OVERT PRONOUNS AND BOUND VARIABLE READING IN L2 JAPANESE

A Thesis

Presented in Partial Fulfillment of the Requirements for

the Degree Master of Arts in the

Graduate School of The Ohio State University

By

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The Ohio State University
2008

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ABSTRACT

One of the major interests in the field of Second Language Acquisition (SLA) is to uncover the mechanisms involved in learning a second language in adulthood. Although adult learners’ cognitive system is more well-developed than that of children acquiring their first languages, children are much more capable of perfecting their language than adults acquiring a second language.

The current study focuses on the acquisition of overt pronouns by English-speaking JFL (Japanese as a Foreign Language) learners. Japanese has both covert (null) pronouns and overt pronouns, while English does not have covert pronouns in tensed clauses. Overt pronouns in Japanese and English differ in that English overt pronouns allow both coreferential and bound variable readings while in Japanese, the so-called overt pronouns kare and kanozyo can have coreferential reading, but do not allow bound variable reading. However, covert pronouns can have both coreferential and bound variable readings. This was explained by the Overt Pronoun Constraint, the principle which was proposed to be one of the properties of Universal Grammar (UG). By looking at how American JFL learners interpret Japanese overt pronouns, we would know whether the OPC is at work. If the OPC is part of UG and if their grammar is constrained by UG even during the development of the target grammar, they would not permit Japanese
overt pronouns to be bound variables.

The current study attempts to answer the following three research questions: (1) Are the coreferential readings of Japanese overt pronouns acquired by L2 learners? (2a) Do they have the knowledge that the bound variable reading is not available with Japanese overt pronouns? And (2b) if they do, when is this knowledge acquired?

The experiment was designed to answer these questions by employing a truth value judgment (TVJ) task. Sixty-one JFL learners in four different levels and 20 native speakers participated in the study. Four types of test stimuli investigated whether the participants can correctly accept coreferential member and coreferential non-member readings, and whether they can correctly reject the bound variable readings of overt pronouns.

The results showed that the JFL learners have firm understanding of the coreferential reading of Japanese overt pronouns, but their correct response rate was clearly lower in the sentences with bound variable readings. It is unlikely that the JFL learners are capable of applying the OPC through access to UG, assuming that the OPC is true. The learners’ correct response rates in the bound variable reading sentences showed a gradual increase as the learners’ language proficiency level went up. The acquisition of anaphoric expressions takes time in L2 Japanese. With independent evidence, this study provides an additional piece of empirical evidence that the OPC does not seem to hold as a constraint in UG.
Dedicated to my parents
First and foremost, I wish to express my heartfelt gratitude to my thesis advisor, Dr. Mineharu Nakayama. I am thankful for his extensive intellectual support, continuous help and patient guidance throughout my graduate studies. He has spent more time helping me to develop my ideas than any student should demand from his or her advisor. His guidance and profound knowledge of Japanese linguistics and Second Language Acquisition have improved the quality of this thesis tremendously, and none of this work could have been completed without his advice and patience.

I am also thankful to my thesis committee member, Dr. Etsuyo Yuasa. She made herself available to have face-to-face meetings with me and provided me with valuable comments and suggestions, which enhanced the final product greatly. Her passion for teaching and the depth of her knowledge of the Japanese language have been a great inspiration for me.

I would also like to thank the department for financially supporting my studies for two years. I am grateful that I have been given such a wonderful opportunity to teach students at The Ohio State University and to work under the supervision of devoted bosses.
I am indebted to my friends in the Department of East Asian Languages and Literatures for their help, especially to Chris Kern for taking the time out of his busy schedule to proofread my entire thesis, and to Carlos Pimentel and Hiroko Morioka for their comments and thought-provoking questions about the content of my thesis.

I also wish to thank all of the students in the Japanese courses at The Ohio State University who participated in my experiment.

I would also like to acknowledge my deep appreciation to all of the members of Nihongo Oshaberikai and the students I taught in Japanese I.I., Japanese 101, Japanese 205 and Japanese 510/511. Their questions about Japanese grammar and culture inspired me to think more deeply about the fascinating aspects of my own native language and culture which I would not have been able to discover on my own. The joy of learning with them has been the biggest source of my motivation to keep working.

I owe much to my friends all over the world for their love and friendship, which kept me from giving up on those difficult days I had. A special thanks goes to Gabriel McDonald for his continuous encouragement and support, and whose off-beat sense of humor which always helped me to keep rhythm to my own pace. I would also like to thank Karen Curtin for accompanying me on those long days and nights at Hagerty Hall Graduate Lab.

Last, but not least, I wish to express my deepest appreciation to my parents for their love and support. Their endless encouragement and faith in me made it possible for me to keep striving to reach my goals, even when I was in moments of doubt myself. Without them, I would not have been able to discover the joy of learning and teaching.
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Japanese Linguistics and Pedagogy
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LIST OF SYMBOLS AND ABBREVIATION

The following abbreviations and symbols will be used in this thesis.

ACC : accusative case
GEN : genitive case
LOC : location
NM : nominalizer
NOM : nominative case
PAST : past tense
pro : unpronounced pronouns
TOP : topic
Q : question marker

* : indication of ungrammatical sentences
1.0. Introduction

One of the major interests in the field of Second Language Acquisition (SLA) is to uncover the mechanisms involved in learning a second language in adulthood. First language acquisition and adulthood second language acquisition are significantly different in the degree of success (e.g. Bickerton, 1996), in the character and uniformity of the resulting linguistic systems (e.g. Bley-Vroman, 1996; Vainikka & Young-Scholten, 1996), and in the previous state of the organism (e.g. Bley-Vroman, 1996; Li, 1996; Otero, 1996). Despite the fact that adult learners already have the knowledge of their first language and well-developed cognitive system, children are much more capable of perfecting their language than adults acquiring a second language.

Studies of generative grammar (e.g., Chomsky, 1981, 1995) have had an enormous influence on the development of SLA theories.\(^1\) According to Chomsky, human infants are innately endowed with Universal Grammar (UG), or a universal knowledge of elements of human language. A theory of Universal Grammar (UG)

\(^1\) See White (2003) for an overview of L2 research conducted within the framework of generative grammar.
hypothesizes that human ability for acquiring a language is innate, and that there is an innate system called *Language Faculty* which enables us to acquire natural languages. UG is thought to constitute the core of the linguistic devices which make it possible for children to acquire their first language, despite the fact that there is a big discrepancy between the linguistic competence that children are able to attain in a short period of time and the available sources that they are exposed to.

Though UG was originally proposed for explaining first language (L1) acquisition, some researchers extended it to view it within the framework of L2 acquisition as well (e.g., Epstein, Flynn, & Martohardjono, 1996; Schwartz & Sprouse, 1994). For instance, one of the key questions in the field of SLA was whether or not UG is still accessible during the adult learners’ second language acquisition process. Much attention was paid to this topic in the late 80’s and 90’s, and the results of those studies are not yet conclusive.

Findings of most of the previous studies on the phenomena that are believed to be the property of UG show that adult learners reveal their preferences for sentences that conform to the principles of UG. However, these preferences are not as strong as those of native speakers (e.g., antecedent selections of anaphoric expressions such as Thomas, 1991). Bley-Vroman (1994) summarizes the results of some of the earlier studies and states that adult learners’ understanding of some rules was better than “by chance,” although it was still far from being “perfect,” or as good as native speakers’ understanding of the same rules.
There remain many grammatical aspects which have yet to be investigated, even among the issues related to anaphoric expressions. In this thesis, therefore, I will investigate L2 learners’ understanding of Japanese pronouns - in particular, so-called overt pronouns, *kare* and *kanozyo*. Japanese has both covert (null) and overt pronouns, but only covert pronouns can be construed as bound variables (i.e., Overt Pronoun Constraint (OPC), the principle which was proposed by Montalbetti (1984) as one of the properties of UG). This characteristic is not found in English pronouns, and the difference is usually not explicitly taught in foreign language classrooms. By looking at how American L2 learners of Japanese (JFL learners: Japanese as a foreign language learners) interpret overt pronouns, we will know whether the OPC is at work. If the OPC is part of UG, and if their grammar is constrained by UG even during the development of the target grammar, then they would not have the bound variable reading by the overt pronoun. The current study would shed some light on the availability of UG in language acquisition by learners of Japanese.

This thesis will focus on the overt pronouns of Japanese, and will attempt to answer three research questions: (1) Are the coreferential readings of Japanese overt pronouns acquired by L2 learners? (2a) Do they have the knowledge that the bound variable reading is not available with Japanese overt pronouns? and (2b) If they do, when is this knowledge acquired?

The organization of the thesis is as follows. In the remainder of this chapter, I will present a brief overview of Japanese pronouns, in relation to the availability of the bound variable interpretation. Then, the Overt Pronoun Constraint will be reviewed.
Chapter 2 examines previous studies on bound variable readings in L2 Japanese. I will discuss my experiment and its results in Chapter 3. Chapter 4 provides the discussion and concluding remarks.

1.1. **Japanese as a [+null subject] language**

There are two types of languages which differ as to whether or not subject pronouns must be phonetically realized, i.e., –/+ null subject (Chomsky 1981; Jaeggli 1982; Rizzi 1982). In “[–null subject] languages” such as English, pronouns must be overtly expressed as in (1) below. Sentence (1a) includes the overt pronoun he while (1b) includes a phonologically null pronoun represented as pro. No covert pronouns can appear in the tensed clauses in English.

(1) a. John believes that he is intelligent.

   b. *John believes that pro is intelligent.

On the other hand, in [+null subject] languages (also known as null-subject or pro-drop languages), subject pronouns may be phonologically null in tensed clauses. Typical examples of such languages are Romance languages such as Spanish and Italian, and East Asian languages such as Chinese, Japanese and Korean. Examples from Spanish and Japanese are given in (2) and (3), respectively. Spanish examples (2a) and (3a) are from Montalbetti (1984) while Japanese example (2b) is from Kanno (1997). As shown below, both sentences are well-formed with null pronouns.
In these languages, subjects can also be overt pronouns, as illustrated in (3).

(3) a. Juan cree que él es inteligente.

John believes that he is intelligent.

‘John believes that he is intelligent.’

b. Tanaka-san-wa kare-ga kaisya-de ichiban da to itte-iru.

Tanaka-Mr-TOP he-NOM company-in best is that saying-is

“Mr. Tanaka says that (he) is the best in the company.”

As shown in (2b) and (3b), Japanese can have both null and overt pronouns in the subject position. However, overtly expressed pronouns and null pronouns do not always appear in the identical contexts, and there are some restrictions on their distribution.

In English, an overt pronoun can refer to both referential and quantified NPs (e.g., a universal quantifier such as *everyone* or an interrogative word *who*). This is illustrated in the following examples, which are adopted from White (2003).
(4a) is an example in which pronoun she refers to referential NP Mary. Note that coreference is intended in examples when expressions are co-indexed with the same subscripts. In (4b) and (4c), the pronominal subjects of the lower clauses are bound by the quantifier and the wh-phrase that are in the main clause, respectively, because they are co-indexed and the antecedents c-command the pronouns.² Here, for instance, there may be a competition in which multiple women are involved, and in (4b), every one of those women thinks of herself as a possible winner. In (4c), there are also multiple women and the question asks who thinks of herself as a possible winner. In these cases, when the pronoun refers to the individual in a quantified expression, the pronoun is said to have a bound variable reading.

This, however, does not mean that null pronouns in [+null subject] languages always have the bound variable reading. When the pronouns do not refer to the quantifiers, they are said to have coreferential readings. Examples of the coreferential reading are given in (5), which are also from White (2003).

---

² C-command is a notion of structural relationships between nodes in phrase structures. Originally defined by Reinhart (1976), it states: “A c-commands B iff (if and only if) the first branching node that dominates A also dominates B.”
(5) a. Jane\textsubscript{j} is a great athlete. [Mary\textsubscript{i} thinks [that she\textsubscript{j} will win].]  

b. Jane\textsubscript{j} is a great athlete. [Everyone\textsubscript{i} thinks [that she\textsubscript{j} will win].]  
c. Jane\textsubscript{j} is a great athlete. [Who\textsubscript{i} thinks [that she\textsubscript{j} will win]?]  

In examples through (5a) to (5c), the pronoun, she, refers to a particular individual Jane (extrasentential or discourse antecedent) that is not mentioned in the same sentence, but clear when an appropriate context is given. The difference between the bound variable and the coreferential readings is schematized below.

(6) a. Everybody\textsubscript{i} thinks [that she\textsubscript{i} is beautiful].  

Bound Variable Reading  

<table>
<thead>
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<th>(Mary is) beautiful.</th>
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<tr>
<td>Mary</td>
<td>thinks</td>
<td>(Mary is) beautiful.</td>
</tr>
<tr>
<td>Anne</td>
<td>thinks</td>
<td>(Anne is) beautiful.</td>
</tr>
<tr>
<td>Julie</td>
<td>thinks</td>
<td>(Julie is) beautiful.</td>
</tr>
<tr>
<td>Kate</td>
<td>thinks</td>
<td>(Kate is) beautiful.</td>
</tr>
</tbody>
</table>

b. Everybody\textsubscript{j} thinks [that she\textsubscript{i} is beautiful]  

(Extrasentential) Coreferential Reading  

Mary
Anne
Julie
Kate \quad \begin{aligned} \text{thinks Jane is beautiful.} \end{aligned}

As we observed in the examples presented above, [-null subject] languages allow two different readings of overt pronouns – the bound variable reading and the coreferential reading. These two interpretations can be expressed in the sentences with
identical phonological strings, as long as the necessary contexts are given. On the other hand, this is not the case in [+null subject] languages. The differences are illustrated in the following section.

1.2. An overview of the Overt Pronoun Constraint

The Overt Pronoun Constraint (OPC) originally proposed by Montalbetti (1984) states, “overt pronouns cannot link to formal variables iff the alternation overt/empty obtains” (Montalbetti, 1984: 94). This means that the overt pronouns in [+null subject] languages cannot receive bound variable interpretations in situations where null pronouns can occur. The OPC is considered to be true in any [+null subject] languages, regardless of the language family they belong to (White, 2003).

In Japanese, the embedded null pronouns behave very similarly to the overt subject pronouns in [-null subject] languages. That is, as it is illustrated in (7), an embedded null pronoun in the [+null subject] language can take a referential expression, a quantified expression, or a wh-phrase as its antecedent. A null pronoun can receive both a bound variable interpretation and a coreferential interpretation in this case.

(7) a. Yamada-san-ga [pro\_i hon-o kat-ta] to it-ta.

Yamada-Mr-NOM book-ACC buy-PAST that say-PAST

‘Mr. Yamada said that (he) had bought a book.’
b. Daremo$_1$-ga $[pro$_1$ hon-o kat-ta]$ to it-ta.

Everyone-NOM book-ACC buy-PAST that say-PAST
‘Everyone said that (he) had bought a book.’

c. Dare$_2$-ga $[pro$_1$ hon-o kat-ta]$ to it-ta no?

Who-NOM book-ACC buy-PAST that say-PAST NM Q
‘Who said that (he) had bought a book?’

On the other hand, in the case of overt pronouns in [+null subject] languages, there are more restrictions than the null pronouns, and the overt pronouns are also more restricted than the overt pronouns in [-null subject] languages. For instance, an embedded overt pronominal subject of [+null subject] languages like Japanese or Spanish can take a sentence-internal c-commanding referential antecedent, but it cannot take a wh-phrase or quantified expression as its antecedent. That is to say, the overt pronouns in [+null subject] languages cannot receive bound variable interpretations. This is shown in the Japanese examples in (8) and the Spanish examples in (9) below. The Spanish examples in (9) are taken from Montalbetti (1983).

(8) a. Yamada$_1$-san-ga $[kare$_1$-ga hon-o kat-ta]$ to it-ta.

Yamada-Mr-NOM he-NOM book-ACC buy-PAST that say-PAST
‘Mr. Yamada said that he had bought a book.’

Everyone-NOM he-NOM book-ACC buy-PAST that say-PAST

‘Everyone said that he had bought a book.’

c. * Darei-ga [karei-ga hon-o kat-ta] to it-ta no?

Who-NOM he-NOM book-ACC buy-PAST that say-PAST NM Q

‘Who said that (he) had bought a book?’

(9) a. Juaní cree que [él es inteligente].

believe that he is intelligent

‘John believes that he is intelligent.

b. * Nadiei cree que [él es inteligente]

nobody believe that he is intelligent

‘Nobody believes that he is intelligent.’

c. * Quiéní cree que [él es inteligente]

Who believe that he is intelligent

‘Who believes that he is intelligent?’

As indicated in (8b) and (8c), the bound variable reading cannot be expressed with kare. However, these sentences can be completely grammatical if kare in the embedded clause were meant to receive the coreferential reading, that is, if the reference were made to someone who is not Mr. Yamada, or not a member of minna, or not the person questioned by dare (who), then the sentences are grammatical. The same can be said about (9). The
bound variable reading is not available in (9b) and (9c), but if \( \acute{e}l \) refers to someone in the discourse, the sentences are thought to be grammatical. The OPC is considered to be a part of UG because this restriction is claimed to be present in many [+null subject] languages that belong to different language families (Montalbetti, 1984; Kanno, 1997; White, 2003). Another reason to claim the OPC as one of the properties of UG is, as White (2003) states, “there is a mismatch between the input (the utterance that the child is exposed to), and the output (the unconscious grammatical knowledge that the child acquires)” (p.4). This “mismatch” about the restriction of overt pronouns gives a support for the knowledge to be part of *Language Faculty*.

### 1.3. Summary

We have seen in this chapter that overt pronouns *kare* and *kanozyo* in Japanese cannot be construed as bound variables. When the antecedents are quantifiers such as *daremo* ‘everyone’ and *minna* ‘all’, or a wh-phrase such as *dare* ‘who’, and the intended interpretation is a bound variable reading, then null pronouns need to be used. English pronouns, on the other hand, have both bound variable readings and coreferential readings since there is no alternative (such as a null pronoun). They can be bound by referential NPs, quantified NPs, and wh-phrases as well.

This limitation with Japanese overt pronouns is explained by the Overt Pronoun Constraint, proposed by Montalbetti (1984). This is claimed to be property of UG, and it is thought to hold true in many [+null subject] languages. That is, OPC views this restriction as universal.
If the L1 transfer has a big impact in L2 acquisition, the differences between English pronouns and Japanese pronouns will surely interfere with the L2 learners’ acquisition of Japanese overt pronouns. However, if this is a property of UG as it is claimed in the OPC, and if UG is still accessible in adult L2 acquisition, the learners should be able to understand these functions of Japanese overt pronouns that are different from those of English pronouns. Therefore, the investigation of English-speaking learners’ interpretation of Japanese overt pronouns becomes significant in order to understand the underlying mechanism of second language acquisition. In the following chapter, we will look at the studies that investigate the English-speaking learners’ understanding of the bound variable readings in Japanese.
CHAPTER 2

PREVIOUS STUDIES

2.0. Introduction

In the previous chapter, we observed that Japanese overt pronouns *kare* and *kanozyo* cannot be construed as bound variables. In order to express the bound variable interpretation, null pronouns need to be used in the sentences. We will review previous studies on L2 learners’ bound variable interpretations.

2.1. Bound variable interpretations in Japanese: *zibun* and *zibuntachi*

One alternative that can be used to evoke the bound variable reading is to use the Japanese anaphor *zibun*. Consider the following examples.

(10) a. Daremoi-ga *zibun*-no gohan-o tabe-ta.
    everyone-NOM self-GEN meal-ACC eat-PAST
    ‘Everyone ate his meal.’

b. *Daremoi-ga *kare*-no gohan-o tabe-ta.
    everyone-NOM he-GEN meal-ACC eat-PAST
    ‘Everyone ate his meal.’
As shown above, with the anaphor *zibun*, example (10a) successfully evokes the bound variable interpretation which (10b) cannot. In (10), the situation that this sentence can explain is that multiple people (for instance, A, B and C) ate meals that each one of them cooked for himself or herself. On the other hand, in (10b), the bound variable reading is not allowed, but in the case where everyone in the group ate the same meal which one person prepared for everyone (i.e., *kare* does not refer to *daremo*), the sentence is well-formed. This is a coreferential reading.

The anaphor *zibun* can also have a plural morpheme *tachi* attached to it, and when *zibuntachi* is used in the same sentence, the interpretation the sentence has changes slightly.

(11) Minna-ga *zibuntachi*-no nomimono-o non-da.

All people-NOM selves-GEN drink-ACC drink-PAST

‘All (people) drank their drinks.’

The example (11) can be used in the same sense as (10a), that is, *zibuntachi* can also receive the bound variable reading. What is different from *zibun* in the case of *zibuntachi* is that *zibuntachi* can also receive the coreferential reading and the co-ownership reading (Nakayama, 2008). Each of these two situations in addition to the bound variable reading is taken from Nakayama (2008). Consider the following two scenarios:
(12) a. Coreferential Reading

Michael, Tyler, John and Ryan, who were brothers, went to a picnic one hot day. Michael brought a Coke and Tyler brought a Sprite; John brought frozen orange juice, and Ryan decided to bring water. After playing Frisbee for a while, Ryan wanted to drink a soda. So he talked with Michael, and drank Michael’s Coke. While watching Ryan drink the Coke, Michael began to wonder if Ryan was going to drink his water. He pulled the water bottle out and asked if anyone wanted to drink it. John drank it, as his orange juice was still mostly frozen. After they all played Frisbee again, Michael became thirsty and asked if anyone could offer him a drink. Tyler kindly gave his Sprite to Michael. Later Tyler asked John if he could drink his orange juice. John offered it to Tyler and he drank it.

b. Co-ownership Reading

Mike, David and Jay were housemates who attended the same college. Last week they had bought a long couch together and had placed it in their living room. Today their friends were planning to have a party at their house after the football game, and they wondered whether it was a good idea to keep their brand-new couch in the living room. Because someone at the party might become very drunk and throw up on the couch, they decided to move it to Mike’s bedroom upstairs. Mike held the right side of the couch alone while David and Jay grabbed the other side and took it upstairs.
In (12a), Michael, Tyler, John and Ryan all drank the drinks that they had brought, but they did not drink the one that each of them brought for themselves. Instead, they drank each other’s drinks, for instance, Ryan had Michael’s Coke and John had Ryan’s water and so on. This is the coreferential reading and is another available interpretation for the sentence like (11).

The example (12b), on the other hand, is a situation in which one couch belongs to three people, and they carried the couch together. The couch they own together can be referred to by *zibuntachi no sofaa* (couch), and the situation depicted in example (12b) can be expressed in a sentence like (13) below.

(13) Minna-ga zibuntachi-i no sofaa-o hakon-da.

   All people-NOM selves-GEN couch-ACC carry-PAST

   ‘All (people) carried their sofa.’

According to Nakayama (2008), the latter interpretation, co-ownership, is a specific reading among the possible coreferential readings and generally preferred by native speakers when *zibuntachi* is used in a sentence. These two readings, coreferential and co-ownership, are not available with *zibun*, and the bound variable reading is the only interpretation *zibun* can take. This is shown below.
In (14), the situation cannot be that Taro drove Hanako’s car and Hanako drove Taro’s car, nor can it be that Taro and Hanako own a car together and took turns driving.

In English, the reflexive self or selves cannot appear in the genitive position, and the pronoun his, her, or their is used in place of Japanese zibun or zibuntachi. Examples of each reading are given below.

(15) a. Everyonei carried his/*himself’s bag.

   b. Alli (people) used their/*themselves’ umbrellas.

Both in (15a) and (15b), bound variable reading is available. In addition to that, (15a) can also have a coreference (extrasentential/discourse) reading where his refers to someone who is not explicitly mentioned within the sentence but clear in the context. (15b) can have coreferential reading and co-ownership reading as well. In the coreferential reading, for example, there may be three people who used each other’s umbrella, and in the co-ownership reading, three people can be using two umbrellas that are shared by the three.
To summarize, Japanese anaphor *zibun* can take the bound variable interpretation but not coreferential, while *zibuntachi*, the plural form of *zibun*, can take the bound variable, coreferential and co-ownership readings. All of these three readings can be expressed by using pronouns *his/her* or *their* in English, while in Japanese, as we have seen in the previous chapter, *kare* cannot receive the bound variable reading, and it only takes the coreferential reading.\(^3\)

These differences between English and Japanese complicate the acquisition of Japanese overt pronouns or anaphoric expressions, especially in the context of bound variable reading, since a simple application of translation from English *his* or *their* cannot produce grammatical sentences. In the following sections, studies that investigated the acquisition of bound variable in L2 Japanese will be reviewed.

### 2.1.1. Interpretation of *zibun* in L2 Japanese: Kano and Nakayama (2004)

Kano and Nakayama (2004) investigate the understanding of *zibun* as a bound variable by English-speaking learners of Japanese. They employed a Truth Value Judgment (TVJ) task in the form of a written questionnaire, which included stories that are similar to (12a) and (12b), and test sentences like (10a) and (11). For the bound variable interpretation, a situation written in the same format as (12a) and (12b) was given, with the appropriate bound variable context depicted in it.

---

\(^3\)Karera or karetachi can have coreferential and co-ownership readings, too, but these plural forms are not discussed here because most of JFL learners discussed in this thesis do not know these plural forms yet.
Each story was immediately followed by a test sentence written in Japanese, and the subjects were asked to judge whether the meaning of the sentence matched the situation which was depicted in the narrative.

The thirty narratives included four test sentences with bound variable readings and four sentences with coreferential readings, making the total number of test stimuli eight. The rest of the material was filler sentences.

The participants were JFL learners who were enrolled in three different levels of Japanese courses at a large university in the United States. Level 3 was approximately ACTFL OPI Intermediate Mid/High, Level 4 was approximately ACTFL OPI Intermediate High/Advanced, and Level 5 was approximately ACTFL OPI Advanced/Superior. The textbook they used in their courses introduced zibun only in the sense of emphatic expression (zibun-de ‘by oneself’), and the learners did not receive any other instruction or explicit explanation on it. Their table 1 showing the result is reproduced below as Table 2.1.

---

4 ACTFL stands for American Council on the Teaching of Foreign Languages, and OPI (Oral Proficiency Interview) is their standardized test that assesses the speaking ability of foreign language learners. The test takes the form of a face-to-face or telephone interview between a certified tester and an examinee, and the examinee’s performance on specific communication tasks is compared with criteria for each of ten different levels.
<table>
<thead>
<tr>
<th>Group</th>
<th>Native Speakers (17)</th>
<th>Level 3 (18)</th>
<th>Level 4 (5)</th>
<th>Level 5 (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence Type</td>
<td>BV</td>
<td>CR</td>
<td>BV</td>
<td>CR</td>
</tr>
<tr>
<td>Accuracy</td>
<td>96%</td>
<td>100%</td>
<td>97%</td>
<td>99%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2.1. Percentage of the correct responses by the subject group in Kano and Nakayama (2004)

In the table, BV indicates correct “True” answers for the stimuli with the bound variable reading. CR represents correct rejection responses for the stimuli in which the sentences with bound variable reading were falsely matched with stories with the group reading – the reading that was depicted in the story like (12a).

Looking at the data, Kano and Nakayama (2004) states that the learners in all levels have a very high accuracy rate (97% or higher). They performed well on both correctly rejecting the coreference reading and accepting the bound variable, thus Kano and Nakayama concluded that the learners are able to compute *zibun* into a bound variable. Also, since the language instruction their participants received prior to the experiment is unlikely to be the source of this knowledge, they argued that the acquisition of variable binding might be guided by UG.


In the previous study by Kano and Nakayama (2004), it was concluded that the JFL learners are able to take the bound variable reading with *zibun*, and this was said to be true in the performance of all three levels (Levels 3, 4 and 5). They suggested the
bound variable reading was a default reading. In their follow-up study, Nakayama and Kano (2006) carried out a similar experiment with zibuntachi, the plural form of zibun. As it is discussed earlier, zibuntachi is more complex than zibun in that it allows more possible interpretations: (a) the individual, bound variable reading, (b) the mixed group (coreferential) reading, (c) the co-ownership (coreferential) reading.

A TVJ task similar to the one used in the experiment in Kano and Nakayama (2004) was employed. For the co-ownership reading, a story like (12b) was given. The goal of the test was to investigate whether JFL learners understood the difference between zibun and zibuntachi in that zibun cannot take a coreference reading, while zibuntachi can.

The test material included 18 test situations with test sentences (three each for the three readings with “True” and “False” situations) and 20 filler narratives.

Thirty-two English-speaking JFL learners who were enrolled in either Level 3, 4 or 5 course at the same university as Kano and Nakayama (2004) but who did not participate in the earlier study participated in the study. An important point to note is that the participants in Level 3 had not received any formal instruction on the plural morpheme –tachi. The other two levels, Level 4 and Level 5, had learned it in a word kodomotachi (children), however, they had not been explicitly taught about the word zibuntachi or the three possible interpretations it has either. The same test was given to native speakers of Japanese for comparison. The table showing the result of the test is reproduced below.
<table>
<thead>
<tr>
<th>Group</th>
<th>Native speakers (19)</th>
<th>Level 3 (19)</th>
<th>Level 4 (6)</th>
<th>Level 5 (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ans Type</td>
<td>H        CR</td>
<td>H    CR</td>
<td>H    CR</td>
<td>H    CR</td>
</tr>
<tr>
<td>Individual</td>
<td>83%      92%</td>
<td>95%  70%</td>
<td>100% 100%</td>
<td>90%  90%</td>
</tr>
<tr>
<td>Coreference</td>
<td>40%      95%</td>
<td>30%  72%</td>
<td>33% 100%</td>
<td>38% 100%</td>
</tr>
<tr>
<td>Co-ownership</td>
<td>73%      85%</td>
<td>82%  77%</td>
<td>72%  94%</td>
<td>86%  95%</td>
</tr>
</tbody>
</table>

Table 2.2. Percentage of the correct responses by the subject group in Nakayama and Kano (2006)

In the table above, H represents “Hit”, the responses correctly accepting the True sentences, whereas CR represents “Correct Rejection”, the responses correctly rejecting the False sentences. It can be observed in the data that bound variable reading (named Individual in the table) has the highest rate of correct responses by all of the subject groups, while the coreference reading had the lowest correct response rate. Nakayama and Kano explains that native speakers’ poor performance compared to the subject group might be due to their careless reading and/or pragmatic confusion. Level 3 learners did poorly on the bound variable reading False sentences compared to learners in higher levels, while they did relatively well on the True sentences. Nakayama and Kano states, “(t)heir poor performance on the individual reading sentences is reasonable given the fact that Level 3 learners were not taught the lexical meaning of –tachi” (p.123). Nakayama and Kano also explain that their poor performance at rejecting False sentences may be the result of the “Yes” bias (see Klatsky, 1975). That is, there is a tendency to find the task
of rejecting harder than accepting, when one is given a yes/no forced choice task on sentences that he or she is uncertain about. The high performance on the bound variable reading by Levels 4 and 5 learners provided evidence for the claim that JFL learners are able to associate Japanese anaphoric expression zibuntachi with the bound variable reading.

2.2. The OPC in L2 Japanese: Kanno (1997)

The studies presented in the previous section provided strong evidence that JFL learners are able to make correct association between Japanese anaphoric expression zibun/zibuntachi followed by genitive no and the bound variable reading, despite the fact that English reflexive ‘himself/herself’ does not function in the same way as zibun or zibuntachi does, since himself or herself cannot appear in the possessive position. As it is discussed earlier in this chapter, in the case of possessive position, bound variable reading in English is obtained by pronouns his or their, while in Japanese, overt pronouns kare and kanozyo do not allow this reading with quantifiers, and either null pronouns or the anaphor zibun/zibuntachi need to be used. We will now turn to Kanno (1997) which investigated JFL learners’ understanding of contrast between overt pronouns kare/kanozyo and null pronouns.

Twenty-eight English-speaking learners of Japanese who were enrolled in sections of a fourth-semester course at the University of Hawaii participated in this experiment. The subjects had taken approximately 52 weeks of instruction, with 250
minutes of class time per week. The subjects had never lived with a native Japanese speaker or lived in Japan. Twenty Japanese native speakers also participated in the study as a control group.

The test took the form of a written questionnaire. The task was a coreference-judgment task, in which the subjects were asked to read test sentences and answer questions about the subjects in the embedded clause. The instructions were written in English, but all of the test sentences were given only in the standard Japanese script – a mixture of kanji and kana. The material consisted of four sets of biclausal test sentences, with each set containing five tokens. Two of the four types of test sentences had null pronouns and overt pronouns as the subjects in embedded clauses, with their antecedents in matrix clauses being the wh-phrase dare ‘who’. These types tested the learners’ knowledge of different interpretations the null and overt pronouns have. Another two sets of test sentences had referential NPs as their antecedents, in order to investigate whether the subjects understood that referential NPs can serve as antecedent for both null and overt pronouns. Examples of the four test sentence types are shown below. In the actual test material, the sentences were written in the standard Japanese with kana and kanji, and the glosses or subscripts given in the examples below were not included. The intended answer for each question is in bold.
(16) [Sample stimuli]

a. Null pronoun with quantified *wh*-antecedent

Dare\(_{1}\)-ga \([\text{ashita} \ \text{pro}_i \ uchi-ni \ \text{iru}] \ \text{to} \ \text{it-teirun desu ka}\).  
Who-NOM tomorrow home-at be that say-ing is Q  
‘Who is saying that (he) will be at home tomorrow?’  
Q. Who do you suppose is going to stay home tomorrow?  
A. **(a) same as *dare* (b) another person**

b. Overt pronoun with quantified *wh* antecedent

Dare\(_{1}\)-ga kyoo *kare\(_{2}\)-ga uchi-ni iru to it-teirun desu ka*.  
Who-NOM today he-NOM home-at be that say-ing is Q  
‘Who is saying that he will be at home tomorrow?’  
Q. Who do you suppose is going to stay home today?  
A. **(a) same as *dare* (b) another person**

c. Null pronoun with referential antecedent

Tanaka-san\(_{1}\)-wa \([\text{raisyuu} \ \text{pro}_i \ \text{Kyooto-e iku}] \ \text{to} \ \text{it-teimashi-ta yo}\).  
Tanaka-Mr.-TOP next week Kyoto-to go that say-ing-PAST  
‘Mr. Tanaka was saying that he was going to go to Kyoto next week.’  
Q. Who do you suppose is going to Kyoto next week?  
A. **(a) *Tanaka* (b) someone other than Tanaka**
d. Overt pronoun with referential antecedent

Tanaka-san wa [raisyuu kare-ga Tookyoo-e iku] to iimashi-ya yo.

Tanaka-Mr.-TOP next week he,-NOM Tokyo-to go that say-PAST

‘Mr. Tanaka said that he was going to go to Tokyo next week.’

Q. Who do you suppose will go to Tokyo next week?

A. (a) Tanaka (b) someone other than Tanaka

The results are summarized in the table below.

<table>
<thead>
<tr>
<th></th>
<th>Native speakers (n=20)</th>
<th>L2 learners (n=28)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referential NP ↔ null</td>
<td>100%</td>
<td>Referential NP ↔ null 81.5%</td>
</tr>
<tr>
<td>Quantified NP ↔ null</td>
<td>83%</td>
<td>Quantified NP ↔ null 78.5%</td>
</tr>
<tr>
<td>Referential NP ↔ overt</td>
<td>47%</td>
<td>Referential NP ↔ overt 42%</td>
</tr>
<tr>
<td>Quantified NP ↔ overt</td>
<td>2%</td>
<td>Quantified NP ↔ overt 13%</td>
</tr>
</tbody>
</table>

Table 2.3. Acceptance rates of antecedents for null and overt pronouns (in %)

Findings from this study showed native speakers’ strong preference (100%) for null pronouns taking referential NPs as their antecedents. In the case of the overt pronouns with referential NPs as its antecedents, such strong preference was not observed, although it was accepted. Null pronouns were still preferred by native speakers in the case where quantified NPs were used as the antecedents. An important difference
between these two antecedents was that an overt pronoun was accepted to take a quantified antecedent only 2% of the time. JFL learners preferred null pronouns to be the antecedent of both referential NP and quantified NP, which matches native speakers’ preference. Overt pronouns received a lower acceptance rate in the case of quantified NP by JFL learners as well. Kanno (1997) therefore concludes that both native speakers and JFL learners followed the Overt Pronoun Constraint.

2.3. Summary

According to the findings from previous studies, it seems that JFL learners are able to associate the bound variable reading with null pronouns or anaphor zibun and zibuntachi, despite the difference between English and Japanese, while showing the understanding that overt pronouns do not seem to take the bound variable reading. The response rate by JFL learners, however, is still different from that of native speakers. In the case of Kano and Nakayama (2004) and Nakayama and Kano (2006), JFL learners performed better than native speakers in some stimuli, on the other hand, in Kanno (1997), native speakers correctly accepted the bound variable reading for null pronouns and rejected it for overt pronouns at a higher rate. White (2003) analyzes that this result might be due to the fact that the data was analyzed mainly at a group level. She claims that individual data needs to be looked at in order to conclude that the subjects are in fact making the appropriate distinction, rejecting overt pronouns and accepting null pronouns for the bound variable reading.
There are, however, a few problems with Kanno’s experiment. The task in her experiment did not adequately test the learners’ comprehensive skills. The test made the learners to identify *kare* or a null pronoun in test sentences and asked them to match those pronouns with something within or outside of the sentence. A response paper to Kanno’s study by Sheen (2000, 803) points out this format of her experiment, and states, “(the test) is more a puzzle than a language test.” Also, it should be noted that her test did not include any contexts for the sentences. As discussed in Chapter 1, one of the factors that complicates the acquisition of Japanese overt pronouns is that sentences like (24b), but with the different indices, are grammatical. Although the overt pronouns cannot be bound by quantifiers or wh-phrases, if the reference is made to the antecedent given in an appropriate context (i.e., an extrasentential antecedent), the sentence is well-formed. Thus, it is very important to give the necessary context in order to investigate the learners’ understanding of the coreferential reading of the overt pronoun. In Kanno’s study, however, instead of giving contexts, the option to match the overt pronouns with the answer ‘another person’ was given in her multiple choice questions. This directly triggers the learners to know that the coreference between *kare* and “another person” is indeed an available option, rather than letting the learners find the option on their own from a context. In order to draw a conclusion that the learners understand the function of Japanese overt pronouns, we have to have strong evidence that learners know both of the following: Japanese overt pronouns *do* take the coreferential reading, but do not take the bound variable reading. Her methodology did not adequately investigate the learners’ understanding of the coreferential reading of the overt pronoun. Therefore, an
experiment is necessary that investigates JFL learners’ comprehensive knowledge of Japanese overt pronouns. The experiment will be presented in the next chapter.
CHAPTER 3

THE EXPERIMENT

3.1. Research purpose

We have seen in Chapter 1 and 2 that Japanese overt pronouns *kare* and *kanozyo* do not take the bound variable reading. The following experiment was designed to investigate JFL learners’ understanding of overt pronoun *kare* and *kanozyo* in Japanese. It focused solely on overt pronouns, testing (1) whether the English-speaking learners of Japanese correctly accept the coreferential reading of *kare* and *kanozyo*, and (2a) whether the learners possess the knowledge that overt pronouns can be associated with referential NP but not with quantified NP. The results will be analyzed and compared by the level of the learners in order to investigate (2b) when the learners start to acquire this knowledge.
3.2. Participants

Sixty-one JFL (Japanese as a Foreign Language) learners who are native speakers of English (experimental group), and 20 native speakers of Japanese (control group) participated in this study. All the participants were undergraduate or graduate students, who were over 18 years old.

The JFL learners were enrolled in the Japanese program (Level 2 or above) at The Ohio State University at the time the experiment was conducted. Their Japanese courses employed Japanese: The Spoken Language or JSL (Jorden & Noda, 1987, 1988, 1990) as a textbook. As summarized in Table 3.1, the experimental group consisted of 28 students in Level 2 (equivalent to 150 to 300 class contact hours), 18 students in Level 3 (equivalent to 300 to 450 class contact hours), nine students in Level 4 (equivalent to 450 to 600 class contact hours), and six students in Level 5 (equivalent to 600 or more class contact hours). At the time of the experiment, the approximate hours of classes conducted in each level were: 240 hours for Level 2, 390 hours for Level 3, 540 hours for Level 4, and more than 690 hours for Level 5. Level 2 was approximately ACTFL OPI Intermediate Low, Level 3 Intermediate Mid/High, Level 4 Intermediate High/Advanced, and Level 5 Advanced/Superior.

<table>
<thead>
<tr>
<th></th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5 or above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of subjects</td>
<td>28</td>
<td>18</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Class contact hours</td>
<td>150-300</td>
<td>300-450</td>
<td>540-600</td>
<td>600 or more</td>
</tr>
<tr>
<td>Length of stay in Japan (months / number of people)</td>
<td>0 to 3 0</td>
<td>0 to 6 2 people</td>
<td>0 to 16 3 people</td>
<td>0 to 12 2 people</td>
</tr>
</tbody>
</table>

Table 3.1. Summary of the background information of the JFL learners
Some JFL participants had studied Japanese in Japan and/or taken courses in high school, thus the lengths of study varied among the learners. The total length of study time given in the table does not always correlate with the level of the learners. There were seven out of 61 learners who had stayed in Japan for more than three months (two from Level 3, three from Level 4, and four from Level 5), and the average length of their stay was 4.5 months for Level 3, 16 months for Level 4, and 12 months for Level 5.

All of the JFL learners were recruited directly by the experimenter, by going to each class and making an announcement at the end of classes. Japanese native speakers in the control group were recruited through personal connections. Some of them had experienced study abroad in English-speaking countries and had exposure to education in English at college level, but all of them were born and raised in Japan. All participants in the experimental group were paid eight US dollars as a token of appreciation, and the participants in the control group were unpaid volunteers. Due to the time limitation, numbers of the subject groups were not equally balanced.

3.3. **Procedure**

The experiment employed a truth value judgment (TVJ) task similar to the one used in Kano and Nakayama (2004). One questionnaire with pairs of stories written in English and Japanese sentences was given to each JFL learner. They were then asked to judge whether the Japanese sentences matched the corresponding stories they had just read. However, it was clearly stated in the instruction that the sentence did not have to explain everything that was depicted in the context. The exact same questionnaires were
given to the control group as well (i.e. the instruction in the questionnaire was not translated into Japanese). The questionnaires were distributed to the participants so that they could take them home. One week after the questionnaires were distributed, the experimenter went back to each classroom that the JFL learners were enrolled in, and collected the completed questionnaires directly. As for the control group, volunteers were solicited mainly through e-mail communication, and they were asked to return the completed questionnaires as an e-mail attachment as soon as they finished it.

3.4. Test material

The instrument contained 30 short narratives, including five pre-test stimuli, 12 test stimuli and 13 fillers. The test stimuli consisted of four different types of sentences, and each type had three sentences. The narratives were written in English so that the subjects would have no difficulty understanding the situations depicted therein. The descriptions of four types of test stimuli are as follows: the first type involved the coreferential member reading of kare or kanozyo with a quantifier minna, the second had the coreferential non-member reading. The coreferential member (CRM) and non-member (CNM) reading distinction was made in the context. In the coreferential member reading, kare or kanozyo referred to one of the members of the set the quantifier minna referred to, whereas in the non-member reading, kare or kanozyo referred to someone else who was not included in the set that minna referred to, but mentioned in the context.
The third involved the bound variable reading (BVA), with their antecedent being a quantifier minna (all people). The last type was the bound variable reading with their antecedent being a numeral quantifier hitori (one person) (BVO).

The sentences with the bound variable reading and the quantifier minna were intended to investigate whether the JFL learners correctly reject the bound variable reading when overt pronouns are used with quantifiers. However, minna means ‘all’ and it requires a plural pronoun to refer to, while the pronouns used (kare and kanozyo) are in singular form. There is a disagreement in the number, and this might trigger the JFL learners to reject the sentence. That is to say, this sentence type alone does not adequately investigate the JFL learners’ understanding of overt pronoun constraint, hence the quantifier –hitori was used in the fourth type of test sentences.  

Actual test sentences used are given below, with examples of narratives for each type. The intended answer for each test sentence is written in bold.

(17) Coreferential Member Reading (CRM)

a. Context:

Anna, Beth and Lisa are middle school students and they are best friends in school. They always hang out after school and usually go to malls together. One day, none of their moms could give them a ride to the mall, so they decided to watch a DVD at Beth's place. Beth's mom recently

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5 Most of the JFL learners in this study did not know daremo as ‘everyone’ nor karera/karetachi ‘they’. Thus, the word choice was very restricted. This will be discussed later.
bought a new blender, so Beth decided to make smoothie. She made her favorite pineapple peach smoothie and they all enjoyed it while watching a DVD.

Test sentence:
Minna-ga kanozyo-no nomimono-o non-da
All-NOM she-GEN beverage-ACC drink-PAST
‘All people drank her beverage’ True/False

b. Context: A, B and C all ate the food that B cooked.

Test sentence:
Minna-ga kare-no gohan-o tabe-ta
All-NOM he-GEN meal-ACC eat-PAST
‘All people went back to his house.’ True/False

c. Context: A, B and C all went back to B’s house.

Test sentence:
Minna-ga kare-no uchi-ni kaet-ta.
All-NOM he-GEN house-LOC return-PAST
‘All people went back to his house.’ True/False
Coreferential Non-member Reading (CNM)

a. Context:

Eri, Narumi and Keiko are college students. They all major in Economics, and often take the same courses. One day, they got together to study for a final, and they realized that none of them had any notes on a term that was mentioned in the review sheet. Eri remembered that her roommate had taken the same course by the same professor before, so she decided to ask her if she still had notes from the course. Kyoko, her roommate, still had the notebook she used when she was taking the course, and kindly offered to show them her notebook. Kyoko’s notes had very detailed information about the term, and it helped all three of them very much.

Test sentence:

Minna-ga kanozyo-no nooto-o mi-ta.  
All-NOM she-GEN notebook-ACC see-PAST

‘All people saw her notebook’ True/False

b. Context: A, B and C all went to D’s school (to watch a game).

Test sentence:

Minna-ga kare-no gakkoo-ni ki-ta.  
All-NOM he-GEN school-LOC come-PAST

‘All people came to his school.’ True/False
c. Context: A, B and C all listened to D’s talk (lecture).

Test sentence:

Minna-ga kanozyo-no hanashi-o kii-ta

All-NOM she-GEN talk-ACC listen-PAST

‘All people listened to her talk.’

True/False

(19) Bound Variable Reading with Quantifier minna (BVA)

a. Context:

Atsushi, Takuro and Ryo are all working for different companies. Atsushi's company is in Hokkaido, Takuro's is in Kyushu, and Ryo's is in Tohoku. For the last 2 months, they were working on a very big project that their companies sponsored. The three worked on the project together in Tokyo so they haven't been back to their own companies for 2 months. In December, they completed their project work, so they went to their own offices to report the success of the project to their bosses.

Test sentence:

Minna-ga kare-no kaisya-ni modot-ta.

All-NOM he-GEN company-to return-PAST

‘All people returned to his company.’

True/False
b. Context: A, B and C all started their own research projects.

Test sentence:

Minna-ga  kare-no  kenkyuu-o  hazime-ta.

All-NOM  he-GEN  research-ACC  start-PAST

‘All people started his research project.’  True/False

c. Context: A, B and C all called their own husbands

Test sentence:

Minna-ga  kanozyo-no  otto-o  yon-da

All-NOM  she-GEN  husband-ACC  call-PAST

‘All people called her husband.’  True/False

(20)  Bound Variable Reading with Quantifier hitori (BVO)

a. Context:

Amanda, Sarah and Kate are secretaries working at a company in New York. One day, the weather changed very quickly and it started raining hard around noon. They wanted to go out for a lunch, but none of them had brought their umbrellas that day, so they decided to borrow the umbrellas that their co-workers had brought. When they were about to leave, Amanda remembered that she had actually brought a small umbrella a week before and had left it in her office. So Amanda used her own umbrella while Sarah and Kate used their co-workers’.
Test sentence:

Hisyo hitori-ga kanozyo-no kasa-o tsukat-ta
Secretary one-NOM she-GEN umbrella-ACC use-PAST

‘One secretary used her umbrella.’ True/False

b. Context: One student read his own textbook (but other students read books from the library).

Test sentence:

Gakusee hitori-ga kare-no kyookasyo-o yon-da
Student one-NOM he-GEN textbook-ACC read-PAST

‘One student read his own textbook.’ True/False

c. Context: One son repaired his own computer (while others got theirs repaired by someone else).

Test sentence:

Musuko hitori-ga kare-no konpyuutaa-o naoshi-ta
Son one-NOM he-GEN computer-ACC repair-PAST

‘One son repaired his own computer.’ True/False

After reading each narrative, the JFL learners then read the test sentence immediately following the narrative and had to decide whether the sentence matched the context depicted in the narrative. The glosses in the examples were not given in the actual test
material, and the test sentences were written with the standard writing system of hiragana, katakana and kanji. The English translations were not given in the actual test, but hiragana readings of all of the kanji characters – called furigana – were inserted directly above the kanji in order to facilitate reading. All of the words and structures used in the test sentences were limited to what the subjects had learned in their Japanese courses.

The questionnaire first asked the learners to provide responses to various demographic questions (see Appendix A). The questions asked about: (a) the level of Japanese courses they were enrolled in, (b) their native language, (c) total length of stay in Japan, if they had ever been to Japan for any purposes, and (d) their experience in learning a foreign language other than Japanese. Upon completing the demographic questions, the learners were asked to respond to the pre-test stimuli designed to examine whether they (a) understood the task procedure, (b) could recognize minna as a quantifier, and (c) understood the meaning of kare and kanozyo. The pre-test was comprised of stimuli similar to those in (17) through (20).

The learners were told that the sentences in Japanese were written by a fictional character, an American student who had been studying Japanese and who had entered a Japanese language contest. After viewing videotape recordings of a variety of situations, contestants had been asked to write a sentence about each situation in Japanese. Because the student’s proficiency in Japanese was limited, the sentences he had written might not have described the situations accurately. The learners were told that the videotaped scenes had been transcribed for them and were asked to judge whether or not the student
had accurately described each scene by indicating whether the sentence was true or false. They were also instructed not to share their responses with anyone and were assured that their performance on the task would not affect their grades in Japanese courses that they were enrolled in. After completing the pre-test trial, they were asked to note any comments or questions regarding the task. Then they were asked to work on the main test material. Once they completed the main task, they were required to count the number of sentences they had marked as True and (based on the scores of two other “contestants”) then enter the name of the winning contestant. The same procedure was followed for the control group as well.

3.5. Results

The results of the experiment are given in various tables and graphs in the following subsections. In the following graphs, the horizontal axis shows the experimental and the control groups, while the vertical one indicates the percentages of correct response rate. Each graph presented in this chapter has a corresponding table given in the Appendix B for more detailed data. L2, L3, L4 and L5 stand for the levels of classes the JFL learners were in at the time of the experiment. Acronyms CRM, CNM, BVA and BVO stand for Coreferential Member, Coreferential Non-member, Bound Variable All (minna) and Bound Variable One (-hitori), respectively. For CRM and CNM, the number shows the rate of correct acceptance since CRM and CNM are TRUE
sentences. For BVA and BVO, the number shows the rate of *correct rejection*, since BVA and BVO are FALSE sentences. The higher the number is, the higher the understanding of each function is about Japanese pronoun *kare/kanozyo*.

3.5.1. Overall result

Graph 3.1. below shows the overall correct response rates of all the JFL Learners and the native speakers of Japanese except for those whose native languages are not English, and those who did not score higher than 80% correct (four out of five) in the pre-test stimuli. The 80% cut-off line was used to consider that those who passed understood the task. One Level 2 learner, two Level 3 learners, and one Level 4 learner were removed from the data because of their native languages. Three Level 2 learners, one Level 3 learner, and three native speakers of Japanese were removed due to their performance on the pre-test. The following graph shows the results of the correct responses by the remaining participants. One Level 2 learner did not respond to one of the CNM sentences, and thus there was one missing response. The number used in the denominator to calculate the correct response rate was changed accordingly.
Generally speaking, all of the groups did fairly well on both coreferential readings (the CRM and the CNM sentences). The average correct response rate for both sentence types by the experimental group was 82.5% while it was 81.3% by the control group. The JFL learners group did slightly better than the control group. The highest correct response rate among these two readings was 88.9% by Level 4 on CRM and the lowest was 78.4% by the native speakers on CRM. This seems to suggest that all learners understood the coreference function of these pronouns. As to the BVA sentences, they were correctly rejected by the control group 100% of the time, while 51.9% in average by the learners groups. Their correct response rates show a gradual increase (38.7% in Level 2, 55.6% in Level 3, 59.3% in Level 4 and 79.2% in Level 5). The differences are, however, clearer between Levels 2 and 3 (16.9% difference) and Levels 4 and 5 (19.9% difference), while the difference is only 3.7% in between Levels 3 and 4. If we assume that the current cross-sectional finding applies to the longitudinal trend, then this picture
suggests the gradual learning process of this function by these pronouns. This will be discussed more later. In the BVO sentences, unlike the prediction, many of the participants in the control group accepted the bound variable reading (78.4%). This seems to suggest that our prediction was incorrect and there must have been problems with the test stimuli. The learners groups did better than the control group, but there does not seem to be any concrete patterns. This will be discussed later as well.

Graph 3.2. below shows the number of the participants who responded correctly on at least two out of three sentences in each type. These people were considered as those who had firm understanding of the pronouns, rather than judging each sentence by chance.
In the CRM and the CNM sentences, throughout all levels, a very high percentage of subjects responded consistently and correctly. In the CRM, all Levels 3 and 4 learners answered consistently and correctly. In Level 2, 96% (24 out of 25 learners) responded consistently. The percentage of consistent learners in Level 5 was 75%, but since the number of participants in this level was much smaller (8) than those of other levels, the percentage cannot be simply compared. The same can be said about Level 4 in the CNM (77.8%). In the CNM, although the percentage of consistent subjects is a little lower than that of the CRM, still a fairly high percentage (average of 85%) of all of the learners responded consistently and correctly across all levels. Therefore, these results also show that the learners understood the coreferential function of the overt pronouns fairly well.

In the BVA sentences, only a few people (10 out of 25) gave consistent responses in Level 2, and again, the number of those who were consistently correct increased as the level went up (Level 3 58.3%, Level 4 55.6%, and Level 5 87.5%). This also suggests that their understanding of the overt pronouns being unable to refer to quantifiers comes gradually over time. As for the BVO, the number of those who made correct responses consistently were 50% or below 50% in all groups. This again is similar to the total number of correct responses above. The fact that even the native speakers did not respond consistently indicates some problems in the test stimuli.
3.6. Summary

In this chapter, the methodology of the current experiment and the result were presented. The result showed that the learners were able to correctly accept the coreferential reading of the overt pronouns at a fairly high rate. The coreferential reading was correctly accepted by all groups, both when the antecedent was one of the members of *minna* and when it was someone else mentioned in the discourse, but the latter case showed a slightly lower correct response rate.

In the cases of bound variable readings, when the antecedent was *minna*, native speakers showed an extremely strong correct rejection rate (100%), while the JFL learners’ correct response rate was as low as 38%. The result showed, however, that the correct response rate increased as the learners’ level went up. When the antecedent was – *hibori*, the correct response rate was low in all levels. It was, in fact, the lowest in Japanese native speakers’ responses, and this suggests that there must have been problems with the test sentences of this type.

In the next chapter, the result found from the experiment will be discussed in detail and possible accounts for the learners’ behavior will be introduced.
4.1 Discussion of the results

At the end of the chapter 3, the experimental findings were presented briefly. In this chapter, the results will be discussed in more detail. First, a comparison between the performances of the native speakers and the JFL learners, and some possible accounts for their behaviors will be given. Second, the performances of the different levels of the learners will be analyzed more closely.

4.1.1 Comparison between the native speakers and the JFL learners: the CRM and the CNM

The correct response rate on the CRM sentences by the native speakers (78.4%) was lower than that of the JFL learners (85.2%). This might be due to the native speakers’ preference in repeating more referential nouns (such as names) rather than pronouns kare or kanozyo when referring to a person. Yamada (2002) argues that Japanese overt pronouns are used in contexts where the primary focus is contrastive meaning. This is illustrated in the following example by Yamada (2002).
(21) Tanaka-san mo Hiroko-san mo hataraite-imasu. KARE-wa kanozyo-yori
Tanaka-Mr. too Hiroko-Ms. too work-is He-TOP she-than
ooku hatarakimasu ga, KANOZYO-ga yori ooku no okane-o kasegimasu.
much work but she-NOM than much money-ACC earn
‘Both Mr. Tanaka and Ms. Hiroko are working. He works more than she does, but
she makes more money than he does.’

Overt pronouns *kare* and *kanozyo* are used in this example because a contrast is made
between the amount of time Mr. Tanaka and his wife Hiroko work, and the money they
earn. However, in the case where the contrast is not the particular focus, more referential
nouns, in this case the person’s name Hiroko, are preferred.

(22) A: Tanaka-san mo okusan no Hiroko-san mo hataraite-imasu.
     Tanaka-Mr. also wife-REL Hiroko-Ms. also work-is
     ‘Both Mr. Tanaka and his wife Hiroko are working.’
B: Dochira-ga ooku kasegimasu ka.
     Which one -NOM much earn Q
     ‘Which one earns more money?’
A: Hiroko-san desu.
     Hiroko-Ms. is
     ‘It is Hiroko who earns more money.’
If what Yamada (2002) claims is in fact at work in Japanese speakers’ interpretation of\n\textit{kare} and \textit{kanozyo}, then it seems plausible that the native speakers had slightly lower\nacceptance rate than the JFL learners in the CRM, since all of the test sentences used in\nthe stimuli lack the contrastive focus, which triggered the native speakers to prefer\nnames.

\subsection{Comparison between the native speakers and the JFL learners: the BVA}

As it is shown in Graph 3.2, all of the native speakers in the control group\ncorrectly rejected the bound variable reading of the overt pronoun when its antecedent\nwas the quantifier \textit{minna}. The native speakers indeed exhibited the knowledge of the\ninability of Japanese overt pronouns to be bound by the quantifiers. However, this could\nalso be the case that their correct rejections come from the number disagreement. In the\ntest sentences, singular pronominal forms \textit{kare} and \textit{kanozyo} were used because their\nplural forms \textit{karera} and \textit{kanozyotachi} had not been introduced in the classes that the\nlearners were enrolled in. However, the quantifier used as the antecedent in this type of\ntest sentences is \textit{minna}, which generally refers to more than one person or thing. Thus,\n\textit{minna} and the overt pronoun \textit{kare} or \textit{kanozyo} do not agree with each other in terms of the\nnumber, either, which might also have been a part of the reason that the control group\nrejected the BVA sentences.\footnote{This problem of disagreement in number can be avoided by utilizing the quantifier \textit{daremo} and the\npronoun \textit{kare} or \textit{kanozyo} together. However, as mentioned earlier, the quantifier \textit{minna} had to be used in\nthe current study because the learners had been introduced to the usage of \textit{daremo} only in negative\nsentences (\textit{daremo} + negative, translated as ‘nobody’) and didn’t know it as ‘everyone’.}
It must be noted, however, that using the plural counterparts of *kare* and *kanozyo* still does not give these pronouns the bound variable reading. Consider the following example which is identical to one of the BVA sentences except for the form of the pronoun.

(23) Minna-i-ga karera-sij-no kenkyuu-o hajime-ta

All-NOM they-GEN research-ACC start-PAST

‘All people started their research projects.’

In (23), the pronoun *karera* agrees with *minna* in terms of the number, but the quantifier *minna* still cannot be the referent of *karera*. That is, this still does not allow the intended bound variable reading. To have the bound variable reading, either *zibun* or *zibuntachi* must be used.

Because of the number disagreement in the test stimuli, the native speakers’ perfect responses may not necessarily be solely from their knowledge about the overt pronouns’ inability to take the bound variable reading. However, the important point here is that the ungrammaticality was not as clear to the JFL learners, regardless of the reason for that ungrammaticality. As shown in Table 3.2. in Appendix B, while the native speakers’ correct rejection rate was 100%, the average of JFL learners’ rates was 51.9% (ranging from 38.7% to 79.2%). The fact that the learners in lower levels performed poorly compared to the learners in advanced level suggests that the transfer from English might be a source of their incorrect interpretations. Though Level 2
learners knew that Japanese has null pronouns, different from English, they do not have the inventory of all Japanese anaphoric expressions. Yet, they were given an English equivalent *he* for *kare*, thus they naturally tended to rely on their knowledge about their first language. As they learn more about *kare* and other anaphoric expressions in Japanese, their performance changes.

4.1.3. **Comparison between the native speakers and the JFL learners: the BVO**

The prediction was that NP with -*hitori* should not be accepted when overt pronouns are used and the bound variable reading is intended. However, the correct response rate on the BVO sentences was low in all of the subject groups, and the control group’s response rate was the lowest in all of the five groups. For a closer analysis of the BVO, the response rate on each test sentence is shown in the graph below. The numbers given after M indicate the actual sentence order that they appeared in the test (see Appendix A for the test material and see Appendix B for a more detailed description of the data given in tables).
Looking at Graph 4.1, one noticeable pattern is that in all groups, both the learners and native speakers of Japanese, M5 (gakusee hitori) evoked the highest rate of correct rejection. Although the control group and the Level 2 learners still have low rates (35.5% and 56%, respectively), Level 3, Level 4 and Level 5 correctly rejected this reading at a fairly high rate (83.3%, 66.7% and 100%, respectively). On the other hand, the rate of correct rejection was the lowest on M16 in all groups (8% in Level 2, 58% in Level 3, 33.3% in Level 4, 54.2% in Level 5 and 21.6% in the natives). All of the three test sentences were syntactically identical, with the bound variable context. The stories corresponding to these sentences stressed that any actions involved in them were done on his own or her own object, yet all of the groups found it more acceptable when kare referred to musuko-hitori than gakusee-hitori. This distinct pattern of all groups accepting musuko-hitori (one son) at a higher rate than other two test sentences suggests that the word choice in the test stimuli may have played an important role in their
judgments on the acceptability. One difference among these terms is the generality. It is clearly and easily imaginable to have around 30 students in a class, but it is less likely in the case of secretaries, and the situation becomes even more unusual if one family had 10 or 20 sons. This means the word musuko-hitori itself has higher referentiality than words like gakusee-hitori, and because of this, musuko-hitori might have been interpreted as “the son”, or “one of the sons”, rather than “one son”.

Another trigger of this result may be the nature of the quantified phrase “X hitori” itself. Even though it is quantificational, the phrase contains the single member set. Thus, these quantified NPs may have been interpreted as “aru X” which would be “a certain X” in English, and this is also related to the referentiality. This might have caused the learner and control groups to take the NP as a referential NP, rather than a quantified NP. Other alternatives for this phrase, such as “gakusee ga hitori”, or “hitori no gakusee”, would have even higher referentiality than the phrase “gakusee hitori”, but it seems that all participants still interpreted them as referential NPs.

Although there might have been something misleading about the test material, it is true that the anaphor zibun still is clearly the preferred choice. For instance, (24a) has the connotation that the son repaired someone else’s computer, while in (24b), it is clear that the son repaired his own computer. In (24c), the sentence that uses a null pronoun, there is a potential ambiguity with the meaning because the computer could actually belong to the son himself or someone else who is mentioned in the discourse. Thus, of these three sentences, the one using zibun is the only one which conveys the intended bound variable interpretation without being ambiguous.

53
    Son-one-NOM he-GEN computer-ACC repair-PAST
b. Musuko-hitori-ga *zibun-no* konpyuutaa-o naoshi-ta
c. Musuko-hitori-ga *pro* konpyuutaa-o naoshi-ta

Taking this into consideration, it becomes important to investigate whether the learners were aware that *zibun* was a better alternative for *kare* or *kanozyo* in the case of the BVA and the BVO sentences. Level 2 learners had not been introduced to the word *zibun*, so the comparison between Level 2 and other levels in the experimental groups becomes especially important regarding the bound variable reading. This will be discussed in 4.2.2.

4.2. Comparison among the different levels of the JFL learners

In Sections 4.2.1. and 4.2.2. below, the responses by the JFL learners will be analyzed closely and differences and similarities found among the different levels of the JFL learners will be discussed. First, the responses on the CRM and the CNM will be analyzed and the BVA will also be analyzed. As discussed in 4.1.3., there were problems with the BVO sentences, thus they will not be discussed in the following sections.
4.2.1. Comparison among the different levels of the JFL learners: the CRM and the CNM

The two graphs below represent the response rate on the CRM and the CNM sentences only. Graph 4.2. shows the correct response rate of all groups, and Graph 4.3. shows the percentage of those who responded consistently and correctly.

Graph 4.2. Percentage of the correct responses on the CRM and the CNM

Graph 4.3. Percentage of those who consistently responded to the CRM and the CNM correctly
Looking at Graph 4.2. closely, it is fair to conclude that the learners knew the availability of the coreferential readings with Japanese overt pronouns, and since the percentage of those who consistently responded correctly shown in Graph 4.3. is also fairly high, it seems that the learners possess a very firm understanding of this function. This is natural since the coreferential reading is where the similarity between English and Japanese overt pronouns is found. The learners displayed their ability to apply the rule that they know in their L1 to the equivalent lexical items in their L2.

Another important thing to note here is that the learners’ response rate was similar across all levels. It seems that Level 4 learners were doing slightly worse than other levels on the CNM and Level 5 learners’ correct response rate and consistency rate on the CRM were lower than other levels, however, considering the actual number of the participants, these small differences do not seem to be significant. After all, no significant differences were found among the JFL learner’s groups in the CRM (df=3, F=0.938, p<0.424) or in the CNM (df=3, F=1.965, p<0.121).

4.2.2. Comparison among the different levels of the JFL learners: the BVA

In the following graphs, the responses from each group on the BVA sentences are shown. One big difference observed between these graphs and the graphs on the CRM and the CNM shown in 4.2.1. is that in the BVA reading, there are clear differences among the different levels of the learners in both correct response rate and the number of those who consistently responded correctly.
As stated in Chapter 3, the differences seem to be bigger between Levels 2 and 3, and Levels 4 and 5. The difference between Levels 4 and 5 might be big due to the difference in the learners’ experience. Four out of eight learners in Level 5 had lived in Japan for six to twelve months, while only three out of nine learners in Level 4 had
experiences living in Japan for extended periods of time. Three out of eight learners in Level 4 had never been to Japan, while Level 5 had only one learner who had never been to Japan.

Unlike the language exposure time, the difference between Levels 2 and 3 may be related to the introduction of zibun in class. In the textbook that the learners used, zibun is first introduced with the particle de ‘by means of –’, and in the same section, zibun with genitive no is also taught in a phrase zibun no kuruma, with the translation of ‘one’s own car’. This translation ‘one’s own’ is the relevant meaning for the BVA type. The lesson that zibun appears in is taught in Level 3. Therefore, the Level 2 learners had not yet been introduced to zibun at the time of the experiment, while the Level 3 learners had just been introduced to zibun. Although they did not learn zibun as a bound variable, they learned that zibun can appear at the genitive position unlike English reflexives. This suggests that Japanese anaphoric expressions behave differently from those in English. This brings a cautious attention to the learners. Thus, the learners above Level 3 performed differently from those in Level 2. Given the knowledge that zibun is a better alternative for ‘one’s own’, kare was not taken as a bound variable. This possibility raises the following question: Does the introduction of zibun play the crucial part of acquiring the bound variable interpretation in Japanese? The performance difference by Levels 2 and 3 seems big (29%). However, it was not statistically significant. When Levels 3 and 4 were combined and the performances of three JFL groups (Level 2, Levels3&4, and Level 5) were compared, they were significantly different (df=2, F=6.995, p<0.001). The post-hoc Turkey test revealed that Levels 2 and 5 were
significantly different at the 0.05 level, but Level 2 and Level 3&4 nor Level 3&4 and Level 5 were significantly different. Thus, the introduction of zibun is important, but it does not seem to serve as the single most important event in the course of their language development.

4.3. Answers to the research questions

In the introduction of this thesis, three research questions were presented: (1) are the coreferential readings of Japanese overt pronouns acquired by L2 learners? (2a) do they have the knowledge that the bound variable reading is not available with Japanese overt pronouns, and (2b) if they do, when is this knowledge acquired?

The current analysis showed that coreferential readings of kare and kanozyo were acquired by the JFL learners. The findings show that their understanding of the coreferential reading seems to be very firm across all levels, and the degree of understanding stayed the same in all levels as well.

On the other hand, the learners’ understanding of the inability of Japanese overt pronouns to take the bound variable reading was not as strong. Compared to their performance on the CRM and the CNM, significantly fewer learners were able to give the correct responses to the bound variable reading consistently. This suggests that their knowledge of the bound variable reading with overt pronouns was much more unstable than their knowledge about the coreferential reading.
The introduction of *zibun* and more exposure to Japanese seemed to be playing important roles in the acquisition of the bound variable reading in L2 Japanese. The gradual increase in the correct response rate on the BVA reveals that the inventory of Japanese anaphoric expressions must be learned, and that this takes time. More exposure to the language is necessary. This supports the importance of learning a lexical inventory of anaphoric expressions in second language acquisition, and also denies the possibility that the L2 learners can simply apply the OPC through access to UG. If the OPC holds and it is accessible by L2 learners, then the Level 2 learners should have been able to perform as well as other learners in the different levels, just as the learners in Kanno’s study did. In fact, it should be pointed out that Kanno’s learners and the Level 2 learners in the current study had about the same number of class contact hours (260 hours for Kanno’s learners and 240 hours for Level 2 learners). Despite this similarity, the learners in Kanno’s study performed almost as well as native speakers in her experiment, while the Level 2 learners in the current study clearly displayed the lack of firm understanding of the bound variable reading. Of course, these two groups of learners cannot be simply compared just because the class contact hours are close, since there are so many other factors that make difference in the process of learning, and also since the different methodology (probably the difficulty of the tasks) of our experiments were quite different as well. However, it should be pointed out here that some problems with Kanno’s methodology or process to reach her conclusion have been pointed out by some scholars as well (see Sheen, 2000 and Kellerman and Yoshioka, 1999 for more detailed, extensive discussion of such problems). The current results question the validity of the OPC.
empirically. Independently, as a matter of fact, there are studies on [+null subject] languages (e.g. Gürel, 2003) which argue that the OPC does not fully apply to all [+null subject] languages. Sheen (2000), for instance, lists Spanish, Finnish, Hungarian, Persian, Sinhala, Korean, and Mandarin Chinese as examples of other [+null subject] languages that call for modification of the OPC.

In Japanese, in fact, Hoji (1991) proposes another approach to account for the inability of *kare* to take the bound variable reading. He first demonstrates the relationship between *ka* in *kare/kanozyo* and *are* in Japanese deictic system called ‘*ko, so, a, do*’ paradigm, then proposes that *kare* and *kanozyo* are in fact demonstratives rather than pronouns. He then illustrates why they cannot be construed as bound variables. See Hoji (1991) for more detailed discussion. See also Noguchi (1997). Given Hoji’s argument, it is doubtful that the OPC as formulated is part of UG.

4.4. **Concluding remarks**

In the current study, L2 learners’ understanding of Japanese overt pronouns was investigated. While learners showed a firm understanding of their function in the coreferential reading, the learners seemed to have more trouble with the bound variable reading. This suggests that it is unlikely that the L2 learners are capable of applying the OPC through access to UG, assuming that the OPC is correct. This finding is different from what is concluded in Kanno (1997), and this apparent contradiction calls for further investigation. In the current study, because the learners didn’t know *daremo* ‘everyone’, the quantifier *minna* had to be used. Furthermore, because they didn’t know
karera/karetachi ‘they’, numeral quantifier –hitori must have been utilized in the test stimuli. This vocabulary limitation made the current test stimuli very difficult to construct, and brought the problems of the disagreement in number between the quantifier and the pronoun, and the use of the numeral quantifier. In the future studies, the modification of the test stimuli is needed.

If our analysis of the data in the current study is correct, it is extremely important to teach learners the lexical inventory of anaphoric expressions very carefully. Although it might be convenient to give a simple translation in the learners’ first language, for instance, giving the English equivalent he when teaching the word kare, teachers have to be well aware of different functions that these words have, and teach them carefully, preferably with the words with the functions of the relevance. For instance, in the case of kare, teaching it with zibun is preferred. This will enrich the learners’ knowledge of lexical items, and will facilitate the process of second language acquisition.
1. Please indicate your age: 18-21  22-25  26-29  30-39  40-49  50-59  60-69  over 70
2. Please indicate your gender: Male  Female
3. Is English your native language? Yes  No (Specify)
4. What is your status at The Ohio State University? Of the following options, please circle the one that applies to you.
   Undergraduate Student  Graduate Student  Staff
   Faculty  Other (Specify)
5. In which level of Japanese class are you last enrolled? Please indicate by circling one of the following five options.
   Level 2 (Jpn 205, 206, 210 or 211)  Level 3 (Jpn 310, 311, 507, 508, 509, 510, or 511)
   Level 4 (Jpn 610, 611 or 612)  Level 5 (Jpn 710, 711 or 712)
   Other (Specify)
6. Have you ever visited or lived in Japan?
   No (proceed to Question 7)  Yes
   If you circled “yes”, please choose reasons you visited or lived in Japan from the following and check the space on the left. Also, for each purpose, please indicate the length of your stay in the parentheses on the right. Choose from (1)-(6) to indicate the length of your each stay in Japan.
   _ a. study at K-12 institution  ........... ( )
   _ b. undergraduate or graduate study  ........... ( )
   _ c. homestay with Japanese family without attending school  ........... ( )
   _ d. homestay with family while undergraduate or graduate study  ........... ( )
   _ e. homestay with family while undergraduate or graduate study  ........... ( )
   _ f. military service  ........... ( )
   _ g. travel  ........... ( )
   _ h. job (specify)  ........... ( )
   _ i. other (specify)  ........... ( )
   Total time spent in Japan  ........... ( )
7. Have you ever lived in a foreign country other than Japan for at least three months?

No (Proceed to Question (8))  Yes (list the countries below)

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<th>Country</th>
<th>Reason(s)</th>
<th>Length of stay</th>
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</table>

To indicate the reason(s) and length of your stay, use the following categories:

a. study at K-12 institution
b. undergraduate or graduate study
c. homestay with Japanese family without attending school
d. homestay with family while undergraduate or graduate study
e. homestay with family while undergraduate or graduate study
f. military service
g. travel
h. job (specify)
i. other (specify)

(1) Less than 3 months  (2) 3-6 months  (3) 6-12 months
(4) 1-2 years  (5) 2-3 years  (6) More than 3 years

8. Have you received foreign/second language instruction in a language other than Japanese for at least one hour a week for more than 6 months?

No  Yes (provide the name of each language you have studied)

Use the categories (setting, how often, how long) given below to complete the form.
<table>
<thead>
<tr>
<th>Name of the language</th>
<th>Setting</th>
<th>How often?</th>
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</table>

**Setting**

a. courses at U.S. K-9 schools

b. courses at K-9 schools in the country where the target language is spoken

c. courses at U.S. high schools

d. courses at high schools in the country where the target language is spoken

e. courses at U.S. colleges/universities

f. courses at colleges/universities in the country where the target language is spoken

g. other (specify)

**How often?**

(1) 1-2 hours a week  (2) 2-4 hours a week  (3) 4-6 hours a week

(4) 6-9 hours a week  (5) more than 9 hours a week

**How long?**

(1) 6 months – 1 year  (2) 1-2 years  (3) 2-4 years  (4) more than 4 years

66
Questionnaire

Directions

Your job is to help us determine the winner of a contest for American students who have been studying Japanese for a little over two years. These contestants were asked to view a videotape recording of a variety of situations; and contestants were required to write a sentence about each situation in Japanese. This year we had three contestants – Mark, Brian and Joe. The scores for Mark and Brian have already been entered, but we still need to know how well Joe performed.

The videotaped situations were transcribed for you. Your job is to read each story (each one is written in English), and determine whether or not the Japanese sentence written below the story matches the content. Please mark “True” if you think the sentence matches the content of the story. If you believe Joe’s sentence does not match the content, please circle “False”. Note that his sentence does not have to describe everything in the story.

Please keep in mind that your performance on this task will not affect your grade in any way. Therefore, please do not share your responses with anyone.

To see how well you understand your task, we would like to begin this session with a warm-up exercise. Please work on the next five stories. At the end of the fifth story, you will see the words “End of Warm-Up.” Once you have completed the fifth story, please follow the instructions that are described on the following page.

1. Makoto is the president of a small company in Hiroshima. He decided to make mugs with the company logo for the employees. Since his company is very small and only has 22 employees, he decided to get blank mugs and order the engraving at a different store. He picked a local coffee shop that has a wide selection of mugs. He liked the mugs that were in a set of 5, so he bought 5 sets of those.

客がコーヒーカップを25個買った。True/False

2. Students were answering surveys and there was a place for them to put their phone numbers. Since it was optional, they didn’t have to fill in their numbers, but some of them did.

全ての人が電話番号を書いた。True/False

3. Kathy, Jen, and Carol are teachers at local high schools. They just graduated from the same college and this month is the first month for them to work as teachers. One weekend, they decided to go drinking together and went to a bar where they used to go in their college days. One of them already had her business card with her name and school name on, but the other two didn’t have theirs yet so the one who did have it showed them her card and bragged about it.

教師1人が彼女の名刺を見せた。True/False
4. John’s father wanted to go out to buy a new TV, but he thought his car would be too small to fit the new TV screen in, so he decided to use his wife’s car instead.

母親が彼の車で外出した。   True/False

5. Sue’s family was having three of her cousins over at her place. The three were supposed to leave on a bullet train that leaves at 8 am, so they had to leave Sue’s place at 6. Two of them woke up before 5 so they had more than enough time change and eat breakfast before leaving, but the youngest cousin overslept and ended up not eating breakfast.

2人のいとこが朝ご飯を食べた。   True/False

“End of Warm-Up”

If you have any questions or concerns about the task that you completed in the warm-up session, please write them in the Comments section below.

Please work on the next 25 stories and judge whether Joe’s sentence is accurate for each story. Please circle “True” if you think the Japanese sentence Joe wrote matches the content presented in the story. If you believe his sentence does not match the content, please circle “False.” Please keep in mind that his sentence does not have to describe the entire story.

After you complete the 25 stories, please refer to the section titled “Who Is the Winner in 2007?”, which is attached at the end of this document. Count the number of sentences you have marked “True” and enter that number in the corresponding bracket. Then write down the name of the contestant who won this year’s prize. Please do not count any sentences that were included in the warm-up exercise.

Before you begin the main session, we would like to remind you that your responses on this task will not affect your grade in any way. Therefore, please do not share your responses with anyone. The responses you provide on this task must be entirely based on your own personal views.

Please start now.

Comments:
Main Session

1. Miyuki, Akiko and Tomoe are junior high school students in Japan. In their social studies class, they were assigned to do a research project on a topic related to the World War II. They decided to study the lives of girls around their age during the time of the war. Akiko has a grandmother who was born in 1943. Even though they thought she would be too young to remember the lives of young girls during that time, they thought it might still be a good idea to ask if she knew anyone who was born around 1930. So, all three visited her together and talked to her for about an hour.

2. Hiroko is a secretary working at the Marketing Finance Research Division at a company in Japan. One day at work, she received a phone call from a person who speaks English. She is highly proficient in English, but she rarely receives calls in English at her office, so she got very nervous. The person she was on the phone with wanted to speak to the division manager. She told the person that the manager had left for Kyoto for a business trip yesterday, and would be back in 3 days. However, after she hung up, she realized that the manager had actually left for a business trip a day before yesterday, and would be back in 2 days.

3. Brian, James and Kyle lived in the same house together. Brian was a medical student and James majored in art. Kyle was majoring in sociology. Brian always worked in the lab until it closed, and since James was working on a big graduation project, he had to stay in the studio until late, too. Kyle got worried about the two since it seemed like they were working all the time. Kyle decided to cook dinner for them one night so they could eat healthier. They got together and enjoyed eating what Kyle cooked around 7pm on Friday night.

4. Jonathan is an American man and Reiko is a Japanese woman. They are engaged and they met when Jonathan was studying abroad at Reiko’s college in Japan. Although they were going to move to the U.S. after they got married, they decided to have a wedding in Japan because many of their mutual friends lived in Japan. Their wedding was modern-Japanese style and it was held at a hotel last month. They invited many friends and their families, and had a small, but very nice wedding.

5. Chris, Adam and Daniel are all university students majoring in Accounting. In one of the classes that they are taking together this quarter, the professor told all of the students that they are not required to buy the primary textbook. It was a big, hardcover textbook used only for assignments, so the professor reserved enough copies at the library. Chris and Daniel decided not to buy the book because it was expensive, so they read the reserved copies whenever homework
was assigned, but Adam found the content of the book very helpful for another class that he was
taking, so he bought his own copy and read it.

学生一人が彼の教科書を読んだ。 True/False

6. Yukiko’s older sister Satomi called Yukiko from her work one day, and told her that she had a
big favor to ask her. Satomi had left her small handbag on the train this morning, and didn’t
realize it until she got to her office. Everything she needed for work was in her bigger bag, so she
doesn’t need her handbag during work, but since the lost and found office closes before she gets
off work, she wanted Yukiko to get it at the station while Satomi was working. Luckily, Yukiko
didn’t have any plans on that day and retrieved it at the station.

姉が電車にハンドバッグを忘れた。 True/False

7. Matt is a student majoring in Spanish who just came back to the U.S. from his study abroad in
Spain. Kurt is an economics student who has just finished a month of internship at a bank. They
are both friends with Ross, who majors in History, and the three celebrated Ross’s birthday at a
local restaurant. At the restaurant, Matt and Kurt talked about how they were both very excited to
finally start working on their senior thesis. Inspired and motivated by the two, Ross decided to
start working on his thesis, too. They decided to go to the main library the next day and work on
them.

皆が彼の研究を始めた。 True/False

8. Judy is a college student and Mary is Judy’s younger sister, who is a high school senior now.
They go to a Chinese language school together and both are learning Chinese. This summer, they
applied for a short study abroad program, and they both got in. The study abroad program was
offered at a university in Beijing and classes were taught in Chinese. Although Judy and Mary
were placed in the same level, Mary’s speaking and listening were much better than Judy’s, and
Judy was more advanced in writing and reading skills than Mary was. In one of the classes at the
Chinese university, students were shown a news program on TV in Chinese, and were given a
comprehension test. Mary understood most of it while Judy could understand only a little. In fact,
Mary was the only student in the whole class who understood everything in the news program.

妹だけが難しい中国語がわかった。 True/False

9. Thomas is a high school student. He is in a football team, and he had his last high school game
last Saturday. Since it was the last game that he played in high school, his parents, his
grandparents, and all his close friends went to the stadium to watch the game. Many people in the
stadium cheered for his team and his team won the last game.

皆が彼の学校に来た。 True/False
10. Mike and Ben are Josh’s brothers. Mike is the oldest and Ben is the youngest. Mike and Ben learned Japanese in college, and both became very fluent in Japanese. Mike wanted to use his Japanese and keep improving it, so he went to Japan and worked as a consultant for a company there after he graduated. Ben got very fascinated by the experience of learning a second language in college, so he took Chinese as his third language, then moved to China and taught English after he graduated.

11. Mika, Noriko and Ayano are all married and do not have children yet. They have been very close friends since they were in high school, and they still hang out after they got married. They decided to do Christmas shopping together, and they all brought their husbands as well. While the three were shopping together, their husbands ended up going to the places that they wanted to go since the husbands didn’t enjoy shopping so much. The wives finished shopping, so they looked for their husbands. Mika found her husband in a store for electronics, watching a football game on a big screen, so she called him. Noriko found her husband sitting on a bench reading a book, so she told him to come along too. Ayano found her husband drinking a cup of coffee at a café, so Ayano called him too. They all met up at an Italian restaurant and ate dinner together.

12. Midori is a college student in Japan. Her college holds “international week” every year, and this year Midori planned a program called “international picnic”. She asked some of her friends who are studying abroad at her college to make lunchboxes with their countries’ food. All the international students that Midori talked to were excited to hear about the event, and they made two lunchboxes for each country. Many students, both Japanese and international, came to the program and they all enjoyed the food from many different countries. The weather was great and they all had a very good time.

13. Amanda, Sarah and Kate are secretaries working at a company in New York. One day, the weather changed very quickly and it started raining hard around noon. They wanted to go out for a lunch, but none of them had brought their umbrellas that day, so they decided to borrow the umbrellas that their co-workers had brought. When they were about to leave, Amanda remembered that she had actually brought a small umbrella a week before and had left it in her office. So Amanda used her own umbrella while Sarah and Kate used their co-workers’.

14. Nick, Bobby and Eric are friends from a small town in Oregon. They have been best friends since they were little. After they graduated from the same university in Oregon, Nick and Bobby went home and started working in the town they grew up in. On the other hand, Eric found a job at a company in New York City, so he has been living there for 3 years after the graduation. Nick and Bobby hadn’t seen Eric for 3 years, so they decided to go visit him in NYC. They stayed with Eric while they were in NYC. The three usually cooked together to save money, but on the last
night, they decided to have a dinner at a French restaurant in Manhattan. The three went out together and came back to Eric’s place without drinking that night, because Nick and Bobby’s flight was very early.

True/False

15. A boy was thinking about buying a new bike, so he had been saving up money. He talked to his friend about buying a new bike, and since his friend’s family owned a bike and motorcycle shop, his friend asked his parents if it would be possible to give the boy some discount. Since they said no, the boy visited a different shop to buy a bike.

True/False

16. Tanaka has 3 grown-up sons who are college students. The sons were back during the holiday, and they were sharing music files and other files that they downloaded from the internet using a computer-to-computer network. The oldest son’s computer got affected by a virus, and because they were sharing almost everything on their computers, other two’s computers also got affected. They didn’t realize that their computers were affected by a virus until they went back to school after a break, and the two younger sons weren’t able to fix their computers on their own. The two sent the computers to the technical support center and got them fixed. On the other hand, the oldest son was pretty good with computers, so he was able to figure out what was wrong with the computer very quickly and fix it by himself.

True/False

17. Hitoshi lives with his wife and his 18-year-old daughter, Yoko, in Tokyo. His wife’s youngest sister was having her first baby in a month, so she left for Osaka to help her. Yoko likes cooking so she has been preparing dinner for her father while her mother was gone, but one day, she had a lot of homework and didn’t feel like cooking, so she asked her father if they could go out for a dinner that day. When she asked, her father was tired and didn’t want to leave the house, so he asked Yoko to order food for delivery.

True/False

18. Eri, Narumi and Keiko are college students. They all major in Economics, and often take the same courses. One day, they got together to study for a final, and they realized that none of them had any notes on a term that was mentioned on the review sheet. Eri remembered that her roommate had taken the same course by the same professor before, so she decided to ask her if she still had notes from the course. Kyoko, her roommate, still had the notebook she used when she was taking the course, and kindly offered to show them her notebook. Kyoko’s notes had very detailed information about the term, and it helped all three of them very much.

True/False
19. Haruki’s little brother, Yuki, broke his leg when he was playing football with his friends at school, and he had to be hospitalized for 2 weeks. His whole family visited him constantly to keep him company, but they had to leave at night. On the first night at the hospital, Yuki seemed to be doing fine until they left, but he got very lonely and sad a few hours after they had left. His mother got worried and called him at the hospital.

20. Angela, Jennifer and Caroline are college students in the Department of Art. Angela and Carey both major in Computer Graphics, and Jennifer majors in oil paint. The Department of Art frequently invites alumni to give special lectures about the career choices for current students, and the recent lecture was given by an alumnus who now works at one of the biggest computer graphic animation studios in the world. Angela and Caroline were very much interested in her lecture, so they were determined to go. Although computer graphics wasn’t directly related to Jennifer’s major, she was also interested because the speaker’s studio was so well-known. The three girls met in front of the auditorium and sat together.

21. Ryan and Nate are working at an SAT prep school for high school students in Chicago. They are both teaching math to prepare the students for SAT I and SAT II. One day, one of their student’s parents came to their office, complaining that their son’s SAT score didn’t improve. The student’s parents were furious and they claimed that they should be able to get the money back. Ryan and Nate didn’t know what to do, so they decided to talk to the school principal after the parents left. When they went to the principal’s office, he was out for lunch, but they wanted to talk to him as soon as possible so they waited for him there.

22. Atsushi, Takuro and Ryo are all working for different companies. Atsushi’s company is in Hokkaido, Takuro’s is in Kyushu, and Ryo’s is in Tohoku. For the last 2 months, they were working on a very big project that their companies sponsored. The three worked on the project together in Tokyo so they haven’t been back to their own companies for 2 months. In December, they completed their project work, so they went to their own offices to report the success of the project to their bosses.

23. Kenji is a 9-year-old boy who goes to an elementary school in Tokyo. His mom’s birthday is soon, so he decided to go get his mom’s favorite cheesecake at a bakery in Ginza by himself, but he realized that he was 500 yen short. So he asked his grandfather to lend it to him. After borrowing 500 yen, he went to the shop and purchased the cake. He was very happy.
24. Anna, Beth and Lisa are middle school students and they are best friends in school. They always hang out after school and usually go to malls together. One day, none of their moms could give them a ride to the mall, so they decided to watch a DVD at Beth's place. Beth's mom recently bought a new blender, so Beth decided to make smoothie. She made her favorite pineapple peach smoothie and they all enjoyed it while watching a DVD.

25. Yuji was recently appointed as a section manager at work. He had his first meeting two days ago, and he had been preparing for it for the last few weeks. The success of the project depended on how the meeting went, so Yuji had been very stressed and pressured about it. The night before the meeting, he couldn’t fall asleep right away because he was very nervous, and he ended up oversleeping. He was 10 minutes late for the meeting, and all of the participants, especially the head manager of another company, were very upset about it. However, Yuji did very well on the actual presentation and was able to make up for his mistake.

Who Is the Winner in 2007?

1. Indicate the number of “True” responses for each contestant:
2. 

<table>
<thead>
<tr>
<th>Name</th>
<th>Number of True Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>( 12 )</td>
</tr>
<tr>
<td>Brian</td>
<td>( 18 )</td>
</tr>
<tr>
<td>Joe</td>
<td>( )</td>
</tr>
</tbody>
</table>

3. Write down the name of the contestant who won this year’s prize:

   The winner for this year is (          )!
APPENDIX B

TABLES
In the tables, numbers represent the correct response rate for each sentence type. Numbers written in fraction are the actual numbers of correct responses on each sentence (numerator of the fraction is the number of correct responses, and denominator of the fraction is the total number of questions). The numbers in parenthesis are the percentages of the correct response rate. The numbers in the brackets represent the number of subjects whose data are being analyzed within each table.

<table>
<thead>
<tr>
<th>Level</th>
<th>CRM</th>
<th>CNM</th>
<th>BVA</th>
<th>BVO</th>
<th>All Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2 [25]</td>
<td>66/75 (88%)</td>
<td>60/74 (81%)</td>
<td>29/75 (39%)</td>
<td>25/75 (33%)</td>
<td>180/300 (60%)</td>
</tr>
<tr>
<td>Level 3 [12]</td>
<td>30/36 (83%)</td>
<td>31/36 (86%)</td>
<td>20/36 (56%)</td>
<td>21/36 (58%)</td>
<td>102/144 (71%)</td>
</tr>
<tr>
<td>Level 4 [9]</td>
<td>24/27 (89%)</td>
<td>17/27 (63%)</td>
<td>16/27 (59%)</td>
<td>9/27 (33%)</td>
<td>66/108 (61%)</td>
</tr>
<tr>
<td>Level 5 [8]</td>
<td>18/24 (75%)</td>
<td>20/24 (83%)</td>
<td>19/24 (79%)</td>
<td>13/24 (54%)</td>
<td>70/96 (73%)</td>
</tr>
<tr>
<td>Total (JFL) [54]</td>
<td>138/162 (85%)</td>
<td>128/161 (80%)</td>
<td>84/162 (52%)</td>
<td>68/162 (42%)</td>
<td>418/648 (65%)</td>
</tr>
<tr>
<td>Native [17]</td>
<td>40/51 (78%)</td>
<td>43/51 (84%)</td>
<td>51/51 (100%)</td>
<td>11/51 (22%)</td>
<td>145/204 (71%)</td>
</tr>
</tbody>
</table>

Table 1. Percentage of the correct responses by those who scored over 80% on pre-test

<table>
<thead>
<tr>
<th>Level</th>
<th>M5 (gakusei)</th>
<th>M13 (hisyo)</th>
<th>M16 (musuko)</th>
<th>BVO all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2 [25]</td>
<td>14/25 (56%)</td>
<td>9/25 (36%)</td>
<td>2/25 (8%)</td>
<td>25/75 (33%)</td>
</tr>
<tr>
<td>Level 3 [12]</td>
<td>10/12 (83%)</td>
<td>6/12 (50%)</td>
<td>5/12 (42%)</td>
<td>21/36 (58%)</td>
</tr>
<tr>
<td>Level 4 [9]</td>
<td>6/9 (67%)</td>
<td>2/9 (22%)</td>
<td>1/9 (11%)</td>
<td>9/27 (33%)</td>
</tr>
<tr>
<td>Level 5 [8]</td>
<td>8/8 (100%)</td>
<td>2/8 (25%)</td>
<td>3/8 (38%)</td>
<td>13/24 (54%)</td>
</tr>
<tr>
<td>Total (JFL) [54]</td>
<td>38/54 (70%)</td>
<td>19/54 (35%)</td>
<td>11/54 (20%)</td>
<td>68/162 (42%)</td>
</tr>
<tr>
<td>Native [17]</td>
<td>6/17 (35%)</td>
<td>2/17 (12%)</td>
<td>3/17 (18%)</td>
<td>11/51 (22%)</td>
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</table>

Table 2. Correct response rate on each of the BVO sentences
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<th>CNM</th>
<th>BVA</th>
<th>BVO</th>
<th>All Types</th>
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<td>21/25 (84%)</td>
<td>10/25 (40%)</td>
<td>8/25 (32%)</td>
<td>2/25 (8%)</td>
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<tr>
<td></td>
<td>66/72 (92%)</td>
<td>56/63 (89%)</td>
<td>22/30 (73%)</td>
<td>17/24 (71%)</td>
<td>21/24 (88%)</td>
</tr>
<tr>
<td>3 [12]</td>
<td>12/12 (100%)</td>
<td>11/12 (91%)</td>
<td>7/12 (58%)</td>
<td>6/12 (50%)</td>
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<td>30/33 (91%)</td>
<td>18/21 (86%)</td>
<td>16/18 (89%)</td>
<td>46/48 (96%)</td>
</tr>
<tr>
<td>4 [9]</td>
<td>9/9 (100%)</td>
<td>7/9 (78%)</td>
<td>5/9 (56%)</td>
<td>2/9 (22%)</td>
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<td>JFL [54]</td>
<td>51/54 (94%)</td>
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<td></td>
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<td>Native [17]</td>
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<td>40/48 (83%)</td>
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<td>51/51 (100%)</td>
<td>7/9 (78%)</td>
<td>21/24 (88%)</td>
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</table>

Table 3. Percentage of those who were consistently correct (upper row - number of people, lower row - number of the correct responses by those people)
APPENDIX C

DATA
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<td>M24</td>
<td>M9</td>
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Table 4. Responses by all participants
(1=correct response, 0=incorrect response, M# = problem number in the material)

79
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