 0.040, p<.01: corrected by Greenhouse-Geisser), and the result of the multiple comparison (Bonferroni) showed that nouns < verbs, nouns < adjectives, nouns < adverbs, verbs > adverbs, and verbs > adjectives.

Table 5-4. Mean of each part of speech (in the CJT).

	Mean	SD	N
Nouns	63.44%	0.2937	956
Verbs	75.34%	0.2822	956
Adjectives	70.27%	0.2766	956
Adverbs	71.44%	0.2760	956

Nouns got the lowest score and adverbs got the second lowest score in this CJT. In the other studies, nouns got the second lowest score and adverbs got the lowest score. However, the researcher restricted the use of adverbs in E-sect. In the CJT, the adverbs were used only as verb modifiers. Therefore, adverbs might have been easy for the participants.

This test involved two types of nouns: concrete nouns and abstract nouns. Concrete nouns got 69.67% and abstract nouns got 57.22%. There is a significant difference between concrete nouns and abstract nouns (t (955) = 9.354, p<.01). It might be natural to acquire concrete nouns easily, and concrete nouns are conceptually simple since they refer to real, tangible things, and the participants indeed scored higher on concrete nouns.

Regarding the impact of the marker, nouns with a marker got 52.09% and nouns without a marker got 74.79%. There is a significant difference between the two (t (955) = -17.027, p<.01). The score for nouns without a marker is higher than those with a marker, just as in Study 2 and Study 3. Interestingly, the marker did not provide a hint for the students. In Study 2, the researcher thought that this result could not be generalized, but rather depended on the difficulty of the words used in the test. However, since this result appeared repeatedly, it may indicate this is typical of Japanese EFL learners.

In verb questions, the researcher used both intransitive and transitive verbs. The score for intransitive verbs is 56.93% and for transitive verbs, 75.24%. There is a significant difference between the scores for these two types of verbs (t (955) = -10.127, p<.01). In Study 2, the score for intransitive verbs was higher than the score for transitive verbs.

In Study 3, after the researcher changed many words and their difficulty, transitive verbs got a higher score than intransitive verbs. However, there is no significant difference between the scores for intransitive verbs and transitive verbs. The result of this study resembles the result of Study 3.

The questions on adjectives in this test included both attributive and predicative adjectives. The mean for the attributive use was 70.29% and the mean for the predicative use was 70.24%. There is no significant difference between the scores of the attributive use and the predicative use. This phenomenon also appeared in Study 2 and Study 3.

The scores for adverbs increased significantly compared to the other three tests. As stated above, the use of adverbs was restricted in E-sect of Study 4. In Study 1 and Study 2, many adverb uses were selected, and the score for adverbs was the lowest in the CJT. According to the results of Study 1 and Study 2, the use of adverbs as verb modifiers was used in Study 3. The score increased, but the scores for adverbs were still the lowest. In this

study, the sentences and words were easier than in the last three studies. Therefore, it is possible to say that many participants acquired adverbs as verb modifiers, at least. However, other uses of adverbs remained difficult for the participants.

1.3 The results of the BFT.

The score for nouns is 52.69% and the score for verbs 45.29% (see Table 5-5). There is a significant difference (t (955) = 7.100, p<.01) between these scores. The score for nouns is higher than for verbs. This BFT is probably different from the CJT and SFT because the scores for nouns were higher than the scores for verbs in Study 3.

Table 5-5. Mean of each part of speech (in the BFT).

	Mean	SD	N
Nouns	52.69%	0.2816	956
Verbs	45.29%	0.2946	956

For nouns in this test, there were two uses: as objects and as subjects. The score for the use as an object was 63.70% and the score for the use as a subject was 41.68%. There is a significant difference between these two uses (t (955) = 14.937, p<.01). This result is the same as that of Study 3. Interestingly, the participants recognized nouns used as an object better than nouns used as a subject. However, these two results were contrary to those of Study 2. This discrepancy needs to be investigated further.

There are two kinds of verbs: intransitive verbs and transitive verbs. In this study, intransitive verbs scored 46.76% and transitive verbs scored 43.83%. There is no statistically significant difference between the scores for intransitive verbs and those for transitive verbs,

in contrast to the results of the last study.

1.4 The results of the MT.

The score for adjectives is 56.08% and the score for adverbs is 49.60% (see Table 5-6), producing a significant difference (t (955) = 7.761, p<.01), as in the previous three studies. English adverbs got a lower score than English adjectives in most of the tests in the three other studies. This tendency was evident especially in the English CJT and the English MT, though the English CJT in this study was different from the three studies. Adverbs in the English MT and the parts of speech of incorrect answers were not the same, so it seemed that the participants chose answers at random. However, there was a trend in the incorrect choices of adjectives, and many of the incorrect choices were placed directly after targeted adjectives. Many participants might over-generalize the function of adjectives; in brief, they might think that adjectives modify only the next word in the sentence, or they had no knowledge about the postpositive use of adjectives.

The difference between adverbs and adjectives was small in the CJT, but larger in the MT, in which the participants were required to use syntactic knowledge intensively. This may indicate that adverbs may be more difficult than adjectives, especially in a syntactic context.

Table 5-6. Mean of each part of speech (in the MT).

	Mean	SD	N
Adjectives	56.08%	0.2449	956
Adverbs	49.60%	0.2330	956

For adjectives, an attributive use and an attributive use as a post modification were investigated. The score for the attributive use is 70.95% and the score for the post modification is 26.36%. There is a significant difference between these two uses (t (955) = 34.740, p<.01). The attributive use as post modification is one of the popular uses of adjectives. According to the teachers who assisted with this doctoral thesis, this application is taught extensively. However, the score of the postpositive use was lower than the score of the attributive use. Some participants wrote some markings (e.g. a circle, an X, or an arrow, etc.) on the booklets that the researcher collected. From these markings, it seemed that many participants chose words that appeared after adjectives. Therefore, the score of the post modification was lower than the score of the attributive words.

1.5 The results of the SFT.

The mean of each part of speech in this test are as follows: 28.84% for nouns, 63.18% for verbs, 52.41% for adjectives, and 63.96% for adverbs (see Table 5-7). In order to confirm whether the differences are statistically significant, the researcher carried out one-way ANOVA. The result shows a main effect (F (2.773, 2647.532) = 407.029, MSe = 0.063, p<.01: corrected by Greenhouse-Geisser), and the result of the multiple comparison (Bonferroni) showed that nouns < verbs, nouns < adjectives, nouns < adverbs, verbs > adjectives, and adjectives < adverbs.

Table 5-7. Mean of each part of speech (in the SFT).

	Mean	SD	N
Nouns	28.84%	0.2486	956
Verbs	63.18%	0.3055	956
Adjectives	52.41%	0.2600	956
Adverbs	63.96%	0.3576	956

In noun questions, there were concrete nouns and abstract nouns. The mean of each is 31.75% for concrete nouns and 25.94% for abstract nouns. There is a significant difference between these scores (t (955) = 4.078, p<.01). In addition, the effect of the marker was also investigated. The score is 23.43% for nouns with a marker and 34.26% for nouns without a marker. These results are the same as in the CJT. Therefore, it can be deduced that abstract nouns are more difficult for participants than concrete nouns, and the marker is not a hint when participants are required to use syntactic knowledge intensively.

The score for intransitive verbs is 59.57% and the score for transitive verbs is 66.79%. There is a significant difference between the scores for those two kinds of verbs (t (955) = -5.352, p<.01). Though the words used in the CJT and the SFT were different, the results showed that the score of the transitive verbs was higher than the score of the intransitive verbs, suggesting transitive verbs might be more easily acquired by the participants.

Regarding adjectives, the attributive use garnered a score of 47.70% and the predicative use received a score of 57.11%. There is a significant difference between the two uses (t (955) = -7.938, p<.01). In the CJT, there were no differences between the attributive use and the predicative use. The attributive use received a lower score when the participants were required to use syntactic knowledge, and attributive use appeared more difficult for the

participants.

2. The results of J-sect (for the general students)

2.1 The difference between the scores of the tests.

The mean of each test in J-sect was higher than the mean of each test in E-sect. The CJT marked 84.57%, the BFT marked 97.97%, and the MT marked 85.36% (see Table 5-8). ANOVA shows a main effect among the tests (F (1.847, 1763.466) = 356.063, MSe = .016, p<.01: corrected by Greenhouse-Geisser), and the multiple comparison (Bonferroni) shows that the CJT < BFT and the BFT > MT. The BFT got the highest mean. The results of Study 2 and Study 3 also showed the score for the BFT was higher than for the CJT and the MT. If the participants inserted the incorrect choice into the sentence, the sentence became very unnatural. The participants' intuition for Japanese would work in the BFT, so they might not fail to choose the correct answer. Considering that most of the students got a score of 100% on the BFT and the SD was very small, there is a possibility that the BFT investigated different types of ability than the CJT, MT, and SFT. The researcher needs to reconsider this test.

Table 5-8. Mean of each test.

	Mean	SD	N
CJT	84.57%	0.1726	956
BFT	97.97%	0.0923	956
MT	85.36%	0.1656	956

2.2 The results of the CJT.

In many previous studies, nouns were believed to be the easiest parts of speech to acquire in a second language (Rodgers, 1969; Ellis & Beaton, 1993; Yachi, 2002) and in the mother tongue (Hasegawa, 2009; Horiba, 2011). However, the results of this research indicate learners' difficulty understanding and using nouns. The mean of each part of speech is 73.54% for nouns, 87.06% for verbs, 88.52% for adjectives, and 86.82% for adverbs (see Table 5-9). ANOVA shows the main effect (F (2.745, 2621.740) = 176.158, MSe = .029, p<.01: corrected by Greenhouse-Geisser). The multiple comparison (Bonferroni) shows that nouns < verbs, nouns < adjectives, and nouns < adverbs. There are no differences among the other three parts of speech.

Table 5-9. Mean of each part of speech (in the CJT).

	Mean	SD	N
Nouns	73.54%	0.2484	956
Verbs	87.06%	0.2234	956
Adjectives	88.52%	0.2036	956
Adverbs	86.82%	0.2098	956

In this test, the researcher prepared concrete nouns and abstract nouns. Concrete nouns got 89.49% and abstract nouns got 57.58%. There is a significant difference between the scores for those two kinds of nouns (t (955) = 24.237, p<.01). The score for concrete nouns had been also higher than the score for abstract nouns in Studies 2 and 3. However, there is one problem with these results. In this study, the researcher used abstract nouns derived from other parts of speech; for example, "kaeri" (帰り) is a noun derived from the verb "kaeru"

(帰る). In Studies 1 and 2, these nouns garnered low scores. Future studies should use concrete nouns derived from other parts of speech.

There is no difference among verbs, adjectives, and adverbs. The mean of each part of speech exceeded 85%, and participants evidently had no serious problems with the acquisition of these three parts of speech. The researcher investigated only adjectives in detail, and more specifically, attributive and predicative adjectives. The score for the attributive use was 86.14% and the score for the predicative use was 90.90%, demonstrating a significant difference (t (955) = -5.163, p<.01). The predicative use garnered a higher score than the attributive use, as in the SFT in E-sect.

2.3 The results of the BFT.

The BFT received the highest score in J-sect. Nouns garnered 98.35% and verbs garnered 98.61%. There is no difference between the scores for nouns and verbs. Only a few participants chose incorrect answers. In the Japanese BFT, most participants got 100%, which was significantly different from the results of the other tests. In E-sect, the result was also different from the other tests in some ways. Further research is needed to investigate the characteristics of the BFT.

Table 5-10. Mean of each part of speech (in the BFT).

	Mean	SD	N
Nouns	98.35%	0.0987	956
Verbs	98.61%	0.0872	956

2.4 The results of the MT.

In the MT, adjectives got 93.62% and adverbs got 79.17%, a significant difference (t (955) = 23.472, p<.01). The adverbs got a lower score, as in the English MT. Even in their mother tongue, adverbs garnered low scores when the participants were required to use advanced syntactic knowledge. In every MT test in Study 1, Study 2, and Study 3, and in this test, the score was lower than the scores of the other tests.

Table 5-11. Mean of each part of speech (in the MT).

	Mean	SD	N
Adjectives	93.62%	0.1443	956
Adverbs	79.17%	0.2147	956

The results of the returnee students

Returnee students are students who have experience living abroad while of student age. Fortunately, the researcher could investigate their data. In the following two parts, the researcher refers to the results of returnee students.

1. The result of E-sect (for the returnee students)

1.1 The difference in each test.

The mean scores for each test are shown in Table 5-12. ANOVA shows there is a main effect (F (3, 165) = 14.116, MSe = .014, p<.01). The multiple comparison shows the CJT > MT, CJT > SFT, BFT > MT, and BFT > SFT. In contrast to other students, the returnee students received high scores on the English BFT. This result is the same as the Japanese BFT in general students and the Japanese BFT in the other studies. The English score of returnee

students is as high as the Japanese score of the general students, which indicates that the English proficiency of returnees is approximately equal to the Japanese proficiency of general students.

Table 5-12. Difference of each test (returnee students).

	Mean	SD	N
ECJT	91.52%	0.1218	56
EBFT	90.51%	0.1619	56
EMT	85.42%	0.1750	56
ESFT	79.91%	0.1872	56

1.2 The results of the CJT.

The mean scores for each part of speech are shown in Table 5-13. There is no significant difference among the scores for the different parts of speech, all of which exceeded 90%. In other words, the returnee students have no problems with English parts of speech.

Table 5-13. Mean of parts of speech (in the CJT).

	Mean	SD	N
Nouns	91.07%	0.1681	56
Verbs	95.09%	0.1932	56
Adjectives	91.52%	0.1670	56
Adverbs	92.41%	0.1424	56

For the returnee students, the researcher also investigated the differences of the scores in the following combinations: 1. concrete nouns and abstract nouns, 2. nouns with markers and nouns without markers, 3. intransitive verbs and transitive verbs, and 4. attributive use and predicative use in adjectives. The results of the t-tests showed no differences in the combinations of 3 and 4. However, there are differences in the combinations of 1 and 2: concrete nouns and abstract nouns and nouns with markers and nouns without markers.

The scores for concrete nouns are 96.43% and abstract nouns are 85.71%, and there is a significant difference between the two nouns (t (55) = 3.245, p<.01), a result that also emerged in Studies 2 and 3. In addition, the score for nouns with markers is 86.61% and 95.54% for nouns without markers. There is a statistically significant difference between the two (t (55) = -2.629, p<.05). Even for the students who received a high English score, the marker may not have served as a hint.

1.3 The results of the BFT.

The scores for nouns and verbs are shown in Table 5-14. There is no significant difference between them.

Table 5-14. Mean of each part of speech (in the BFT).

	Mean	SD	N
Nouns	91.96%	0.1791	56
Verbs	91.07%	0.1747	56

For nouns, the researcher investigated two usages: nouns used as an object and nouns used as a subject. The mean score for the former was 95.54% and 88.39% for the latter, and

there is a significant difference between the two (t (55) = 2.211, p<.05), with the object use receiving the higher score. This result is the same for the returnee students and the general students.

The researcher investigated intransitive verbs and transitive verbs. Intransitive verbs scored 85.71% and transitive verbs scored 96.43%. There is a significant difference between the two verb categories (t (55) = -3.518, p<.01). This result, that the score for intransitive verbs was higher than for transitive verbs, is the same as the result of the BFT in Study 3.

1.4 The results of the MT.

The mean of each part of speech is 84.82% for adjectives and 90.18% for adverbs (see Table 5-15). There is a significant difference between the scores for adjectives and adverbs (t (55) = -2.964, p<.01), which was opposite of the results for students who did not live or study overseas. If students develop a sufficient understanding of meaning and form, adverbs as verb modifiers will be easier than adjectives as post modification

There was a difference between the uses of adjectives. The use of adjectives in the MT is attributive, but there is also a general attributive use, which modifies a word after adjectives, and there are also adjectives used as post modification. The normal use was scored 91.52% and the use as post modification was scored 71.43%, representing a significant difference (t (55) = 4.900, p<.01). Post modification might be difficult for English learners.

Table 5-15. Mean of each part of speech (in the MT).

	Mean	SD	N
Adjectives	84.82%	0.1914	56
Adverbs	90.18%	0.1582	56

1.5 The results of the SFT.

The mean of each part of speech is 58.04% for nouns, 91.52% for verbs, 83.04% for adjectives, and 91.07% for adverbs (see Table 5-16). ANOVA shows the main effect (F (2.318, 127.490) = 40.356, MSe = .045, p<.01: corrected by Greenhouse-Geisser). The multiple comparison (Bonferroni) shows that nouns < verbs, nouns < adjectives, nouns < adverbs, and verbs > adjective.

Table 5-16. Mean of each part of speech (in the SFT).

	Mean	SD	N
Nouns	58.04%	0.2981	56
Verbs	91.52%	0.2199	56
Adjectives	83.04%	0.2120	56
Adverbs	91.07%	0.2356	56

The researcher also investigated 1. concrete nouns and abstract nouns, 2. nouns with markers and nouns without markers, 3. intransitive verbs and transitive verbs, and 4. attributive use and predicative use of adjectives.

The score for concrete nouns is 41.07% and the score for abstract nouns is 75.00%; there is a significant difference between the two types (t (55) = -5.796, p<.01). Interestingly, this result contrasts starkly with the English CJT of the returnee students and with the results of Study 2 and Study 3. The reason for this discrepancy is unclear. However, this result might be attributed to returnee students' characteristics. The mean for nouns with a marker is 63.39% and 52.68% for nouns without a marker. There is a significant difference between the two (t (55) = 1.673, p<.05). This result also contrasts with the results of the English CJT in

returnee students and Study 2 and Study 3. This is the only test in which the mean of nouns with markers exceeded the mean of nouns without markers.

The mean for intransitive verbs is 89.29% and for transitive verbs is 93.75%. There was no significant difference between the two. The score for the attributive use is 82.14% and the predicative use is 83.93%. Verbs and adjectives demonstrated no differences in their uses or kinds.

2. The results of J-sect (for the returnee students)

2.1 The difference in each test.

The mean of each test is 94.87% for the CJT, 99.55% for the BFT, and 93.30% for the MT (see Table 5-17). ANOVA shows the main effect (F (1.797, 98.822) = 11.878, MSe = .006, p<.01,: corrected by Greenhouse-Geisser). The multiple comparison (Bonferroni) shows that CJT < BFT and MT< BFT. Therefore, the BFT produced the highest mean among these tests. Interestingly, the BFT results differed from the results of the other tests both in English and in Japanese.

Table 5-17. Mean of each test (in J-sect).

	Mean	SD	N
CJT	94.87%	0.0939	56
BFT	99.55%	0.0334	56
MT	93.30%	0.0862	56

2.2 The results of the CJT.

The mean of each part of speech is 91.52% for nouns, 97.32% for verbs, 94.64% for

adjectives, and 95.98% for adverbs (see Table 5-18). ANOVA shows that there is no significant difference among the scores for the four parts of speech. In the Japanese CJT taken by the general students, nouns received the lowest score among the parts of speech, and the recognition of the forms of nouns was insufficient. However, the returnee students demonstrated no difficulty in the comprehension of nouns.

The researcher investigated both concrete nouns and abstract nouns. The mean of concrete nouns is 99.11% and the mean of abstract nouns is 83.93%, and there is a significant difference (t (55) = 3.605, p<.01). This result resembled those of other studies. Adjectives were tested according to two uses, attributive use and predicative use. The score for attributive use is 94.46% and the score for predicative use is also 94.64%, and thus there is no significant difference between the two scores.

Table 5-18. Mean of each part of speech (in the CJT).

	Mean	SD	N
Nouns	91.52%	0.1801	56
Verbs	97.32%	0.0914	56
Adjectives	94.64%	0.1632	56
Adverbs	95.98%	0.0926	56

2.3 The results of the BFT.

This test demonstrated the same trends as the Japanese BFT among students who did not experience an overseas stay and the results of Study 2 and Study 3. Nouns garnered a score of 100% and verbs 99.11% (see Table 5-19). There is no difference between nouns and verbs. Therefore returnee students' intuition of Japanese might have helped them with the

BFT, like other students who had no experience living abroad.

Table 5-19. Mean of each part of speech (in the BFT).

	Mean	SD	N
Nouns	100.00%	0	56
Verbs	99.11%	0.0668	56

2.4 The results of the MT

Adjectives scored 99.70% and adverbs scored 86.90%. There is a significant difference between adjectives and adverbs (t (55) = 5.596, p<.01). This result, in which the score for the adjectives is higher than the score for adverbs, is the same as in the results of the Japanese MT of students who did not experience an overseas stay and the results of Study 2 and Study 3. This tendency resembled other results in the MT, so there was no new discovery.

Table 5-20. Mean of each part of speech (in the MT).

	Mean	SD	N
Adjectives	99.70%	0.0223	56
Adverb	86.90%	0.1703	56

Common characteristics

1. Common characteristics between English and Japanese in the general students.

Is there any common characteristic between English and Japanese ability in the students who did not live abroad? There is a correlation between the score for E-sect and J-sect (r = .547, p<.01). The scatter plot in Figure 5-5 shows that there were outliers and the

relationship between English and Japanese was not very strong.

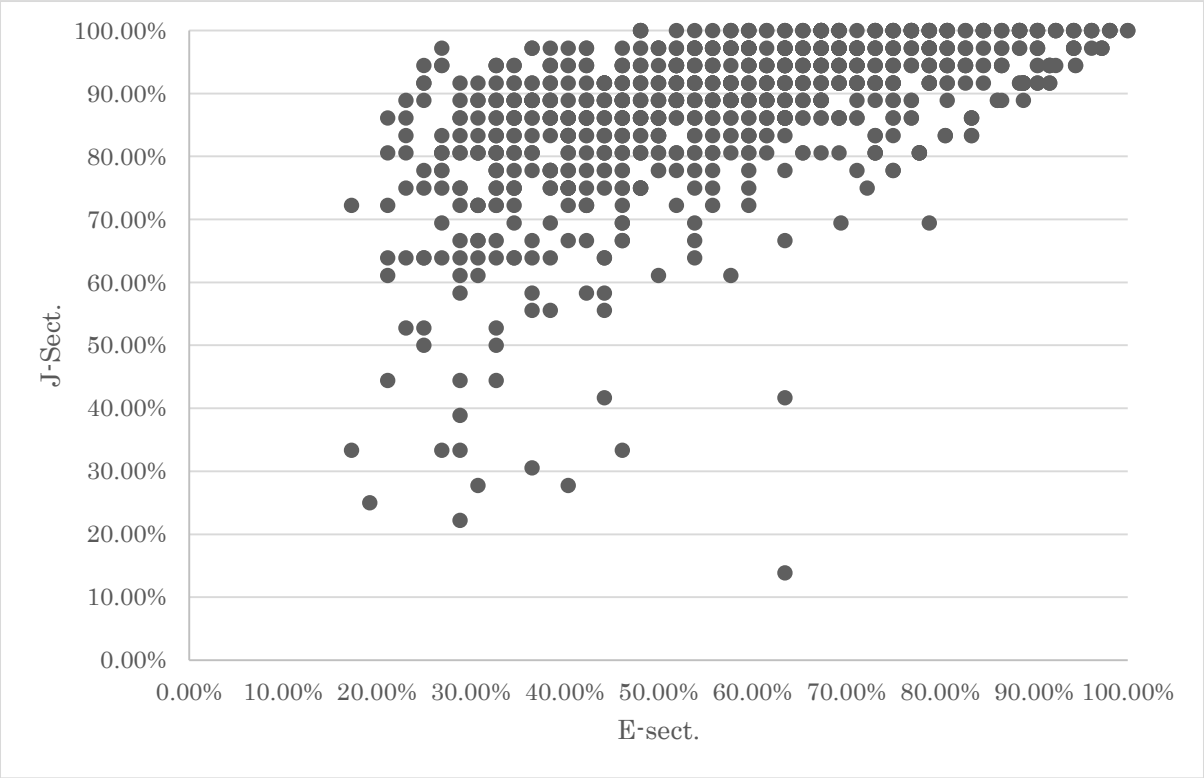

Figure 5-5. Scatter plot (between English and Japanese).

The common characteristics between English and Japanese are as follows. First, the participants' acquisition of nouns is insufficient. In the English CJT, the Japanese CJT, and the SFT (English), nouns produced a lower score than the other parts of speech. When the participants were required to use syntactic knowledge intensively, the score for nouns was even lower, except on the English and Japanese BFTs. Based on these results, nouns were the most difficult part of speech for the participants both in English and in Japanese.

Second, the acquisition of morphological knowledge and syntactic knowledge was underdeveloped in English and, to a lesser extent, also in Japanese. Though the frequency of words was equal between the two tests, the score of the SFT was lower than the score of the

CJT. The participants were required to use syntactic knowledge in the SFT, which might explain the lower score. This tendency was repeated for nouns, verbs, adjectives, and adverbs in English.

In Japanese, the participants' lack of proficiency appeared mainly in nouns. There were two questions with nouns derived from other parts of speech. Many participants did not recognize the form of nouns correctly in these questions. The incorrect parts of speech chosen were mainly the same as the parts of speech that made up the origin of the targeted nouns. For example, "omo-sa" (重さ) is a noun derived from the adjective "omo-" (重い). In this case, many students chose the adjective as the correct answer. Syntactical knowledge would have suggested the correct answer; in these questions, the placement of the word was typical for the position of nouns. The participants might choose the answer from the meaning of the targeted word. Therefore, one can deduce that participants' morphological and syntactic knowledge was insufficient to answer these questions.

2. Common characteristics between English and Japanese in the returnee students

There is a correlation between the scores for E-sect and J-sect (r = .579, p<.01). The scores of this group differed somewhat from those of the general students. In the general students, the differences among parts of speech in the CJT and SFT were large. However, the differences among parts of speech in the English CJT and Japanese CJT were minimal, and scores for each part of speech were high. There were no significant differences among parts of speech in both CJT. Only the results of the SFT showed clear differences among parts of speech. The clear characteristic between English and Japanese is that they got extremely high scores. Interestingly these scores (both English and Japanese) were higher than the scores of general students.

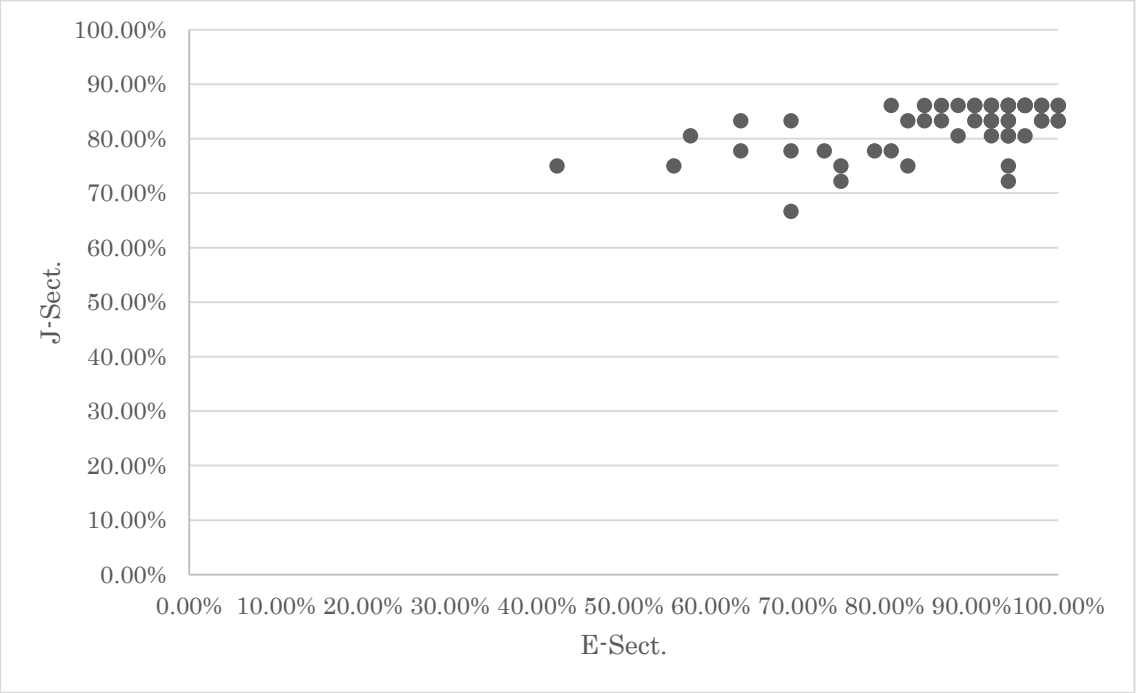

Figure 5-6. Scatter plot (between English and Japanese).

Discussion

1. Difficulty with nouns

For both the general students and the returnee students, nouns were one of the more difficult parts of speech. The results of Study 1, Study 2, Study 3, and Study 4 demonstrate this finding. Nouns comprise a large percentage of English words. In the top 4250 in JACET 8000, there are 1788 nouns, 475 verbs, 555 adjectives, and 240 adverbs (in this case, these words belong to only one part of speech). Moreover, nouns often have many variations in their form, making their recognition difficult, so the syntactic function becomes more important. However, Study 1, Study 2, Study 3, and Study 4 also revealed that it is challenging for learners to apply syntactic knowledge to parts of speech. These factors together contributed to the low scoring on noun questions in the studies.

With nouns, there were several factors that seemed to demonstrate a lack of proficiency

among the participants; for example, these include the existence of a marker, the use of a noun, and the kind of noun. For example, the low score for abstract nouns may suggest that this concept was difficult for students who had not gone abroad. Concrete nouns were easier for the participants both in English and in Japanese, which one might expect given that abstract nouns are conceptually more complex and difficult to visualize.

In addition, the existence of noun markers can be one of the factors. The researcher had initially thought that those markers could provide a hint for students. However, noun markers, such as articles, demonstrative adjectives, and demonstrative pronouns, did not seem to work as hints in Study 2, Study 3, or this study. In fact, they had the opposite effect, indicating perhaps that noun markers confused the participants. It is probable that the participants did not pay attention to the markers or they did not understand the syntactic function of the markers.

2. Lack of morphological knowledge and syntactic knowledge

General students had difficulty with morphological knowledge and syntactic knowledge, as demonstrated in these four tests. By comparing the CJT with the SFT, this characteristic appeared. The participants somehow chose the correct answer in the CJT. The general students used "form," "meaning," and "use" in the CJT. They could attach a word's importance to its meaning, and they could use their knowledge of meaning with snippets of knowledge about form and use. In addition, each targeted word had only one part of speech. Therefore, the participants may have been able to easily answer the questions. However, the SFT required the students to use syntactic knowledge intensively in order to find the correct answers. In addition, the score for nouns in the Japanese CJT was low. As explained above, many students did not understand nouns that derived from other parts of speech.

On the other hand, many returnee students had acquired morphological and syntactic knowledge. Each part of speech garnered high scores both in English and in Japanese, except nouns in the SFT. In the SFT, the score for nouns was remarkably low, suggesting the returnee students acquired the three aspects of words (a meaning, a form, and a use) uniformly except for nouns in the SFT.

3. Characteristics of returnee students

In this study, the researcher also investigated returnee students' acquisition of parts of speech. One of the characteristics of returnee students' acquisition of parts of speech was that the differences of the scores among the parts of speech were small, though there were differences (in most cases, the scores for nouns were lower than for other parts of speech). In addition, the clearest characteristic is that the returnee students' scores both in E-sect and J-sect were significantly higher than the general students. They might have a keen sense of the linguistic analysis than general students, because they grew under the foreign language speaking environment.

Conclusion

In this study, there were two research questions: 1. How do Japanese high school students acquire parts of speech (nouns, verbs, adjectives, and adverbs)? Is there any difference in the acquisition of parts of speech among "form," "meaning," and "use"? 2. Is there any common characteristic between English and Japanese in the acquisition of parts of speech?

Among the general students, the scores of nouns were remarkably low. Many general students' acquisition of nouns was not sufficient. This characteristic was manifest in the English CJT and SFT and the Japanese CJT. The scores for verbs were relatively high, so it is possible

to say that verbs are easier to acquire than other parts of speech. Through the results of this study, it was found that adjectives were the second most difficult part of speech. This result was different than the results of Study 1, Study 2, and Study 3. This probably related to the restriction of the use of adverbs in the CJT, SFT, and MT in E-sect. In E-sect of this study, the use of adverbs was restricted to verb modifiers. In contrast to adjectives, the scores for adverbs in this study were higher than in Studies 1, 2, and 3. In the returnee students, there was no significant difference of degree of acquisition among parts of speech in English and Japanese CJT. The scores for nouns in the English CJT and the Japanese CJT were lower than those for other parts of speech, but the difference was not statistically significant. As mentioned before, returnee students received high scores in each part of speech except for nouns in the SFT. In other words, the returnee students acquired each part of speech proficiently.

For research question 2, there were common characteristics in the acquisition of parts of speech between E-sect and J-sect. Among general students, the acquisition of nouns was insufficient, and their syntactic knowledge was underdeveloped. Throughout all four of the studies, two characteristics appeared repeatedly. The common characteristic in the returnee students was that they might have acquired many aspects of words and parts of speech in an integrated manner. At least, the scores for every part of speech were very high.

One of the aims in this study was to improve the materials used to measure the acquisition of parts of speech because no test to investigate learners' acquisition of parts of speech had ever been developed. Though there were some drawbacks in these tests, the researcher succeeded in developing tests to quantify learners' proficiency in this important area of language study.

Chapter 6

General Discussion

The researcher investigated Japanese EFL learners' acquisition of parts of speech (nouns, verbs, adjectives, and adverbs). Four studies were carried out in this thesis. High school students (from the tenth grade to the twelfth grade) and university students participated in these studies. The deviation value was different for each individual. The deviation value was determined based on the schools the participants attended (according to the websites "Koko Hensa-chi Navi" and "Koko Juken Navi," which show deviation values in Japanese high schools.) More than 1000 students participated in the four studies. The original booklet made by the researcher was used in all four studies. The material was improved as the experiments proceeded.

In each study, the materials consisted of three parts: a questionnaire, an English section, and a Japanese section. Each section contained several tests. From Study 1 to Study 4, five kinds of tests were developed: 1. a category judgment test (CJT), 2. a correction test (CT), 3. a blank filling test (BFT), 4. a modifier test (MT), and 5. a same form test (SFT). In each study, the combination of tests was different. Four studies with these tests revealed some characteristics of Japanese EFL learners' acquisition of parts of speech. The researcher discusses mainly two characteristics in the following: 1. the difficulty of nouns and 2. insufficient acquisition of morphological and syntactic knowledge.

The Difficulty of Nouns

One characteristic common in all four studies was that the students' acquisition of nouns is insufficient. This is especially notable because previous studies have suggested nouns are

the easiest part of speech for learners to acquire (Rodgers, 1969; Ellis & Beaton, 1993; Yachi, 2002), and some evidence has showed that many second language learners acquired nouns preferentially in the learning language (Saita, 2008; Vasiljevic, 2010; Horiba, 2011). In the current study, the scores for nouns in English were consistently low in the CJT and SFT, and the scores for nouns in Japanese were also consistently low in the CJT.

It seems that one of the reasons the researcher's results differed from the findings of previous studies was because many researchers used vocabulary size tests. Many vocabulary size tests can measure the number of words the participants have acquired. However, in many cases, vocabulary size tests can only measure the aspect of words' meanings and do not gauge their other aspects (especially the "use" aspect of words). In this researcher's studies, the meaning aspect, the form aspect, and the use aspect were investigated. As a result of these studies, the participants' acquisition of nouns was found to be insufficient, especially in morphological knowledge and syntactic knowledge. In E-sect, the participants could use their knowledge of words' meaning, form, and use to answer the CJT questions in an integrated manner. However, the participants were required to use mainly syntactic knowledge in the SFT. In the SFT, it was impossible to answer questions without syntactic knowledge. The score for nouns in the SFT was lower than the score for nouns in the CJT. Thus, the difficulty of nouns occurred mainly in morphological and syntactic aspects.

Several factors can cause the insufficient acquisition of nouns. One factor is markers and another factor is kinds of nouns. Contrary to the researcher's expectations, the existence of a marker sometimes interfered with the learners' comprehension of nouns. In the results of the SFT, it was found that many participants struggle with syntactic and morphological comprehension. Adding a marker to these aspects may have produced additional confusion.

In addition, the participants had trouble recognizing abstract nouns. Concrete nouns

were easily recognized. In E-sect, the acquisition of abstract nouns is outstandingly lower than concrete nouns. An unbalanced acquisition of nouns would have affected the scores.

Insufficient acquisition of morphological and syntactic knowledge

As stated above, participants demonstrated inadequate morphological knowledge and syntactic knowledge. Insufficient acquisition of morphological knowledge appeared both in English and in Japanese, and insufficient acquisition of syntactic knowledge mainly appeared in English.

Many participants had difficulty in morphological knowledge of Japanese nouns, though Japanese is their mother tongue. In every Japanese CJT, there were words derived from other parts of speech. Takahashi et al. (2005) discussed typical forms of nouns derived from other parts of speech. They showed how to make nouns from other parts of speech with formulas, for example, a verb radical + "-kata" = a noun (ex. 作り方), an adjective radical + "-sa" = a noun (ex. 長さ), and an adjective radical + "-mi" = a noun (ex. 深み) (Takahashi et al., 2005). These were typical forms of nouns derived from other parts of speech. This type of noun is used on a daily basis. However, many participants did not seem to recognize them. The scores for derived nouns were lower than the scores for other nouns. It is likely that knowledge of nouns, especially of nouns derived from other parts of speech, was stored together in a confused mass in the participants' heads and they could not analyze these words. In other words, the same situation which Chujo et al. (2008) described, in which many students' comprehension of vocabulary was not enough to use vocabulary correctly, though they acquired English grammar and vocabulary to a certain degree, occurred also in Japanese (see Chapter 1). Thus, the learners might not recognize the typical use of nouns. If the participants judged the answer from the words' syntactic function, they would not make such mistakes. The syntactic function

can be difficult for participants in Japanese as well. It might benefit a Japanese language teacher at a Japanese school to recognize this result. The learners' analytic ability in Japanese is not sufficient. Therefore, it is natural that the participants could not analyze English from various aspects.

Insufficient acquisition of syntactic knowledge mainly appeared in the English CJT, the English MT, and the English SFT. In the English CJT, the participants can use semantic, morphological, and syntactic knowledge in an integrated manner, though it might be possible to answer questions by using only semantic knowledge. However, semantic knowledge was not a main factor involved in answering the test questions correctly. It was impossible to answer questions in the MT and SFT without syntactic knowledge. The scores for the MT and for SFT were remarkably lower than the scores for the CJT, demonstrating that semantic knowledge was acquired more thoroughly than morphological or syntactic knowledge.

Chapter 7

General Conclusion

There were three research questions in this study.

1. How do Japanese students comprehend parts of speech? (Are there any differences in the acquisition of parts of speech between "form," "meaning," and "use"?)
2. Have the Japanese students really acquired Japanese parts of speech?
3. Are there any common characteristics between Japanese and English parts of speech in comprehension?

The results were as follows:

1. There were differences in acquisition among different parts of speech. The noun is one of the most difficult parts of speech to acquire. The difficulty in adjectives and in adverbs differed from study to study. However, the scores for verbs were relatively high in these studies. In addition, the acquisition of form and use was insufficient. The scores were low when participants were required to use syntactic knowledge intensively. In addition, the results indicated that students had trouble recognizing differences in the forms of parts of speech.
2. In Japanese parts of speech, the recognition of nouns was insufficient, especially for nouns derived from other parts of speech. In the Japanese CJT, the students were required to choose the part of speech that was the same as the target part of speech in the examination sentences. When the target word was a noun derived from other parts of speech, many participants chose the same word as the word from which the noun was derived. Applying syntactic knowledge correctly would have produced the correct answer.

Therefore, the Japanese students exhibited an insufficient acquisition of nouns.

3. There were common characteristics between Japanese and English regarding the comprehension of parts of speech. The acquisition of nouns was insufficient both in English and Japanese, morphologically and syntactically.

Pedagogical implications

The studies carried out by the researcher revealed recurring problems with Japanese students' acquisition of parts of speech. Participants demonstrated greater understanding of the semantic aspect of words than the morphological or syntactic aspects. However, sometimes the students did not even recognize the part of speech of words, though the words used in the four studies were very easy. Both English and Japanese teachers can benefit from understanding these results and tailoring their pedagogical methods appropriately. In Japanese schools, especially in high schools, English teachers explain grammar by using parts of speech. In addition, many study-aid books also use parts of speech to explain grammatical content. Teaching the concept of parts of speech explicitly may thus aid grammatical instruction overall. The fact that many students struggle with recognizing and applying nouns may also influence the approach of Japanese teachers. Possibly, coordination or cooperation between teachers of Japanese and English within the same school would improve the instruction provided by both.

References

English

Anderson, R.C. & Freebody, P. (1983). Reading comprehension and the assessment and acquisition of word knowledge, *Advances in Reading/ Language Research*, volume 2, 231-256.

Beglar, D. & Hunt, A. (1999). Revising and validating the 2000 Words Level and University Word Level Vocabulary Tests. *Language Testing*, 16 (2), 131-162.

Beglar, D. & Hunt, A. (2005). A framework for developing EFL reading vocabulary. Reading in a Foreign Language, vol. 17, no. 1, 23-59.

Collins COBUILD advanced learner's English dictionary (new digital edition). HarperCollins Publishers.

Collins compact thesaurus (2nd ed.). HarperCollins Publishers.

Ellis, C. N. & Beaton, A. (1993). Psycholinguistic Determinants of Foreign Language Vocabulary Learning. *Language Learning* 43:3. 559-617.

Ellis, R. (2005). Measuring Implicit and Explicit Knowledge of a Second Language. *Studies in Second Language Acquisition*, Volume 27. Issue 02. 141-172

Fisher, C. (2002). The role of abstract syntactic knowledge in language acquisition: a reply to Tomasell (2000). *Cognition*, 82, 259-278.

Fraser, C. A. (1999) Lexical processing strategy use and vocabulary learning through reading. *SSLA*, 21, 225-241.

Hashimoto, K. & Hirai, A. (2007). Comprehension of Post-Modification Structures by Japanese Learners of English: An Analysis by Detailed Reading Time. *ARELE : annual review of English language education in Japan*, 18, 201-210

Hengeveld, K., Rijkhoff, J. & Siewierska, A. (2004). Parts-of-speech systems and words order. *J. Linguistics*, 40, 527-570.

Huckin, T. & Coady, J. (1999). Incidental vocabulary acquisition in a second language. *SSLA*, 21, 181–193.

Huddleston, R. & Pullumun, G. K. (2005). *A Student's Introduction to English Grammar*. Cambridge: Cambridge University Press.

Konishi, Y. (2010). Reading and Second Language Vocabulary Acquisition. Unpublished master's dissertation. Tokyo Woman's Christian University

Konishi, Y. (2011). The Relationship between Vocabulary Size and Grammatical Ability from a Numerical Point of View. 『学校教育学研究論集』, No.25, 55-67.

Konishi, Y. (2012). *The Theoretical Study about the L2 acquisition - What are the Factors of Transfer or Interference?* -. Unpublished term thesis. Tokyo Gakugei University

Ku, Y. & Anderson, R. (2003). Development of morphological awareness in Chinese and *English. Reading and Writing: An Interdisciplinary Journal*, 16, 399-422.

Laufer, B. & Nation, I. S. P. (1999). A vocabulary-size test of controlled productive ability. *Language Testing*, vol. 16, no. 1, 33-51.

Laufer, B. (1988). The concept of 'synforms' (similar lexical forms) in vocabulary acquisition. *Language and Education*, vol. 2, no.2, 113-132.

Laufer, B. (1990a). 'Sequence' and 'order' in the development of L2 lexis: Some evidence from lexical confusions. *Applied Linguistics*, vol. 11, no.3, 281-296.

Laufer, B. (1990b). Why are some words more difficult than others? Some intralexical factors that affect the learning of words. *IRAL*, vol. XXVIII/ 4, November, 293-307.

Laufer, B. (1991). Some properties of the foreign language learner's lexicon as evidenced by lexical confusion. *IRAL*, vol. XXIX/4, 317-330.

Laufer, B. (1992). How much lexis is necessary for reading comprehension? In H. Bejoint and P. J. Arnaud (Eds.), *Vocabulary and applied linguistics* (126-132). (s.l.): Macmillan

Li, X. (1988). Effects of contextual cues on inferring and remembering meaning of new words. *Applied Linguistics*, vol. 9, no.4, 403-413.

Meara, Paul. (2009). *Connected words: Word association and second language vocabulary acquisition*. Amsterdam: John Benjamin's B.V.

Milton, J. (2009). *Measuring second language vocabulary acquisition.* Bristol: Multilingual Matters.

Mori, Y. The roles of context and word morphology in learning new kanji words. *The Modern Language Journal*, 87, iii, 404-420.

Nagy, W.E. & Scott, J. A. (1990). Word Schemas: Exceptions about the form and meaning of new words. *Cognition and Instruction*, 7 (2), 105-127.

Nation, I.S.P. (2001). *Learning Vocabulary in Another Language.* Cambridge: Cambridge University Press.

Nation, I. S. P. & Wodinsky, M. (1988). Learning from Graded Readers. *Reading in a Foreign Languag*e, 5 (1), 155-161.

Paribakht, T. S. & Wesche, M. B. (1993). Reading comprehension and second language development in a comprehension-based ESL program. *TESL Canada Journal / Revue TESL du Canada*, Vol. 11, No. 1, Fall, 9-29.

Paribakht, T. S. & Wesche, M. B. (1999). Reading and "incidental" L2 Vocabulary acquisition. http://www.kairyudo.co.jp/contents/02-chu/eigo/h24/eitango.htm *SSLA*, 21, 195-224

Read, J. (2000). *Assessing vocabulary. Cambridge*: Cambridge University Press

Saragi, T. Nation, I S P. & Meister, G F. (1978). Vocabulary learning and reading. *System*, 6, 72–78.

Schachter, P & Shopen, T. (1985). Parts-of-speech systems. In T. Shopen. T (Ed.), *Language Typology and Syntactic Description: Volume 1, Clause Structure*. Cambridge University Press.

Vasiljevic, Z. (2010). The effect of word class on lexical development in L2: the case of Japanese EFL adult learners. 『文学部紀要』, 24 (1),1-36

Waring, R. & Takaki, M. (2003). At what rate do learners learn and retain new vocabulary from reading a graded reader? *Reading in a Foreign Language*, volume 15, no. 2, 130-163.

Waring, Rob. (2002). Scales of Vocabulary Knowledge in Second Language Vocabulary Assessment. Retrieved May. 13. 2009.

from http://www1.harenet.ne.jp/~waring/papers/scales.htm

Japanese

JACET　SLA 研究会　編著. (2005). 『文献からみる第二言語習得』　開拓社　東京

青山明子・亀山太一・平岡禎一（他）. (2004). 「高専の特色と目的にかなった英語教材の開発」. 『メディア教育研究』, 1(1), 129-139.

石黒昭博（監修） (2009) 『総合英語フォレスト　Forest 6th Edition』 桐原書店 東京

卯元陽子. (2009). 「日本人英語学習者にとっての英語後置修飾構造の理解」『大学英語教育学会中国・四国支部研究紀要 (6) 』, 51－68

小野正樹. (2001). 「語彙ネットワーク　－日本語母語話者と日本語学習者の自然連想法の調査から」. 『筑波大学留学生センタ-日本語教育論集』, 16, 11-19

門田修平・中西義子・島本たい子・池村大一郎・野呂忠司・横川博一. (2003) 『英語のメンタルレキシコン　語彙の獲得・処理・学習』 柏松社　東京

神谷昇・長谷川信子・町田なほみ・長谷部郁子 (2009) 「『英語ノート（試作版）』の語彙の特徴　－品詞と意味の観点から―」, 『Scientific Approaches to Language,

No. 8.』 pp.119-145

北原保雄（編）. 『明鏡国語辞典　第二版』. 大修館書店. 東京

小西瑛子. (2013).「品詞の理解状況　－日本人大学生に見る－ 」. 『『外国語教育研究』（JAFLE BULLETIN） 』, 16 号, 105-120.

斉田智里 (2008) 「品詞別に見た語彙の頻度順と困難度との関係」 『JACET 全国大会要綱 47』 184-185

園田勝英 (1996).『大学生用英語語彙表のための基礎的研究』言語文化部研究報告叢書 7、北海道大学言語文化部

高橋太郎・金子尚一・金田章宏・齋美智子・鈴木泰・須田淳一・松本泰丈（2005）『日本語の文法』 ひつじ書房.

中條清美・ 西垣知佳子・内山将夫・山﨑淳史 (2006) 「初級英語学習者を対象としたコーパス利用学習の試み」 『 日本大学生産工学部研究報告 B.第 39 巻 』, 29-50

中條清美・西垣知佳子・内堀朝子・オヒガンキャサリン (2008) 「データ駆動型による効果的な英語初級者向け文法指導の試み」 『 日本大学生産工学部研究報告 B.』,第 41 巻, 15-33

東京学芸大学国際教育センター. (2009). 『在外教育施設における指導実践記録』,31 集, 東京学芸大学国際教育センター.

東京学芸大学国際教育センター. (2010). 『在外教育施設における指導実践記録』,32 集, 東京学芸大学国際教育センター

東京学芸大学国際教育センター. (2011).『在外教育施設における指導実践記録』,33 集, 東京学芸大学国際教育センター

東京学芸大学国際教育センター. (2012a). 『在外教育施設における指導実践記録』,34 集, 東京学芸大学国際教育センター

東京学芸大学国際教育センター. (2012b). 『在外教育施設における指導実践記録』,35集, 東京学芸大学国際教育センター

東京学芸大学国際教育センター. (2013). 『在外教育施設における指導実践記録』,36集, 東京学芸大学国際教育センター

中村嘉宏. (1994). 「語彙記憶形態と英語の学習」. 『鹿児島大学教育学部研究紀要、教育科学編』, 49-60.

中村嘉宏. (2011). 「語彙習得の諸相」. J. Fac. Edu. Saga Univ., Vol. 15, No. 2, 35-54.

名柄迪 (監修) (1987) 『外国人のための日本語　例文・問題シリーズ 1　副詞』 荒武出版 東京

名柄迪 (監修) (1988) 『外国人のための日本語　例文・問題シリーズ 5　形容詞』 荒武出版 東京

名柄迪 (監修) (1993) 『外国人のための日本語　例文・問題シリーズ 3　動詞』 荒武出版 東京

萩原洋. (2013). 「CTL における文法システムの在り方について : 後置修飾をどう考えるか」『富山大学人間発達科学部紀要』, 7 (2), 133-144

堀場裕紀・西菜穂子・松本順子・鈴木秀明・李榮・山方純子. (2011). 「日本語学習者の語彙知識の多面性 : 中国語母語話者の場合」, Scientific approaches to language 10, 49-83.

長谷川信子・町田なほみ (2010). 「子どもの語彙力を探る：英語語彙テストと日本語語彙能力テストの結果から」 『Scientific Approaches to Language, No. 9』 pp.191-213

藤井里美（2010）.「授業内インプットと日本人 EFL 学習者のアップテイクー学習塾に通う高校生の場合ー」『ARCLE REVIEW No.4. （研究紀要第 4 号）』 pp.25-37

望月正道, 相澤一美, 投野由紀夫(2003) 『英語語彙の指導マニュアル』　大修館書店　東京

谷内美智子（2002）,「第二言語としての言語習得研究の概観　-学習形態・方略の観点から」『言語文化と日本語教育』

Internet sources

JACET8000 http://j-varg.sakura.ne.jp/download/index.html

Weblio　英和和英　　http://ejje.weblio.jp/

高校受験ナビ　http://www.zyuken.net/

高校偏差値ナビ　http://www.sconavi.com/

大辞林　http://www.weblio.jp/cat/dictionary/ssdjj

日本語基礎語彙表 http://kotoba.nuee.nagoya-u.ac.jp/jc2/base/

平成 24 年度用中学校英語教科書のご案内　http://www.kairyudo.co.jp