Pronominal Interpretations in L2 Japanese

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy
in the Graduate School of The Ohio State University

By

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2014

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Abstract

One of the major aims of Second Language Acquisition research attempts to answer the question of how adult learners acquire a foreign language. A more specific question seeks to answer to what degree these adult learners acquire the target language. This dissertation explored the knowledge of the Overt Pronoun Constraint (OPC) by four levels of English-speaking learners of Japanese (JFL). This constraint applies to the distribution of overt and empty pronouns in bound variable contexts. A [+empty subject] language such as Japanese can have both empty and overt pronouns and the constraint means that overt pronouns cannot be interpreted as bound variables in a context where an empty pronoun would also be possible. English overt pronouns allow for both referential and bound variable readings, but Japanese overt pronouns do not in such a context. The Japanese overt pronouns that we considered were *kare* ('he') and *kanozōyo* ('she').

Two studies were conducted that were designed to answer the following research questions: (1) Can English-speaking JFL learners correctly interpret overt and empty pronouns in two experimental tasks designed to test knowledge that *kare* and *kanozōyo* cannot take a bound variable reading? (2) Can these learners correctly interpret referential readings of overt and empty pronouns?

The first experiment employed a truth value judgment task and the second experiment utilized a coreferential judgment task. The results in both experiments found that JFL learners at the lower levels of instruction did not have knowledge that overt pronouns cannot take bound variable readings, but learners at the higher levels did show this knowledge which indicates that JFL learners are employing an L1 transfer strategy in their treatment of the Japanese overt pronouns. The learners at all levels did show correct knowledge of the referential readings. The second experiment also revealed that JFL learners showed a native-like tendency to prefer the overt pronouns to have extra-sentential antecedents as their Japanese level increases. A corpus study checking the frequency of *kare* and *kanozyo* in the learners' textbook materials found that *kare* and *kanozyo* are not used often in the textbook materials very often, but when they are, they almost exclusively take an extra-sentential antecedent. This therefore could be an influencing factor in their preferences. A second corpus study of *kare* and *kanozyo* in 385 sentences of Japanese newspapers and magazines found few referential sentences of the type tested in the second experiment, but in most of the sentences *kare* and *kanozyo* took extra-sentential antecedents.

Given the lower level JFL learners' lack of knowledge that *kare* and *kanozyo* cannot take bound variable readings, and empirical problems for the OPC, Hoji's (1991) position that *kare* and *kanozyo* are not pronouns, but rather demonstratives, is adopted. Adopting this analysis calls into question the relevance of the OPC. It is concluded that L1 transfer is being employed by English-speaking JFL learners in tasks that test their knowledge of the demonstratives *kare* and *kanozyo*, and that gradually with more time

and exposure to Japanese, they can achieve native-like interpretations of these expressions.

Dedication

For my parents José and Nilda.

Acknowledgments

First, I would like to express my deepest thanks and appreciation to my dissertation advisor, Dr. Mineharu Nakayama, who continually guided me through the research and writing process, and who showed an infinite amount of patience and kindness during the difficult moments. He was always there to answer questions, and encouraged me to take the steps necessary to present my work. Without his supervision and constant help, this dissertation would have never come to fruition. I cannot begin to describe that amount of time that he spent helping me to complete this dissertation, and all of the research that went behind it. For that I will be eternally grateful.

I would also like to express my gratitude to Dr. Etsuyo Yuasa for agreeing to serve on my committee. Dr. Yuasa taught me to think critically when doing linguistic analysis, and supplied invaluable comments and suggestions. I have always been amazed by her adeptness in teaching, and can only hope to one day be able to communicate complex ideas with the expertise that she can.

Furthermore, I am also grateful to Dr. Ludmila Isurin for serving as a committee member, and contributing her expertise in Second Language Acquisition. Her insightful questions have allowed me to consider new areas in which I can further my research.

I am also indebted to the Department of East Asian Languages and Literatures (DEALL) for their financial support. At DEALL, I am also grateful to Dr. Mari Noda for being a mentor and a source of inspiration. She gave me the opportunity to serve the department in a number of ways, and in doing so, allowed me to gain experience in teaching and advising. I would also like to give special thanks to Debbie Knicely, who kindly attended to the administrative matters that were necessary with the utmost kindness, patience and care.

I would also like to thank Ayaka Masumoto for introducing me to this project and for her support and friendship throughout.

I would also like to thank the following Buckeyes for their friendship and for making graduate school life interesting: Yassir Sheikhaldeen, Seth & Sayo Goss, Miki Yagi, Karen Curtin, Chris Stellato, Abby Shelton, Artem Vorobiev, Juliana De La Mora, and Sandro Sessarego.

I would also like to thank Dr. Amanda C. Seaman and Dr. Stephen Miller for providing me the encouragement that I needed to continue my graduate studies in Japanese, and to the late Dr. William E. Naff for his support during my undergraduate years, and for being the reason that I decided to begin my Japanese studies.

At the University of Maryland I would like to thank Dr. S. Robert Ramsey for being his kindness and support in helping get my “ticket stamped.” I would also like to thank Dr. Satoko Naito for being a caring colleague and friend.

I would also like to thank my parents, for teaching me the value of school work, and for their constant love, support, and encouragement. My brother Joseph was also

always there to share a laugh with me, and pick me up when I was down. Without that I would have never been able to have finished. I would also like to thank my father-in-law Hanji, my mother-in-law Miyuki, and my sister-in-law Azusa for their love and support as well.

Finally, I am forever grateful to my wife Midori, who dropped everything in Japan so that I could pursue my dream of earning a Ph.D. She was constantly there for me through the ups and downs, and was there to give me a little push when I needed one. Without her love, patience, and enduring faith that I would finish, I would have quit a long time ago. And to my son Luka, I am grateful for the beautiful smiles and the tiny hugs that carried me through at the end.

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Pimentel, Carlos L. & Nakayama, Mineharu. 2012. Pronominal Interpretations in L2
Japanese. *Journal of Japanese Linguistics* 28: 111-131.

Fields of Study

Major Field: East Asian Languages and Literatures
Japanese Second Language Acquisition

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List of Symbols and Abbreviations

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

ACC: accusative Case

CAUSE: causative

DAT: dative Case

GEN: genitive Case

LOC: location

NOM: nominative Case

PAST: past tense

pro: empty pronouns

TOP: topic

Q: question marker

*: indication of ungrammatical sentences

Chapter 1: Introduction

1.0. Introduction

One of the major aims of second language acquisition (hereafter SLA) research attempts to answer the question of how adult learners acquire a foreign language (hereafter L2). A more specific question seeks to answer to what degree these adult learners acquire the target language. An important hypothesis prevailing in this line of inquiry was that the mental grammars that are formed by these non-native learners are systematic and governed by rules that are representative of a natural language system (Adjémian 1976; Corder 1967; Nemser 1971; Selinker 1972; White 2003). A generative approach takes up this grammar formation by appealing to Universal Grammar (hereafter UG).

Originally, UG was proposed to account for first language (L1) acquisition. For instance, in acquiring their L1 children utilize the input and exposure received from speakers of their L1 to deduce a grammar. This is accomplished considerably quickly regardless of a child's intelligence or the particular language acquired, and without the need for explicit instruction. Furthermore, the grammatical knowledge that the child acquires, as evidence by the L1 output, far exceeds the linguistic input that the child is exposed to. Given this underdetermination of linguistic input, it has been proposed that it

is impossible for the child to develop the grammatical knowledge it acquires without the postulation of an innate system of universally linguistic principles. This logical problem of language acquisition, or the poverty-of-the-stimulus problem, has been proposed to make the case for UG.

The poverty-of-the-stimulus problem has also been applied to L2 acquisition in order to account for a certain rule acquisition. The study of generative grammar (e.g., Chomsky 1981, 1995), and its influence on SLA theories and research have proven to be significant in attempting to answer the question of accessibility to UG by L2, and the degree to which UG is involved, if at all, has been widely debated. Proponents of the *no access* to UG position argue that adult L2 learners lose accessibility to UG after a critical-period in their youth (Bley-Vroman 1989, 1990; Clahsen & Muysken 1986, 1989). Under this position all of the linguistic mechanisms that adult L2 learners had available to them when acquiring their L1 is unavailable to them when learning their L2. Scholars such as White (2003) and Kanno (1997, 1998) argue that adult L2 learners have access to UG. Furthermore they argue that the *interlanguage grammars* of non-native speakers (non-native mental grammars that generate *interlanguage*) are constrained by the principles and parameters of UG.

Researchers have tried to find linguistic phenomena where there is an underdetermination of L2 input and a difference in how the phenomena work in L1 and L2. In other words, if linguistic phenomena can be found that could not be acquired based on observation, statistical frequency of occurrence or on the basis of instruction, and if the L1 grammar does not exhibit the same pattern, then this would show that evidence for

the L2 interlanguage grammar is UG constrained. One example of how the poverty-of-the-stimulus problem is applied comes from studies of the Overt Pronoun Constraint (hereafter OPC). It concerns the distribution of overt and empty pronouns in languages with empty subjects, where they are bound by the quantifier antecedents (i.e., the bound variable interpretation).¹ Studies by Kanno (1997, 1998), Pérez-Leroux & Glass (1999), Gürel (2003), Yamada (2005) and Masumoto (2008), have examined the question of accessibility to UG by investigating whether English-speaking adults L2 have knowledge of the OPC. Kanno's, Yamada's, and Masumoto's studies concerned L2 Japanese acquisition while Pérez-Leroux & Glass's study and Gürel's study involved L2 Spanish and Turkish acquisition, respectively. As will be discussed in section 1.1, the bound variable interpretation the OPC deals with has been viewed as an apparent poverty-of-the-stimulus problem. English does not exhibit the same pronominal distribution pattern as Japanese and Spanish. In addition, as explained in the next section, classroom instruction does not guide their knowledge of the pattern. However, it has been claimed that English speaking L2 learners know that overt pronouns cannot be bound by the quantifiers while empty pronouns can. Hence it exemplifies a poverty of the stimulus scenario in L2.

Below, the rest of the chapter will introduce the OPC with relation to Japanese, discuss its universality as a principle of UG, and present the research questions to be answered.

¹ This dissertation will make no distinction with reference to the terms “null” and “empty” when referring to unpronounced pronominals in tensed clauses, and the term “empty” will be the term used throughout.

1.1. The Overt Pronoun Constraint

The Overt Pronoun Constraint (OPC) was proposed by Montalbetti (1984) and is formally defined as follows:

- (1) Overt pronouns cannot link to formal variables where the alternation overt/empty obtains.

(Montalbetti, 1984)

This constraint applies to the distribution of overt and empty pronouns in bound variable contexts. In [+empty subject] languages such as Japanese, Spanish and Korean that can have both empty and overt pronouns, the constraint says that overt pronouns cannot be interpreted as bound variables in a context where an empty pronoun would also be possible (White, 2003). In other words, overt pronouns in embedded subject positions cannot take a WH-word (e.g., *who*) or a quantifier (e.g. *everyone*, *someone*, *no one*, etc.) as an antecedent in (2). An example of a bound variable interpretation can be seen in the following English sentence:

(2) Bound Variable Interpretation

Every boy_i says that he_i will become president someday.

For every x, such that x is a boy, x says that x will become president someday.

(3) Disjoint Interpretation

Every boy_i says that he_j will become president someday.

For every x, such that x is a boy, x says that y will become president someday.

In (2) we can imagine a set of boys and that each of them thinks that he himself will someday become president. In (3) we can imagine a set of boys and each of them thinks that someone else will become president. English being a [-empty subject] language does not allow for an empty pronoun in the embedded subject position of a finite clause and hence the OPC applies vacuously because there is no alternation between an overt and empty pronoun in the subject position in the sentence.

The following examples show how the OPC applies to Spanish and Japanese:

Spanish

(Referential NP antecedent)

(4) a. José_i cree que [él es muy guapo]

b. José_i cree que [*pro*_{i/j} es muy guapo]

‘José thinks that he_{i/j} / *pro*_{i/j} is very handsome’

(Quantified NP antecedent)

(5) a. Nadie_i cree que [él_{*i/j} es muy guapo]

b. Nadie_i cree que [*pro*_{i/j} es muy guapo]

‘Nobody_i thinks that he_{*i/j} / *pro*_{i/j} is very handsome’

Japanese

(Referential NP antecedent)

(6) a. Taroo_i-wa [kare_{i/j}-ga gakkoo-de itiban da to] omotte-iru
 Taroo-TOP he-NOM school-at number one is that is thinking

b. Taroo_i-wa [*pro*_{i/j} gakkoo-de itiban da to] omotte-iru
 Taroo-TOP *pro* school-at number one is that is thinking
 ‘Taroo_i thinks that he_{i/j} / *pro*_{i/j} is number one at school.’

(Quantified NP antecedent)

(7) a. Dare_i-ga [kare*_{i/j}-ga kuruma-o nusunda to] itteiru no?
 Who-NOM he-NOM car-ACC stole that is saying Q

b. Dare_i-ga [*pro*_{i/j} kuruma-o nusunda to] itteiru no?
 Who-NOM *pro* car-ACC stole that is saying Q
 ‘Who_i is saying that he*_{i/j} / *pro*_{i/j} stole a car?’

c. Daremo_i-ga [kare*_{i/j}-ga kuruma-o nusunda to] itteiru no?
 everyone-NOM he-NOM car-ACC stole that is saying Q

d. Daremo_i-ga [*pro*_{i/j} kuruma-o nusunda to] itteiru no?
 everyone-NOM *pro* car-ACC stole that is saying Q
 ‘Everyone_i is saying that he*_{i/j} / *pro*_{i/j} stole a car?’

Sentences (4) and (6) contain sentences where the antecedent of the overt and empty pronouns is a referential NP. The indices in the Spanish sentences in (4) and the Japanese sentences in (6) show that, irrespective of whether the sentence contains an overt or empty pronoun (*pro*), either can have the referential NP or an extra-sentential referent as its antecedent. Sentences (5a) (7a) and (7c) show that the overt pronouns *él* and *kare* cannot take quantified matrix clause subjects (*nadie*, *dare* and *daremo*) as their antecedents. Sentences (5b), (7b) and (7d) show that while this is not the case for overt subjects, as per the OPC, *pro* can take the quantified NPs as their antecedents leading to a bound variable interpretation.² The overt pronouns in the same positions can only allow for disjoint reference.

Lozano (2002) states that there is a strong OPC claim that it is universally invariant for the following reasons:

- (8) Similar effects can be found in other pro-drop Romance languages like Portuguese, Italian, Greek (Montalbetti, 1984, 1986) and in typologically unrelated languages like Chinese (Xu, 1986) and Japanese and Korean (Kanno, 1997).
- (9) In learnability theory, the OPC represents a typical case of a poverty of the stimulus phenomenon, since the ungrammatical construction [**Quantified NP_i...overt_i*] is

² Montalbetti (1984) and Pérez-Leroux & Glass (1999) observe that while the OPC works for Spanish subjects, it does not apply to Spanish objects because Spanish cannot contain empty objects. Since there is no alternation possible between an empty and overt object in Spanish, objects must be overt and hence can have a bound variable interpretation. The following example is from Pérez-Leroux & Glass (1999):

(i) Todo el mundo_i dice que el presidente habla de él_i.
 ‘Everyone says that the president speaks of him.’

not present in the Spanish input (neither in L1 acquisition nor in L2 acquisition). Input in the form of positive evidence alone does not contain ungrammatical expressions. Therefore, the OPC knowledge must be part of UG principles (see Pérez-Leroux & Glass, 1997, 1999, for discussion).

OPC constructions are never explained in textbooks (Kanno, 1997; Marsden, 1998, 2001; Pérez-Leroux & Glass, 1997, 1999). Therefore, instruction can be discarded as a source of knowledge of OPC.

Lozano's statement regarding (10) is generally accepted. For the reasons Lozano gives in (8), (9), the issue of the OPC cannot be avoided in the discussion of L2 pronominal acquisition. What is of significance to the present research, however, is not necessarily to argue for or against the claim that the OPC is a principle of UG, but rather to investigate whether or not English-speaking JFL learners demonstrate knowledge that overt pronouns cannot take bound variable readings. As will be discussed in chapter 2, contradictory results in studies of Japanese pronominal acquisition have prompted the necessity for further inquiry in this dissertation research.

1.2. Research questions

This dissertation contributes to this inquiry by seeking answers to the following questions:

(I) Can English-speaking JFL learners correctly interpret overt and empty pronouns in two experimental tasks similar to those employed in Kanno (1997, 1998) and Masumoto (2008) that were designed to test knowledge of the OPC?

(II) Can these learners correctly interpret referential readings of overt and empty pronouns?

(III) Based on experimental data collected in this dissertation and the nature of the results, what is a possible explanation for the acquisition of *kare* and *kanozoyo* in Japanese?

This dissertation focuses on L2 Japanese. The organization of this dissertation is as follows. Chapter 2 will summarize the previous studies on JFL learners' interpretations of the overt and empty pronouns in Japanese. Chapters 3 and 4 will report the results of experiments testing the interpretations of overt and empty pronouns of JFL learners with comparison to native speaker controls. Chapter 5 reports the results of a corpus study used to investigate whether L2 input frequency might account for JFL learners' tendency to prefer the overt pronouns to have extra-sentential antecedents as their Japanese level increases. Chapter 6 will summarize the main findings, and offer an alternative account for the status of Japanese pronominals with concluding remarks on further research.

Chapter 2: Previous SLA studies of pronominal interpretations

2.1. Introduction

This chapter will review the previous SLA studies on bound variable and coreferential interpretations in Japanese. As discussed in the previous chapter, Montalbetti's (1984) Overt Pronoun Constraint (OPC) attempts to account for the fact that in [+empty subject] languages such as Spanish and Japanese, overt pronouns cannot take quantified NPs as their antecedents.

The chapter will begin with a review of SLA studies that show supporting evidence for the claim that adult L2 learners have knowledge of the OPC from early stages of language learning. It will be followed by studies that show evidence to the contrary. Problems with the studies will be discussed and it will be shown that further examination is necessary. The chapter will end with a summary of the studies reviewed, and introduce the questions that I will attempt to answer in the study in Chapter 3.

2.2. JFL pronominal interpretations and UG: Kanno (1997) & Kanno (1998)

Kanno (1997) investigated the role of UG in the L2 acquisition of Japanese by English speakers. The study utilized a coreference judgment task in order to determine

whether English-speaking learners of Japanese acquired the OPC, and thereby would correctly determine that overt pronouns cannot have quantified NPs as their antecedent.

The experimental group consisted of twenty-eight JFL learners in sections of a fourth-semester course in Japanese at the University of Hawaii. All were native speakers of English that had never lived in Japan or with a native speaker of Japanese.³ The control group was comprised of twenty native speakers of Japanese.

The test materials consisted of a questionnaire containing four sets of biclausal sentences with each set containing five tokens. The instructions on the questionnaire were written in English and the test sentences were written in Japanese with a mixture of kanji (Chinese characters), and kana (the Japanese syllabary).⁴ Both the experimental group and the control group received the same questionnaire.

The first two types of sentences tested contained either an empty or overt pronoun with a quantified NP as the antecedent. Out of the ten test sentences utilizing a quantified NP antecedent, six employed the WH-question *dare* ‘who’ and four employed the quantifier *dareka* ‘someone’. The example test stimuli below only show the sentences using *dare*.

(11) **Type 1: Empty pronoun with a quantified NP as antecedent⁵**

Dare_i-ga [sensyuu *pro*_i waapuro-o tukatta] to itteiru n

³ Each semester contained thirteen weeks of instruction with 250 minutes of class time per week.

⁴ The kanji characters utilized were those that were likely to be familiar to the participants.

⁵ The sentence types listed in (11) – (14) were taken from Kanno’s set of test stimuli. It is important to note that under an appropriate discourse context and under different indexation *pro* and *kare* would refer to an extra-sentential antecedent in the discourse.

Who-NOM last week word processor-ACC used that is saying
desu ka?

COP Q

‘Who is saying that (he) used the word processor last week?’

Q: Dare-ga waapuro-o tukatta n desyoo ka?

Who-NOM word processor used probably Q

‘Who do you suppose used the word processor?’

(a) same as *dare* (correct) (b) another person (c) both (a) and (b)

(12) **Type 2: Overt pronoun with a quantified NP as antecedent**

*Dare_i-ga [kyoo **kare_i**-ga osoku naru] to itte-iru n desu ka?

Who-NOM today he-NOM late become that is saying COP Q

‘Who is saying that he would be late today?’

Q: Dare-ga kyoo osoku naru n desyoo ka?

Who-NOM today late become probably Q

‘Who do you suppose will be late today?’

(a) same as *dare* (b) **another person** (correct)

(c) both (a) and (b)

The second two types of sentences tested whether the JFL learners understood that either an empty or overt pronoun can take a referring NP (RNP) as an antecedent.

(13) **Type 3: Empty pronoun with a referring NP as antecedent**

Tanaka_i-san-wa [raisyuu *pro*_i Kyooto-e iku] to itte-imasita yo.

Tanaka-TOP next week Kyoto-to go that was saying

‘Tanaka said that (he) would go to Kyoto next week.’

Q: Dare-ga raisyuu Kyooto-e iku n desyoo ka?

Who-NOM next week Kyoto-to go probably Q

‘Who do you suppose will go to Kyoto next week?’

(a) Tanaka (b) someone other than Tanaka (c) both (a) and (b)

(14) **Type 4: Overt pronoun with a referring NP as antecedent**

Tanaka_i-san-wa [raisyuu *kare*_i-ga Tookyoo-ni iku] to iimasita yo.

Tanaka-TOP next week he-NOM Tokyo-to go that said

‘Tanaka said that he will go to Tokyo next week.’

Q: Dare-ga raisyuu Tookyoo-ni iku n desyoo ka?

Who-NOM next week Tokyo-to go probably Q

‘Who do you suppose will go to Tokyo next week?’

(a) Tanaka (b) someone other than Tanaka (c) both (a) and (b)

The participants were instructed to indicate whether the subject argument in the embedded clause referred to (a) the same as *dare* or (b) another person. They were also instructed that they had a third option of choosing both (a) and (b) if they thought this was appropriate. These instructions were also given for all the sentence types in the

questionnaire. Therefore, for sentences (13) and (14), the participants were instructed to choose either (a) referring to the matrix subject, (b) referring to an extra-sentential referent, or (c) both (a) and (b). It is important to note that in the Type 3 and 4 sentences, a RNP can be the antecedent of both an empty and overt pronoun. Consequently, for the Type 3 and 4 sentences in Kanno's study, all of the choices ((a), (b), or (c) both (a) and (b)) are possible correct answers. The following table illustrates the results of the interpretations for both JFL learners (JFL) and native speakers for each sentence type.

	Empty pronoun w/quantified NP	Overt pronoun w/quantified NP	Empty pronoun w/referring NP	Overt pronoun w/referring NP
JFL (<i>n</i> =28)	78.5%	13%	81.5%	42%
Native (<i>n</i> =20)	83%	2%	100%	47%

Table 1. Percentage results of Kanno (1997)

According to Kanno's results, the JFL learners and the native speaker control group showed a high preference for interpreting the antecedent of an empty pronoun to be a quantified NP (QNP): 78.5% and 83% respectively. These percentages reflect participants' responses of either (a) or (c), i.e., both (a) and (b). Therefore, the percentage of responses that were exclusively (b) in these sentences was 21.5% and 17% respectively. The difference between the two groups was not significant. In the sentences containing overt pronouns with quantified NPs, JFL learners interpreted the quantified NP as the antecedent only 13% of the time, and the native speakers did so 2% of the time. This 2% for the native speaker control group consisted of two responses that were both

(a) and (b) with none of the participants choosing answer (a) only. On the other hand, 98% of these responses were answer (b). The 13% of responses for the JFL learners that chose a quantified NP as the antecedent of an overt pronoun consisted of 9% of the responses being answer (a) only and 4% of the responses being both (a) and (b). The remaining 87% of the responses were for answer (b) only.

In sentences with a RNP, both groups seemed to favor an interpretation in which the referring NP was the antecedent of the empty pronoun. In sentences with an overt pronoun and a referring NP, the two groups did not seem to have a clear preference (JFL: 42% and NS: 47%). For the JFL group, this 42% consisted of 39% choosing answer (a) only and 3% choosing both (a) and (b). The remaining 58% contained only (b) as a possible answer. The 47% for the native speaker control group consisted of 7% of the answers being answer (a) only and 40% being both (a) and (b). For the JFL group, 81.5% of the participants chose a referring NP to be the antecedent of an empty pronoun. This consists of 80% of the participants choosing answer (a) only and 1.5% choosing both (a) and (b). For the native speaker control group 76% of the participants chose answer (a) only and 24% of the participants chose answer (a) or (b). None of the participants chose only answer (b). From these results, Kanno concludes that because her JFL learners seemed to understand the contrast between *kare* and empty pronouns this is strong evidence that they have knowledge of the OPC and therefore access to UG thereby refuting claims by Bley-Vroman (1989) and Clahsen & Muysken (1989) that only those language components that are available in L1 are available in L2.⁶

⁶ Pérez-Leroux & Glass (1999) show supporting evidence for Kanno's claim in L2 Spanish. See Appendix A for a review.

Kanno (1998) was similar to the 1997 study in that it utilized sentences of Types 1, 2 and 4 listed above. The participants were 29 students enrolled in a fourth-semester Japanese course at the University of Hawaii. All of the learners were native speakers of English who had never lived either in Japan or with a native speaker of Japanese. The control group consisted of 12 native speakers of Japanese. As in the 1997 study, the questionnaire tested whether participants accepted an interpretation of the overt pronoun *kare* that referred to the subject antecedent (a), a sentence-external antecedent (b) or (c) both (a) and (b). The experiment was longitudinal in that it was conducted twice over 12 weeks: the first session at the beginning of the semester and the second session 12 weeks later. The following table summarizes the results from both JFL learners and the native speakers for both sessions (S1 and S2).

	Empty pronoun w/quantified NP		Overt pronoun w/quantified NP		Overt pronoun w/ referring NP	
	S1	S2	S1	S2	S1	S2
JFL (<i>n</i> =29)	73%	73%	29%	34%	46%	46%
Natives (<i>n</i> =12)	85%	75%	1.5%	0%	46.5%	57%

Table 2. Percentage results of Kanno (1998)

As shown in the table, the JFL learners more readily chose a quantified NP antecedent for empty pronouns over overt pronouns with a referring NP. These results are similar to those of Kanno's (1997) study. She uses this to claim that the students have correct knowledge of the distribution of overt and empty pronouns in Japanese.

The 1997 and 1998 studies however are not without problems. First, both the 1997 and 1998 studies lacked filler sentences, which could have cued the learners into what was being tested, thereby affecting the results. Second, Sheen (2000) refutes Kanno's claim that the learners in her 1998 study have correct knowledge of the distribution of overt and empty pronouns by pointing out that the results indicate an increase in incorrect interpretations of an overt pronoun with a quantified NP antecedent from Session 1 to Session 2 (29% to 34%). Sheen argues that if the students were aware of the pronominal distributional constraints, then by the second session, one would expect these numbers to decrease, since students would be receiving more linguistic information after the 12 weeks. Another point is that in both the 1997 and 1998 studies, Kanno's test sentences were not situated within contexts, so it is not clear if the JFL learners' interpretations of the overt and empty pronouns would have been closer to those of the native speakers or if they would have been different had contexts been provided.

Kanno (1997: 270) states:

“Given that (in absence of a discourse context) intra-sentential antecedents are strongly preferred when they are grammatically permissible (e.g., Grimshaw and Rosen, (1990: 200-201), we can expect learners who know the Overt Pronoun Constraint to show a strong preference for the matrix subject in the first sentence type, where this option is freely permitted by Universal Grammar. However, these subjects should not allow this interpretation in the second type, since the overt pronoun *kare* is not permitted to take a quantified NP as its antecedent. On the other hand, subjects who do not know the Overt Pronoun Constraint should tend to select the matrix subject as antecedent for both the overt and null pronoun.”

The first sentence type being referred to is an empty pronoun with a quantified NP as the antecedent (i.e., Type 1). The second type refers to an overt pronoun with a quantified NP

as the antecedent (i.e., Type 2). This prediction appears to be borne out in her study as her results reflect. However, returning to the referential responses in Kanno's studies, we see that this statement turns out to be problematic. Recall that in Kanno (1997), the JFL learners chose a referring NP as the antecedent of an overt pronoun only 42% of the time. In her 1998 study the learners chose a referring NP as the antecedent of an overt pronoun only 46% of the time in both Sessions 1 and 2.

If given a lack of discourse context, as Grimshaw & Rosen suggest, intra-sentential antecedents are strongly preferred when they are grammatically permissible, we would expect much higher JFL learners' preferences for a referring NP as the antecedent of an overt pronoun given the fact that in Japanese as well as in English, it is grammatically permissible to choose a referring NP as the antecedent of an overt pronoun. Kanno (1997) states that her learners showed "no clear preference" between the matrix subject antecedent and an extra-sentential antecedent in the sentences with a referring NP as the antecedent of an overt pronoun. The lack of preference among the learners can be explained under an L1 transfer hypothesis considering that both are "grammatically permissible" in English. In other words, since in English, both antecedents are acceptable, the choice can go either way and hence lead to what shows as a lack of preference in the results. Since her studies lacked a discourse context, it remains unclear if they have knowledge of the referential readings in Japanese.

Another point is the issue of the geographical location of the JFL learners. Since the study was conducted in Hawaii, which has a high population of Japanese tourists, and native and heritage Japanese speakers, it is possible that the JFL learners could have been

exposed to more Japanese than the average JFL learner outside of the classroom and this could have been a factor in their ability to show no significant differences in the referential judgments as the native speaker control group.

2.3. Binding in L1 British English speakers: Yamada (2005)

This study examined the intuitions of 26 L1 British English speakers and 20 native Japanese speakers in the distribution of overt and empty pronouns in both embedded subject and embedded object positions. The aim was to determine whether the resulting evidence would support the claim that non-native speakers' interlanguage grammars are UG-derived.

The English-speaking participants were comprised of two fluent Japanese speakers (advanced level) who had lived in Japan for a substantial period of time. One of them had lived in Japan for ten years and the other had lived in Japan for seventeen years. Five of the L1 English participants were diplomats studying intermediate level Japanese intensively for assignment to the British Embassy or consulates in Japan. These participants studied Japanese for 20 hours a week for 43 weeks. One of the diplomats had lived in Japan for eighteen months and the other had lived in Japan for 3 years. The other 19 were students who were enrolled for degrees in Japanese studies at the University of Oxford. There were four 1st year (elementary level), seven 3rd year (lower advanced), and eight 4th year (advanced level) Oxford University students. These 19 students spent 3 to 4 months living with Japanese families in a home stay program in Japanese when they were in their first year. The 4th year students studied in Japan for their final year. All the JFL

learners were tested in England, but the 20 control group participants were tested in Japan.

The test instrument was a written questionnaire that followed the same format as Kanno (1997) consisting of a total of 80 sentences. They were divided into 16 groups with 5 tokens each. The 16 groups were comprised of 8 sentence types: (a) 4 with a QNP matrix subject and an embedded subject that contained *kare*, *kanozyo*, empty, *zibun*, and 4 with an RNP matrix subject and 5 tokens each with an embedded subject that contained *kare*, *kanozyo*, empty, and *zibun*, and (b) 4 with a QNP matrix subject and an embedded object that contained *kare*, *kanozyo*, empty, *zibun*, and 4 with an RNP matrix subject and an embedded object that contained *kare*, *kanozyo*, empty, and *zibun*.⁷ No filler sentences were employed.

(15) Subject embedded test sentences

a. QNP ... *kare* subject ($n=5$)

Dareka-ga kare-ga kamera-o motteiru to itteimasita yo
someone-NOM he-NOM camera-ACC having that was saying
‘Someone was saying that he had a camera.’

Q: Dare-ga kamera-o motteiru no desyoo ka
Who-NOM camera-ACC having suppose Q
‘Who do you suppose have a camera?’

⁷ Yamada classifies *zibun* as a pronoun whereas this dissertation will assume the view that it is an anaphor. The classification of *zibun* has been the subject of much debate in the literature. See Aikawa (1999) and Katada (1988, 1991) for further information. The important point here is that regardless of the classification that *zibun* can take a bound variable reading in the same way an empty pronoun can.

- (a) same as *dareka* (b) another person (c) both a and b

b. QNP ... *kanozyo* subject ($n=5$)

Dare-ga kanozyo-ga oosaka ni sundeiru to itteimasu ka
 who-NOM she-NOM Osaka in is living that is saying Q
 ‘Who says that she is living in Osaka?’

Q: Dare-ga Oosaka ni sundeiru no desyoo ka

Who-NOM Osaka in is living suppose Q

‘Who do you suppose is living in Osaka?’

- (a) same as *dare* (b) another person (c) both a and b

c. QNP ... empty subject ($n=5$)

Dareka-ga ø igirisu e iku to itteimasu yo
 someone-NOM ø England to go that is saying
 ‘Someone says that ø will go to UK.’

Q: Dare-ga Iギリス e iku no desyoo ka

Who-NOM English to go suppose Q

‘Who do you suppose will go to UK?’

- (a) same as *dareka* (b) another person (c) both a and b

d. QNP ... *zibun* subject ($n=5$)

Dare-ga yuuhan-no-ato zibun-ga osara-o arau to itteimasita ka
 who-NOM dinner after self-NOM plates-ACC wash that was saying Q

‘Who was saying that self would wash plates after dinner?’

Q: Yuuhan-no-ato dare-ga osara-o arau no desyoo ka

dinner after who-NOM plates-ACC wash suppose Q

‘Who do you suppose will wash dishes after dinner?’

(a) same as *dare* (b) another person (c) both a and b

e. RNP ... *kare* subject ($n=5$)

Tanaka-san-wa konban kare-ga gitaa-o hiku to itteimasu yo

Tanaka-Mr.-TOP tonight he-NOM guitar-ACC play that is saying

‘Tanaka says that he will play the guitar tonight.’

Q: Dare-ga konban gitaa-o hiku no desyoo ka

Who-NOM tonight guitar-ACC play suppose Q

‘Who do you suppose will play the guitar tonight?’

(a) Tanaka (b) someone other than Tanaka (c) both a and b

f. RNP ... *kanozyo* subject ($n=5$)

Erika-san-wa asita kanozyo-ga sentaku-o suru to itteimasu yo

Erika-Ms.-TOP tomorrow she-NOM wash clothes-ACC do that says

‘Erika says that she will wash clothes tomorrow.’

Q: Asita dare-ga sentaku-o suru no desyoo ka

Tomorrow who-NOM wash clothes-ACC do suppose Q

‘Who do you suppose will wash clothes tomorrow?’

- (a) Erika (b) someone other than Erika (c) both a and b

g. RNP ... empty subject ($n=5$)

John-san-wa atode $\emptyset$ hanasi-o suru to itteimasu yo

John-Mr.-TOP later $\emptyset$ talk-ACC do that says

‘John says that $\emptyset$ will talk later.’

Q: Atode dare-ga hanasi-o suru no desyoo ka

Later who_NOM talk-ACC do suppose Q

‘Who do you suppose will talk later?’

- (a) John (b) someone other than John (c) both a and b

h. RNP ... *zibun* subject ($n=5$)

Yamada-san-wa raigetuzibun-ga Tookyoo-e kuru to itteimasita yo

Yamada-Mr.-TOP next month self-NOM Tokyo-to come that was saying

‘Yamada was saying that self would come to Tokyo next month.’

Q: Raigetudare-ga Tookyoo-ni kuru no desyoo ka

Next month who-NOM Tokyo to come suppose Q

‘Who do you suppose will come to Tokyo next month?’

- (a) Yamada (b) someone other than Yamada (c) both a and b

(16) Object embedded test sentences

a. QNP ... *kare* object ($n=5$)

Dareka-ga kinoo Tanaka-san-ga kare-o nagutta to itteimasu yo

Someone-NOM yesterday Tanaka-Mr.-NOM he-ACC hit that says

‘Someone says that Tanaka hit him yesterday.’

Q: Kinoo Tanaka-san wa dare-o nagutta no desyoo ka

Yesterday Tanaka-Mr.-TOP who-ACC hit suppose Q

‘Who do you suppose Tanaka hit yesterday?’

(a) same as *dareka* (b) another person (c) both a and b

b. QNP ... *kanozyo* object ($n=5$)

Dare-ga 6zi ni Koozi-san-ga kanozyo-o okosita to

Who-NOM six o'clock at Koji-Mr.-NOM she-ACC woke that

itteimasita ka

was saying Q

‘Who was saying that Koji woke her at 6 o'clock?’

Q: 6zi ni Koozi-san-wa dare-o okosita no desyoo ka

Six o'clock Koji-Mr.-TOP who-ACC woke suppose Q

‘Who do you suppose Koji woke up at six o'clock?’

(a) same as *dare* (b) another person (c) both a and b

c. QNP ... empty object ($n=5$)

Dare-ga 5zi ni Suzuki-san-ga $\emptyset$ okosu to itteimasu ka

Who-NOM 5 o'clock at Suzuki-Mr.-NOM $\emptyset$ wake that says Q
 'Who says that Suzuki will wake *e* at 5 o'clock?'

Q: 5zi ni Suzuki-san-wa dare-o okosita no desyoo ka

Five o'clock Suzuki-Mr.-TOP who-ACC woke suppose Q

'Who do you suppose Suzuki woke up at six o'clock?'

- (a) same as *dare* (b) another person (c) both a and b

d. QNP ... *zibun* object ($n=5$)

Dareka-ga paatii-de Tanaka-san-ga zibun-o hikitomeru to
 Someone-NOM party-at Tanaka-Mr.-NOM self-ACC detain that
 itteimasu yo

says

'Someone says that Tanaka will detain self at the party.'

Q: Paatii-de Tanaka-san-wa dare-o hikitomeru no desyoo ka

Party-at Tanaka-Mr.-TOP who-ACC detain suppose Q

'Who do you suppose Tanaka will detain woke up at the party?'

- (a) same as *dareka* (b) another person (c) both a and b

e. RNP ... *kare* object ($n=5$)

Koji-san-wa soto-de Tanaka-san-ga kare-o matteiru to
 Koji-Mr.-TOP outside-at Tanaka-Mr.-NOM he-ACC is waiting that
 itteimasu yo

says

‘Koji says that Tanaka is waiting for him outside.’

Q: Soto-de Tanaka-san-wa dare-o matteiru no desyoo ka

Outside-at Tanaka-Mr.-TOP who-ACC waiting suppose Q

‘Who do you suppose Tanaka is waiting for outside?’

(a) Koji (b) another person (c) both a and b

f. RNP ... *kanozyo* object ($n=5$)

Erika-san-wa 4zi ni Kazumi-san-ga kanozyo-o okosita to

Erika-Ms.-TOP 4 o'clock at Kazumi-Ms.-NOM she-ACC woke that

itteimasita

‘Erika was saying that Kazumi woke her at 4 o'clock.’

Q: 4zi ni Kazumi-san-wa dare-o okosita no desyoo ka

Four o'clock Kazumi-Ms.-TOP who-ACC woke suppose Q

‘Who do you suppose Kazumi woke up at six o'clock?’

(a) Erika (b) another person (c) both a and b

g. RNP ... empty object ($n=5$)

Masako-san-wa paatii-de John-san-ga ø hikitometa to itteimasita yo

Masako-Ms.-TOP party-at John-Mr.-NOM ø detained that was saying

‘Masako was saying that John detained ø at the party.’

Q: Paatii-de John-san-wa dare-o hikitometa no desyoo ka

Party-at John-Mr.-TOP who-ACC detained suppose Q

‘Who do you suppose John detained at the party?’

(a) Masako (b) another person (c) both a and b

h. RNP ... *zibun* object ($n=5$)

Ken-san-wa 8zi ni Kumiko-san-ga zibun-o okosu to

Ken-Mr.-TOP eight o'clock at Kumiko-Ms.-NOM self-ACC wake that

itteimasita yo

was saying

‘Ken was saying that Kumiko would wake self at 8 o'clock.’

Q: 8zi-ni Kumiko-san-wa dare-o okosu no desyoo ka

Eight oclock-at Kumiko-Ms.-TOP who-ACC wake suppose Q

‘Who do you suppose Kumiko will wake up at eight o'clock?’

(a) Ken (b) another person (c) both a and b

As in Kanno (1997) after each test sentence a question was asked to elicit the JFL learners’ determinations of the possible antecedents of the pronoun. Example (17) below gives an English sample of the stimulus, test question and possible responses. As in Kanno’s study the stimuli and test questions were written in Japanese for both the JFL learner and native speaker control groups.

(17) A complete test item

Stimulus: Someone says that Tanaka will detain him at the party.

Question: Who do you suppose Tanaka will detain at the party?

Possible responses: (a) same as ‘someone’ (b) another person (c) either a or b

Sentence Type	Yamada (2005)		Kanno (1997)	
	Native Speaker (<i>n</i> =20)	Non-native Speaker (<i>n</i> =26)	Native Speaker (<i>n</i> =20)	Non-native Speaker (<i>n</i> =28)
QNP _i ... <i>kare</i> _i	12%	50.8%	2%	13%
QNP _i ... <i>kanozyo</i> _i	10%	43.9%	---	---
QNP _i ... empty _i	73%	93.9%	83%	78.5%
QNP _i ... <i>zibun</i> _i	75%	85.4%	---	---
RNP _i ... <i>kare</i> _i	12%	62.3%	47%	42%
RNP _i ... <i>kanozyo</i> _i	32%	65.4%	---	---
RNP _i ... empty _i	99%	98.5%	100%	81.5%
RNP _i ... <i>zibun</i> _i	98%	92.3%	---	---

Table 3. Acceptance results for QNP and RNP sentences results in embedded subject position for Yamada (2005) and Kanno (1997)

Notice that there are no results in the table for QNP *kanozyo*, QNP *zibun*, RNP *kanozyo* and RNP *zibun* in Kanno. This is because Kanno did not include these sentence types in her study.

The results in Table 3 show that the JFL learners were much more likely to accept the QNP as the antecedent of the overt pronoun *kare* (50.8%) as compared with Kanno’s JFL learners (13%). Therefore the JFL learners were performing at about chance level in their intuitions of the overt pronoun *kare* with QNP antecedents. Yamada confirms this by stating: “they do not really know whether *kare/kanozyo* are possible as bound variables or not.” In contrast to this Yamada’s native speakers showed an acceptance rate

of 12%. Yamada's JFL learners showed a much higher percentage of acceptances for the QNP to be the antecedent of the empty pronouns (93.9%; cf. Natives 73%).

The test sentences containing *zibun* in the embedded subject position showed a high percentage of the QNP to be the antecedent of the *zibun*. These results support Kano & Nakayama's (2004) evidence that JFL learners can correctly interpret *zibun* to have a bound variable reading.⁸ Though the issue in question with respect to this dissertation deals not with *zibun* but with the *kare/kanozoyo*, it is important to note that the JFL learners chose a QNP to be the antecedent of both *zibun* and an empty pronoun at very high percentages indicating that they knew that in both cases a bound variable interpretation is possible.

Let us now look at the results for the embedded object sentences.

Sentence Type	Native Speaker (<i>n</i> =20)	Non-native speaker (<i>n</i> =26)
QNP_i ... <i>kare_i</i>	21%	65.4%
QNP_i ... <i>kanozoyo_i</i>	15%	43.9%
QNP_i ... empty_i	39%	79.2%
QNP _i ... <i>zibun_i</i>	67%	57.7%
RNP_i ... <i>kare_i</i>	28%	73.9%
RNP_i ... <i>kanozoyo_i</i>	40%	73.9%
RNP_i ... empty_i	58%	81.5%
RNP _i ... <i>zibun_i</i>	83%	55.4%

Table 4. QNP and RNP acceptance results in embedded object position for Yamada (2005)

From the results in Table 4, we can see that the JFL learners accepted the QNP to be the antecedent of the overt pronouns *kare/kanozoyo* in embedded object position much more

⁸ See Appendix B for a review of Kano & Nakayama (2004).

than the native speaker control group, although they accepted *kare* more than *kanozoyo* (65.4% and 43.9%, respectively). As in the embedded subject sentences, the JFL learners had a higher acceptance rate of the QNP_i ... empty_i sentences as compared with the QNP sentences containing *kare* and *kanozoyo*. Comparing the empty pronoun sentences in both the embedded subject sentences and the embedded object sentences, we see that the JFL learners showed a high preference for both a QNP and RNP antecedent.

Yamada's results show that JFL learners unsure whether or not *kare/kanozoyo* can be utilized as bound variables despite their high acceptances of the QNP_i ... empty_i sentences for both the embedded subject and embedded object types. These results offer evidence contra Kanno (1997& 1998) that JFL learners have knowledge of the OPC and therefore more evidence utilizing a similar test instrument is necessary.

2.4. Referential readings and bound variable readings of overt pronouns: Masumoto (2008)

Masumoto's (2008) investigation was three-fold: (a) whether JFL learners acquire referential readings, (b) whether JFL learners have the knowledge that bound variable readings are not possible in Japanese sentences containing overt pronouns, and if so, (c) when this knowledge is acquired. The experiment employed a truth value judgment task (TVJ) similar to Kano & Nakayama (2004). The experimental group consisted of fifty-four native-English speaking JFL learners enrolled in Japanese courses at The Ohio State University. The control group consisted of twenty native speakers of Japanese. Both the experimental group and the control group were either undergraduate or graduate students.

The JFL learners were in Level 2 to Level 5 or above in the Japanese language courses. The textbook employed in the courses was Jorden & Noda's (1987, 1988, 1990) *Japanese: The Spoken Language: Parts 1- 3*. Level 2 consisted of 25 JFL learners (approximately 150-300 class contact hours), Level 3 consisted of 12 JFL learners (approximately 300-450 class contact hours), Level 4 consisted of 9 JFL learners (approximately 450-600 class contact hours), and Level 5 consisted of 6 JFL learners (over 600 class contact hours).⁹

The truth value judgment task consisted of a questionnaire with stories written in English and a Japanese sentence that followed each story. The participants were asked to read the story and then decided if the Japanese sentence that followed was either True or False based upon the information given in the story. Both the experimental group and the control group received the exact same questionnaires (i.e. there were no Japanese translations for the control group).

The test instrument consisted of 30 short narratives, including five pre-test stimuli, 12 test stimuli and 13 fillers. The test stimuli consisted of four types. The first type contained a story with a referential member reading and a following Japanese sentence containing *kare* or *kanozoyō* with the quantifier *minna*. The second type contained a story with a referential non-member reading and a following Japanese sentence containing *kare* or *kanozoyō* with the quantifier *minna*. In other words, the distinction between the referential member and non-member reading was made in the

⁹ Masumoto's study originally included 61 JFL learners and 20 native speakers of Japanese, but 7 JFL learners were not included in the results because either they were not native speakers of English, or because they did not score 80% (three out of four questions correctly) on the pre-test stimuli. Three native speakers were removed from the data because they did not score at least 80% on the pre-test stimuli.

story. For the referential member reading stories, *kare* or *kanozyo* in the following Japanese sentence referred to a member of the set that the quantifier *minna* belonged to. In the case of the referential non-member reading stories, *kare* or *kanozyo*, in the Japanese sentence that followed, was not a member of the set that the quantifier *minna* belonged to, but was referred to in the context.

Examples of the actual stories and test sentences used in Masumoto's study for referential member (RM) and referential non-member (NM) are given below with the correct answers in bold:

(18) Referential Member Reading (RM)

Story:

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.

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

(19) Referential Non-member Reading (NM)

Story:

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

The third type involved a bound variable reading with the quantifier *minna* (BVA), and the fourth type involved a bound variable reading with the quantifier *hitori* (‘one person’). Examples of these two types are given in (20) and (21) below with the correct answers in bold:

(20) Bound Variable Reading with Quantifier *minna* (BVA)

Story:

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**

(21) Bound Variable Reading with Quantifier *hitori* (BVO)

Story:

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**

The BVA and BVO sentences were intended to test whether the JFL learners would correctly reject a bound variable reading in sentences with overt pronoun *kare* or *kanozyo*. In the BVA sentences the quantifier *minna* means ‘all.’ Since the pronouns *kare* and *kanozyo* are singular and therefore disagree in number with *minna*, Masumoto needed to ensure that the JFL learners would not just reject the BVA sentences because of the disagreement in number. For this reason, Masumoto included the BVA sentences

which contained the quantifier *hitori* ('one person') and thus agreed in number with *kare* and *kanozyo*.

The percentage of correct responses for the four sentence types are given in the table below.

	RM	NM	BVA	BVO
Level 2 (<i>n</i> =25)	66/75 (88%)	60/74 (81%)	29/75 (39%)	25/75 (33%)
Level 3 (<i>n</i> =12)	30/36 (83%)	31/36 (86%)	20/36 (56%)	21/36 (58%)
Level 4 (<i>n</i> =9)	24/27 (89%)	17/27 (63%)	16/27 (59%)	9/27 (33%)
Level 5 (<i>n</i> =8)	18/24 (75%)	20/24 (83%)	19/24 (79%)	13/24 (54%)
Native (<i>n</i> =17)	40/51 (78%)	43/51 (84%)	51/51 (100%)	11/51 (22%)

Table 5. Correct responses for RM, NM, BVA and BVO sentences for all Levels

The overall results show that percentage of correct responses for the bound variable sentences was much lower than for the referential sentences. The results for the RM and NM sentences show that the JFL learners performed similarly to the native speaker control group at all levels. Correct responses on the RM and NM sentences showed low percentages for the native speaker control group with 78% and 84% respectively.

Masumoto posits that the reason for these low percentages is due to the preference for the native speakers to use names rather than overt pronouns such as *kare* and *kanozyo* when referring to a person.¹⁰ Levels 2 to 4 had a higher percentage of correct responses in the RM sentences than Level 5 and the control group. The percentage of correct responses for the JFL learners in the NM sentences was also similar to the native speaker control group with the exception of Level 4 which had a correct response rate of 63%.

¹⁰ Masumoto cites Yamada's (2002) argument that overt pronouns in Japanese are used when the focus is primarily contrastive in meaning, hence explaining the low percentage of correct responses in the referential sentences.

In contrast to these results, the percentage of correct responses for the JFL learners was lower for BVA sentences in Levels 2 to 4 in comparison with the control group. Level 5 contained the highest number of correct responses out of the JFL learner groups (79%). Interestingly, however, the results show an increase in the percentage of correct responses from Level 2 to Level 5 (L2: 39%; Level 3: 56%; Level 4: 59%; Level 5: 79%). Unlike in the BVA sentences, there was no increase by JFL learner level in the BVO sentences. Levels 2 and 4 had the least number of correct responses (33%), while Levels 3 and 5 performed more similarly with 58% and 54% respectively. For the BVO sentences, only 22% of the responses were correct for the native speaker control group which, as Masumoto suggests, might have been due to a problem with the test stimuli.

Masumoto found no significant differences among the JFL learner groups in the RM ($p < .424$) or in the NM ($p < .121$) sentences, and concluded that all the JFL learner groups had a firm understanding of the referential sentences. Contrary to Kanno's (1997, 1998), Masumoto found that her lower level JFL learners displayed a lack of knowledge of the overt pronoun's inability to take a bound variable reading. She concludes that learning the lexical inventory of Japanese anaphoric expressions is a process that takes time.

Since the lowest level of the experimental group participants did not know *daremo* ('everyone'), Masumoto used *minna* ('all') and the numeral quantifier *hitori* in her experiment.¹¹ However, the experiment is not without its problems and more data is necessary because no false referential sentences were examined, no empty pronouns were

¹¹ Kanno (1997, 1998) used WH-question word quantifiers, however since using WH-words in a truth value judgment task is difficult, Masumoto used *minna* and *hitori*.

included, and the numeral quantifier *hitori* evoked mixed results among the native speakers in her study.

2.5. Summary of previous studies and further research

In the previous studies we have looked at evidence both in support of and in contrary to JFL learners' knowledge of the bound variable interpretations from early stages of language learning. Yamada's (2005) coreference judgment study showed contrary evidence in that the test sentences containing *zibun* and the empty pronoun showed high percentages of JFL learners as interpreting those to have QNP antecedents. The study also presented supporting evidence for Kano & Nakayama's (2004) results showing that JFL learners from lower levels of learning have the knowledge that *zibun* can take a bound variable reading. Masumoto's truth value judgment study also presented evidence contrary to Kanno (1997, 1998), and showed that the knowledge of the bound variables was not found in the lower levels of JFL learners but that this knowledge seems to be acquired over time, and with more exposure to the L2.

Given the contradictory findings of the previous studies and the problems described, further studies are necessary. The study in the following chapter utilizes a truth value judgment task similar to Masumoto (2008) and attempts to answer the following questions:

- (I) Given a truth value judgment task similar to Masumoto (2008), but utilizing different quantifiers, do JFL learners have knowledge that *kare* and *kanozōyo* are

prohibited from having bound variable interpretations from early levels of L2 learning?

- (II) Since no false referential sentences in Masumoto's study were examined, and since no empty pronouns were included, would including these types of sentences show evidence supporting Masumoto's data that JFL learners from lower levels of Japanese L2 learning have knowledge of the these types of sentences?

Chapter 3: Experiment 1¹²

3.1. Research purposes

In the previous chapter we saw experimental evidence both for and against the claim that JFL learners have knowledge that overt pronouns such as *kare/kanozōyo* cannot take a quantified NP as an antecedent. Given the problems mentioned in the previous studies, the purpose of this first study was to test: (a) whether JFL learners had knowledge that in Japanese empty, and not overt pronouns, can take an NP quantifier as an antecedent, and (b) whether they had knowledge of the coreferential readings in both True and False sentences. The quantifier NP used in this study will differ from those used in the aforementioned studies. The results will be compared and evaluated across the participants' levels of Japanese instruction and presented in comparison with the results discussed in Kanno (1997, 1998) and Masumoto (2008).

3.2. Participants

Fifty-seven English speaking JFL learners (18 subjects in 2nd year Japanese (200 instructional hours), 16 in 3rd year (350 hours), 14 in 4th year (550 hours), 9 in 5th year (beyond 600 hours)), and 20 Japanese native speakers (the control group) participated in the experiment. These JFL learners are also students in the Japanese program at The Ohio State University where Masumoto's study took place, though none of them participated

¹² This chapter is based on Pimentel & Nakayama (2012a).

in her study. The native speaker control group consisted of either graduate students at The Ohio State University or people who had studied at an American university for at least one year. All of the native speakers had finished their primary and secondary education in Japan and are fluent in English. Both the JFL learner group and the native speaker control group were recruited to participate in the experiment through solicitation by the experimenter either through direct recruitment by means of going to the participants' classes or through e-mail solicitation. All of the participants were paid a nominal fee for their participation.

3.3. Procedure

The design of the present study is similar to that of Masumoto (2008). All the participants were given a questionnaire in the form of a truth value judgment task that included 37 short narratives in English with the corresponding test sentences written in Japanese.¹³ The test sentences were written in a mixture of the hiragana and katakana syllabaries as well as kanji (Chinese characters) with the kana written above all of the kanji. The words in the test sentences were limited to only vocabulary that the students had encountered in their studies. They were instructed to take the questionnaire home, read the narratives and the questions, and decide if the sentence that followed each narrative matched the situation they had just read. If the sentence matched the situation in the narrative, they were supposed to choose "True." If the sentence did not match the situation in the narrative, they were supposed to choose "False."

¹³ English narratives had to be used given the fact that the JFL learners' vocabulary and grammatical knowledge was not adequate enough to write them in Japanese, especially for those at the lower levels of Japanese instruction.

3.4. Test material

The first part of the questionnaire asked the participants about their previous experience learning Japanese, the Japanese class they were taking at the time of the study, whether or not they were a native speaker of English, and if they had ever lived in Japan. The data reflected in this study comes solely from those JFL learners whose native language is English.

Out of the 37 short narratives, there were three pre-test sentences, 24 test sentences, and 10 fillers. The 24 test sentences consisted of: four bound variable (BV) sentences with an overt pronoun (BVO) (22a), six BV sentences with an empty pronoun (BVE) (22b), two coreferential (CR) member sentences with an overt pronoun (CMO) (23a), four coreferential member sentences with an empty pronoun (CME) (23b), six coreferential non-member sentences with an overt pronoun (CNO) (24a), and two coreferential non-member sentences with an empty pronoun (CNE) (24b).

Each test sentence contained the quantifier *dono X mo* ‘every X’ in subject position and overt/empty pronouns at the possessive position of the object noun.¹⁴ The number of sentences in each sentence type was unbalanced because (a) some sentence types were not tested in Masumoto’s study, and (b) we limited the number of test sentences in order to keep the questionnaire at a manageable size for each participant.

In the example narratives given below, there are two types of sentences following each narrative: a sentence with an overt pronoun and a sentence with an empty pronoun.

¹⁴ Masumoto (2008) asserts that the quantifier *dono X mo* could not be tested since the students only knew it in negative sentences (*daremo* + negative, translated as ‘nobody’). Actually this is incorrect. In the textbook the students used, *Japanese: The Spoken Language, Part 2* (p.6), the expression *dono X mo* is introduced and translated as ‘every X.’

This is done only to illustrate the correct answers associated with each reading: BV, coreferential member, and coreferential non-member. In the actual questionnaire given to the participants, only one test sentence, with either an overt or empty pronoun was given following each narrative (see Appendix C). The correct answers (i.e., either True or False) are indicated in bold next to the test sentences.

(22) **Bound Variable Reading**

Kenji, Takashi, and Shinsuke are cousins who went to a department store with their little sisters. Their grandfather accompanied them as well. They went to the department store in order to check out a large sale on electronics. While they were looking at televisions, their little sisters decided to go off in different areas of the store to see what else might be on sale. After looking at the televisions, Kenji, Takashi and Shinsuke went off to try to find their little sisters. Takashi found his little sister at the cosmetics counter looking at makeup so he called her. Kenji found his little sister in a café, so he called her. Shinsuke found his little sister, in the ladies apparel section so he called her. After they all found their sisters, they all got together and had lunch at a restaurant on the top floor of the department store.

Test Sentence Test Sentence

a. Overt pronoun (BVO)

Dono itoko-mo kare-no imooto-o yon-da.

Which cousin also he-GEN younger sister-ACC call-PAST

‘Every cousin called his younger sister.’¹⁵

True/**False**

b. Empty pronoun (BVE)

Dono itoko-mo imooto-o yon-da.

¹⁵ In the actual test sentences in the questionnaire there was no English translation provided.

Which cousin also younger sister-ACC call-PAST

‘Every cousin called his younger sister.’

True/False

In (22), we have a story which expresses a BV situation (i.e., each cousin called his own little sister) and so the correct answer for (22a) is False because of the OPC violation. In (22b), the correct answer is True because an empty pronoun can take a quantified NP (*dono itoko mo*) as the antecedent and is in keeping with the OPC.

(23) Coreferential Member

Joseph, Matthew, and Edgar are students and roommates living in the same house. It is the end of the academic quarter, and they are preparing for their final exams. Joseph and Edgar will be staying up all night to finish their work. Matthew doesn’t have any final examinations, and only has a 10-page paper that he has more than one week to finish. One day, he woke up at 6:00 a.m. and cooked breakfast for them since he was not so busy. That morning Matthew’s girlfriend Jill came over, but she didn’t eat anything while all the boys ate the breakfast.

Test Sentence

a. Overt pronoun (CMO)

Dono ruumumeeto-mo kare-no asagohan-o tabe-ta.

Which roommate also he-GEN breakfast-ACC eat-PAST

‘Every roommate ate his breakfast.’

True/False

b. Empty pronoun (CME)

Dono ruumumeeto-mo asagohan-o tabe-ta.

Which roommate also breakfast-ACC eat-PAST

‘Every roommate ate his breakfast.’

True/False

(24) **Coreferential Non-member**

Susan and Theresa study contemporary American novels, and Jennifer and her boyfriend Tom study British poetry in the Department of English. Susan and Theresa were very excited because their favorite female science fiction writer would be giving a talk at the local library. Jennifer and Tom were not so interested in science fiction, but since Jennifer was invited by Susan and Theresa to go to the talk she decided to go. When they arrived, the three girls sat in the back row because many of the seats in the front were taken. They enjoyed the talk very much.

Test sentence

a. Overt pronoun (CNO)

Dono onna no hito-mo kanozyo-no hanasi-o kii-ta.

Which woman also she-GEN talk-ACC listen-PAST

‘Every woman listened to her talk.’

True/False

b. Empty pronoun (CNE)

Dono onna no hito-mo hanasi-o kii-ta.

Which woman also talk-ACC listen-PAST

‘Every woman listened to her talk.’

True/False

In (23) and (24), the difference between the coreferential member and coreferential non-member readings was realized in the story. In the coreferential member readings

kare/kanozyo referred to a member of the set that the quantified antecedent referred to. In

the coreferential non-member readings, *kare/kanozyo* referred to someone who was not a member of the set that the quantified antecedent referred to.

3.5 Results

3.5.1. Bound variable results

Table 6 shows the percentage of correct responses for the BV sentences. The numbers in the parentheses indicate the numbers of participants.

	BVO	BVE (T)	BVE (F)
Level 2 (<i>n</i> = 18)	44%	71%	89%
Level 3 (<i>n</i> = 16)	34%	72%	94%
Level 4 (<i>n</i> = 14)	43%	88%	93%
Level 5 (<i>n</i> = 9)	83%	92%	100%
Total JFL (<i>n</i> = 57)	47%	79%	93%
Native (<i>n</i> = 20)	76%	91%	95%

Table 6 Correct responses for bound variable sentences

In the table, BVO stands for the stories with a BV interpretation in which the test sentence contained an overt pronoun. The correct answer for this type of sentence is False. BVE (T) stands for the stories with a BV interpretation and a test sentence containing an empty pronoun whereby the sentence matched the story (i.e., True). BVE (F) stands for the stories with a BV interpretation whereby the sentence did not match the story (i.e., False).

Our results were similar to Masumoto (2008) in that the learners correctly rejected overt pronoun sentences with BV readings an average of only 47% of the time, while the native speaker control group's average was 76%. Only the 5th year students performed

similarly to the natives by correctly rejecting BV sentences with overt pronouns 83% of the time.

Contrary to Masumoto's study, a gradual increase by proficiency level was not observed in the correct rejection rate of overt pronoun sentences with BV readings (Level 2 44%, Level 3 34%, Level 4 43%, Level 5 83%), but rather a jump between Levels 4 and 5. This may be because (a) the number of students in Level 5 is small, and (b) Level 5 includes anyone over 600 hours of instruction and very few were those who moved to Level 5 immediately after Level 4, i.e., more advanced students. Contrastively, there was a slightly gradual increase in correct responses by proficiency level in the BVE (T) sentences (Level 2 71%, Level 3 72%, Level 4 88%, Level 5 92%).

The percentage of participants that had more than 50% correct responses on the BVO sentences per group are as follows: Level 2, 4 learners (22%), Level 3, 0 learners (0%), Level 4, 4 learners (29%), Level 5, 7 learners (78%), Natives, 16 participants (80%).¹⁶ For these sentences, only one participant in Level 2 permitted the quantifier antecedent for the overt pronoun 100% of the time. These numbers also reflect the general percentages in the table, that is, those below Level 5 were unlikely to know that *kare* cannot refer to a quantifier.

The percentage of participants that had more than 50% correct responses on the BVE (T) sentences per group are as follows: Level 2, 11 learners (61%), Level 3, 11

¹⁶ The percentage of participants that had 100% correct responses on the BVO sentences per group are as follows: Level 2, 1 learner (6%), Level 3, 0 learners (0%), Level 4, 2 learners (14%), Level 5, 5 learners (56%), and Natives, 8 speakers (40%).

learners (69%), Level 4, 14 learners (100%), Level 5, 9 learners (100%).¹⁷ Only one participant in Level 2 did not answer all of the BVE (T) sentences correctly. This participant differed from the participant who answered all of the BVO sentences incorrectly. The study contained only two BVE (F) sentences. The percentage of participants that had 100% correct responses on the BVE (F) sentences per group are as follows: Level 2, 15 learners (83%), Level 3, 14 learners (88%), Level 4, 13 learners (93%), Level 5, 9 learners (100%), Natives 18 speakers (90%). Two participants in Level 2 and one participant in Level 4 did not answer any of the BVE (F) sentences correctly.¹⁸ The results indicate that it takes more time for the learners to acquire the knowledge that *kare/kanozyo* cannot have the BV interpretations, than the correct coreference interpretations.

3.5.2. *A' values*

Since the present study utilized a truth value judgment Task, which required either a True or False response, it is possible that the JFL learners' responses could have been influenced by *yes*-bias effects. Therefore, the non-parametric index of sensitivity (*A'*) was assigned to the data in order to control for such biases (cf. Klatzky 1975). *A'*, which ranges in value from 0 to 1, was thus used to measure grammatical sensitivity; an *A'* value of 0.5, for example, would indicate a complete inability to discriminate between

¹⁷ The percentage of participants that had 100% correct responses on the BVE (T) sentences per group are as follows: Level 2, 7 learners (39%), Level 3, 6 learners (38%), Level 4, 7 learners (50%), Level 5, 6 learners (67%), and Natives, 15 speakers (75%).

¹⁸ The percentage of participants that had 100% correct responses across all of these sentence types (BVO, BVE (T), BVE (F)) are as follows: Level 2, 0 learners (0%), Level 3, 0 learners (0%), Level 4, 1 learner (7%), Level 5, 5 learners (56%), and Natives, 8 speakers (40%).

well-formed and ill-formed sentences. The computational formula for A' was taken from Linebarger, Schwartz and Saffran (1983): $A' = 0.5 + (y-x)(1+y-x)/4y(1-x)$, where x = proportion of false alarms (*Yes* responses to ill-formed sentences) and y = proportion of hits (*Yes* responses to well-formed sentences).¹⁹

Table 7 below shows each JFL group's and the control group's A' values for the BV readings of the overt and empty pronouns (i.e., overt pronouns with No while empty pronouns with Yes) and those of the empty pronouns only (i.e., empty pronouns with No and Yes). For instance, Level 5 scored .84 in the overt vs. empty pronoun sentences. This means an expected score of 84% was correct on a good/bad forced choice procedure with the same sentence materials. They could judge the sentences correctly 84% of the time. Given the native speakers' A' .78, the A' value of .84 can be considered as a high degree of sensitivity to the grammatical well-formedness of the sentence.

	Overt vs. Empty Pronouns	Empty Pronouns
Level 2 (<i>n</i> = 18)	.53	.75
Level 3 (<i>n</i> = 16)	.52	.74
Level 4 (<i>n</i> = 14)	.58	.86
Level 5 (<i>n</i> = 9)	.84	.94
Total JFL (<i>n</i> = 57)	.59	.80
Native (<i>n</i> = 20)	.78	.89

Table 7 Average A' scores by level for the bound variable sentences

Let us first take a look at the BV readings of the overt and the empty pronouns. A statistical tool one-way ANOVA reveals that the JFL and Native groups were significantly different ($F(4,72)=15.725$, $p<0.000$) in their A' values. A post-hoc

¹⁹ See Grier (1971) for further A' discussions.

Bonferroni test reveals that each of Levels 2-4 was significantly different from Level 5 and Native groups at the 0.05 level. No difference was found between Level 5 and the Native control groups. Levels 2-4 did not differ from each other in their grammatical sensitivity on the BV readings, either. As for the empty pronouns, again the JFL and Native groups were significantly different ($F(4,72)=3.498$, $p<0.011$). A post-hoc Bonferroni test reveals that only a numerical difference approaching statistical significance was obtained between Levels 3 and 5 (at the 0.075 level). Other groups did not differ significantly. Level 3 had not developed grammatical sensitivity on the BV readings of empty pronouns on par with Level 5, but it does not necessarily mean that they didn't have the grammatical sensitivity like the overt vs. empty pronouns. After all, the A' score of each level did not differ significantly from that of the Natives and the increase of the A' by level seems to indicate their development. The suggestion here is that the overt pronouns, and not the empty ones, were problematic in the BV readings. This A' analysis also confirms the initial analysis on the JFL learners' BV readings and overt pronouns.

3.5.3. Coreferential results

Table 10 shows the percentage of correct responses for the coreferential sentences. The numbers in the parentheses next to “T”(True) and “F” (False) indicate the number of test sentences in each sentence type.

	CMO		CME		CNO		CNE
	T(1)	F(1)	T(2)	F(2)	T(3)	F(3)	T(2)
Level 2 (<i>n</i> =18)	89%	72%	78%	72%	69%	63%	81%
Level 3 (<i>n</i> =16)	94%	69%	94%	97%	79%	81%	91%
Level 4 (<i>n</i> =14)	100%	36%	82%	96%	79%	79%	96%
Level 5 (<i>n</i> =9)	100%	56%	94%	100%	93%	100%	78%
Total JFL (<i>n</i> =57)	95%	60%	86%	89%	75%	78%	87%
Native (<i>n</i> =20)	90%	95%	100%	100%	85%	88%	93%

Table 8. Correct responses for CR sentences

In the table CMO stands for the stories with a coreferential member reading whereby the test sentence contained an overt pronoun. CME stands for the stories with a coreferential member reading whereby the test sentence contained an empty pronoun. CNO stands for the stories with a coreferential non-member reading whereby the test sentence contained an overt pronoun. CNE stands for the stories with a coreferential non-member reading whereby the test sentence contained an empty pronoun. In general, the JFL learners did well on the coreferential member and coreferential non-member sentences.

Comparing the total averages of the True sentences for the JFL learners, we see that the CMO sentences has the highest average at 95% while the lowest average was for the CNO sentences. For the False, sentences CME had the highest average at 89% while CMO had the lowest average at 60%. The percentages for the CMO (F) were especially low for Levels 4 and 5 which could indicate a problem with this test sentence. The percentage of True sentences for the native speaker control group show that the highest percentage was for the CME sentences at 100%. Their lowest percentage was in the CNO

sentences at 85%. For the False sentences the highest and lowest percentages were both in the CNO sentences at 88% and 85% respectively.

The study contained only two CMO sentences and so the percentage of participants that had 100% correct responses on the CMO (T) sentences per group are as follows: Level 2, 16 learners (89%), Level 3, 15 learners (94%), Level 4, 14 learners (100%), Level 5, 9 learners (100%), and Native participants, 18 (90%). The percentage of participants that had 100% correct responses on the CMO (F) sentences per group are as follows: Level 2, 13 learners (72%), Level 3, 11 learners (69%), Level 4, 5 learners (36%), Level 5, 5 learners (56%), and Native participants, 19 (95%).

For the CME (T) sentences, the percentage of participants that had over 50% correct responses per group are as follows: Level 2, 11 learners (61%), Level 3, 14 learners (88%), Level 4, 9 learners (64%), Level 5, 8 learners (89%), and Native participants (100%). For the CME (F) sentences, the percentage of participants that had over 50% correct responses per group are as follows: Level 2, 12 learners (67%), Level 3, 15 learners (94%), Level 4, 13 learners (93%), Level 5, 9 learners (100%), and Native participants (100%).

For the CNO (T) sentences, the percentage of participants that had over 50% correct responses per group are as follows: Level 2, 13 learners (72%), Level 3, 14 learners (88%), Level 4, 11 learners (79%) learners, Level 5 9 learners (100%), and Native participants, 18 (90%). For the CNO (F) sentences, the percentage of participants that had over 50% correct responses per group are as follows: Level 2, 14 learners (78%),

Level 3, 15 learners (94%), Level 4, 12 learners (86%) learners, Level 5 9 learners (100%), and Native participants, 19 (95%).

The study contained only two CNE (T) sentences and the percentage of participants that had 100% responses per group are as follows: Level 2, 12 learners (67%), Level 3, 13 learners (81%), Level 4, 13 learners (93%), Level 5, 5 learners (56%), and Native participants 18 (90%). As these percentages show, the Levels 4 and 5 learners did fairly well overall, however, they did have low percentages in the CMO (F) sentences. The Level 5 learners also showed a low percentage in the CNE (T) sentence. The fact that the percentages were lower for these sentences especially at Levels 4 and 5 could possibly indicate a problem with these particular test sentences.

In Table 9, CRM and CNM stand for coreferential member reading and coreferential non-member reading respectively. The “M” in the parentheses at the top of the first and third columns indicates Masumoto’s (2008) results, and the “PN” in the parentheses at the top of the second and fourth columns indicates Pimentel & Nakayama’s (2012a) results, which henceforth shall be referred to as the present study. Since all of the coreferential test sentences in Masumoto (2008) utilized overt pronouns, only the coreferential sentences containing overt pronouns in the present study are compared in the table.

	CRM (M)	CMO (PN)	CNM (M)	CNO (PN)
Level 2	88%	89%	81%	69%
Level 3	83%	94%	86%	79%
Level 4	89%	100%	63%	79%
Level 5	75%	100%	83%	93%
Total JFL	85%	95%	80%	75%
Native	78%	90%	84%	85%

Table 9. CR result comparisons: Masumoto (2008) vs. Pimentel & Nakayama (2012a)

In the present study, with the exception of Level 4 in the CNO sentences, there was an increase in the correct percentage by level. Comparing the coreferential member sentences, we see that in general, the JFL learners in these studies did considerably better in the sentences than on the BV sentences with an overt pronoun with the exception of Level 5 in the present study. Therefore, our results suggest that JFL learners seem to acquire knowledge of coreferential readings from an early stage of learning, again possibly suggesting L1 transfer. Furthermore the results show an increase in the correct percentage of responses in the CMO and CNO sentences in the present study from Levels 2 to 5 indicating that the learners' knowledge of the coreferential readings becomes more solidified with more exposure to Japanese.

3.6. Comparing the BVO sentences in the four studies

Table 10 shows a comparison of the percentages of the overt pronouns with the BV readings (unacceptable interpretations) across the previous studies mentioned above with those of the present study. Since Kanno (1997, 1998) and Masumoto (2008)/the present study were conducted at different institutions, the level of the participants in

Kanno's studies were translated into the level of the participants in the current study. The JFL learners in all four studies were in their second year of Japanese study at their respective institutions. The percentage of the errors per group is illustrated in each of the studies below.

	Kanno (1997)	Kanno (1998)		Masumoto (2008)	Pimentel & Nakayama (2012a)
		S1	S2		
Level 2	13%	29%	34%	61%	56%

Table 10. Percentage of erroneous bound variable interpretations by Level 2 subjects across the studies

As shown in the table, Kanno's (1997) learner group had the lowest number of OPC violations (13%). As pointed out in the previous chapter, the learners in Kanno's (1998) study made more violations with an increase from Session 1 (29%) to Session 2 (34%), and it is not clear why there would be a higher percentage of errors in Session 2 if as Kanno claims, the learners had knowledge of the OPC and thereby access to UG. In comparison, the present study shows incorrect bound variable interpretations 56% of the time, while the L2 learners in Masumoto (2008) showed more errors at 61% (for the BVA) sentences. This suggests that the learners at this level (and the subsequent two levels) were unable to acquire the correct BV interpretations until the advanced stage of learning, whereby the correct coreferential interpretations were available from early stages of learning. Therefore, Masumoto (2008) and the results of the present study suggest L1 transfer, but Kanno's studies do not.

3.7. Discussion and further questions

As we have seen, the results of the present study presented in this chapter were similar to Masumoto's and offer more counter-evidence to Kanno's (1997, 1998). The JFL learners in the present study correctly rejected overt pronoun sentences with BV readings an average of only 53% of the time (cf. accepting coreferential readings with overt pronouns 82% of the time; accepting BV readings with empty pronouns 79% of the time) and only the Level 5 students performed like the natives (83%). These results suggest that: (a) it takes time for learners to acquire the knowledge necessary to reclassify the Japanese overt pronouns as demonstratives that cannot have BV interpretations; and (b) the JFL learners in early stages were employing an L1 transfer strategy in misclassifying them as pronouns rather than as demonstratives. An alternative possibility is that the employment of English narratives could have inadvertently promoted L1 transfer due to the English used in the narratives.²⁰

A major question that remains is why Kanno's JFL learners interpreted the overt pronouns in the BV sentences differently from those in Masumoto's study as well as the present study. One reason could be attributed to the difference in the task that was employed. The latter studies utilized a truth value judgment task that presented various contexts that determined the correct interpretation (coreferential or bound variable), whereas the former studies did not utilize a context. Another difference is reflected in the use of the quantifier NPs that were employed in the studies. Kanno used the WH-question *dare* 'who' (six sentences) and the quantifier *dareka* 'someone' (four sentences), whereas

²⁰ While this remains a possibility it is important to note that the purpose of the narratives was to promote either a BV or CR interpretation thereby eliminating any other possible interpretations.

the present study used *dono X mo* ‘every X.’ For the *dare* sentences, it could be hypothesized that the learners found it more difficult to select a set of members that the WH-word referred to, and so they might have preferred to interpret the overt pronoun as referring to someone other than *dare* in addition to its extra-sentential antecedent preference, compared to the empty pronoun. If this interpretation was employed, it would seem as if the learners had knowledge that *kare* cannot have the BV reading, thereby appearing in the data as if the learners had knowledge of the OPC (i.e., access to UG). Under this assumption, the use of *dare* is critical. Thus, different quantifiers were employed in the present study. However, a different experimental task was employed.

Therefore, it is necessary to investigate whether JFL learners perform similarly to Kanno (1997, 1998) when presented with test stimuli that contain both the types of quantifiers such as the WH-questions (e.g. *dare*), as in Kanno’s studies, and the universal quantifier *dono X mo* as in the study in the present chapter.²¹ Doing so would help to determine if the difference in the quantifier has an effect on JFL learners to correctly reject them as possible antecedents of overt pronouns in Japanese. Chapter 4 will present the results of an experiment that seeks to answer these questions.

²¹ In comparison with a WH-word such as *dare* (‘who’) the universal quantifier *dono X mo* consists of the WH-word *dono* (‘which’), an NP (represented by *X*), and the particle *mo*. In this type of universal quantifier, the set of members is represented by the NP, and could possibly be less confusing than a WH-word such as *dare*.

Chapter 4: Experiment 2

*4.1. Research purposes*²²

The previous chapter presented the results of a truth value judgment task which showed that contrary to Kanno's (1997, 1998), findings JFL learners at the early stages of learning had not acquired knowledge that quantified NPs could not serve as antecedents of overt pronouns such as *kare* ('he') and *kanozyo* ('she'). JFL learners, however, seem to gain this knowledge with more exposure to the language. The results conflicted with those of Kanno, but supported the results of Masumoto (2008). It was proposed that an L1 transfer strategy is being employed by the JFL learners at the early stages of instruction when interpreting the Japanese pronouns. If this is the case, then the question remains as to why Kanno's JFL learners showed no significant difference between that group and the native speaker control group in correct rejections of the overt pronouns with quantified NP antecedents.

As proposed in the previous chapter, one of the reasons that the results in the two studies could have differed could be due to the difference of the tasks employed. Kanno's studies did not utilize a context, but merely consisted of a sentence or question followed

²² A part of this chapter was presented as Pimentel & Nakayama (2012b).

by a question.²³ Another possible reason for the difference in the results could be attributed to the type of quantifier NPs that were employed in the studies. Kanno used the WH-question *dare* ‘who’ (six sentences) and the quantifier *dareka* ‘someone’ (four sentences). For the *dare* sentences, it could be hypothesized that the learners found it more difficult to select a set of members that the WH-word referred to without a context, and so they might have preferred to interpret the overt pronoun as referring to someone other than *dare*. If this interpretation was employed, it would seem as if the learners had the knowledge that *kare* cannot have the bound variable reading.

If this is correct, then we would expect to find a lower percentage of errors for sentences utilizing the quantified antecedent NP *dare* (‘who’) in comparison with the percentage of errors for the sentences utilizing the quantified antecedent NP *dono X mo* (‘every X’). Furthermore, if an L1 transfer hypothesis is accurate, we should continue to find that JFL learners especially at the lower levels of instruction incorrectly interpret the Japanese pronouns *kare/kanoz yo* as they do the English pronouns *he/she* leading to violations of the OPC.²⁴

Given all of these possibilities, let us summarize the bound variable reading-related hypotheses to be tested below:

Hypothesis Ia: If the task difference between Kanno (1997, 1998) and Pimentel & Nakayama (2011) is a contributing factor in the difference in the results of the

²³ Kanno’s (1997, 1998) studies also lacked filler sentences that could have caused the participants to realize what was being tested thereby affecting the results.

²⁴ The geographic region of the United States where the test was taken could have also played a factor in the results. Kanno’s JFL learners were students at the University of Hawaii. In terms of demographics, Hawaii has a large population of Japanese-American residents, heritage speakers of Japanese, and Japanese tourists. It is possible that this increased exposure to Japanese could be playing a factor in her learners’ performance.

JFL learners' pronominal interpretations, then given a similar task to that of Kanno's, L1 English students at the same level of Japanese ability, should also demonstrate native-like knowledge of the bound variable readings.

Hypothesis Ib: If the task difference between Kanno and Pimentel & Nakayama is not contributing to the difference in the results, but rather an L1 transfer hypothesis is, we would expect to find that the JFL learners, especially at the lower levels, make more bound variable interpretation errors than those at the higher levels.

Hypothesis IIa: Under the assumption that the quantified NP *dare* contributes to less errors, then in an experiment similar to Kanno's, we would expect less errors in the *dare* sentences with overt pronouns at the lower levels than in the *dono X mo* sentences with overt pronouns.

Hypothesis IIb: If the use of the quantified NP *dare* does not contribute to less errors, then in an experiment similar to Kanno's we would expect an equal number of errors in both the *dare* and *dono X mo* sentences for learners at the lower levels of Japanese instruction.

Recall also that the coreferential interpretations for Kanno's JFL learners were low, therefore, a research question that arises is whether or not a different JFL learner group at the same level of Japanese learning would have similarly low interpretations. In addition, incorporating JFL learners into a study with higher levels of Japanese learning could also determine whether learners' interpretations might differ at varying levels of Japanese knowledge and exposure to the language.

The following sections describe an experiment designed to test the aforementioned hypotheses and answer these questions.

4.2. Participants

Forty-one native English speaking JFL learners (11 participants in 2nd year Japanese (280 instructional hours), 12 in 3rd year (350 hrs), 9 in 4th year (550 hrs), 9 in 5th year (beyond 600 hrs)), and twenty Japanese native speakers (the control group) participated in the experiment. The participants were students taking Japanese language classes at The Ohio State University. The textbook series employed in their instruction was *Japanese: The Spoken Language Part 1, 2 and 3* (Jordan & Noda, 1987, 1988, 1990). The native speaker control group consisted of either graduate students at The Ohio State University or people who had studied at an American university for at least one year. All of the native speaker participants had finished their primary and secondary education in Japan and are fluent in English. Both the JFL learner group and the native speaker control group were recruited for participation by the experimenter either through direct means, which involved recruiting participants from their Japanese classes, or through e-mail solicitation. All of the participants were paid a nominal fee for their participation.

In Kanno's studies her participants were those who had 52 weeks of Japanese instruction. In the present study, the lowest level (Level 2) had approximately 280 hours of Japanese instruction, and were in the third quarter of their second year of Japanese study. As in Kanno's studies none of the Level 2 participants had ever lived in Japan or with a native speaker.

4.3. Procedure

The experiment employed a coreference judgment task in the form of a written questionnaire similar to that used in Kanno (1997, 1998). The participants were instructed to read the test sentences and answer a question that would determine their interpretation of the subject in the embedded clause. The answers were displayed in a multiple-choice format. The instructions clearly explained that the participants had the option of choosing either answer (a), answer (b) or both (a) and (b) (hereafter referred to as answer (c)). The instructions were written in English and the test sentences were written in Japanese (*hiragana*, *katakana* and *kanji*). All of the vocabulary items employed were those that the students had previously studied. *Furigana* was listed over all of the words written in *kanji* to ensure that the students could read all of the sentences. The same questionnaire was given to both the JFL learners and the native speaker control group. The subjects were given the questionnaires to take home and complete at their leisure and then collected via written submission or e-mail at a later date.

4.4. Test material

The questionnaire consisted of a total of 40 biclausal sentences: 26 test sentences and 14 filler sentences. The test sentences comprised six types. Type 1: 3 sentences containing the quantified NP antecedent *dare* with an overt pronoun (*kare/kanozyo*). Type 2: 3 sentences containing the quantified NP antecedent *dare* with an empty pronoun. Type 3: 5 sentences containing the quantified NP antecedent *dono X mo* with an overt pronoun (*kare/kanozyo*). Type 4: 5 sentences containing the quantified NP

antecedent *dono X mo* with an empty pronoun. Type 5: 5 sentences containing a referential NP antecedent with an overt pronoun. Type 6: 5 sentences containing a referential NP antecedent with an empty pronoun.

In order to properly test the results of Kanno's sentences within the present study, the sentences were ordered such that the sentences which were similar to Kanno's were arranged in the middle of the questionnaire in the same order of sentence type as they appeared in Kanno's studies. (See Appendix D for the complete set of test sentences and instructions.) The following are examples of the test sentences. The correct possible answers are in bold:

(25) (Type 1) **Overt pronoun with a quantified NP (*dare*) antecedent**

[Dare-ga kinoo [kare-ga eewaziten-o kasita to itteiru
Who-NOM yesterday he-NOM English-Japanese dictionary-ACC lent that is saying
n desu ka].

that COP Q

'Who is saying that he lent the English-Japanese dictionary yesterday?'

Q: Dare-ga kinoo eewaziten-o kasita n desyoo ka.

Who-NOM yesterday English-Japanese dictionary-ACC lent that suppose Q

'Who do you suppose lent the English-Japanese dictionary yesterday?'

a) same as *dare*

b) another person

c) both (a) and (b)

(26) (Type 2) **Empty pronoun with a quantified NP (*dare*) antecedent**

[Dare-ga kyoo [bideo-o miseru to] itteiru n desu ka].

Who-NOM today video-ACC show that is saying that COP Q

‘Who said that (he) will show the video today?’

Q: Dare-ga kyoo bideo-o miseru n desyoo ka.

Who-NOM today video-ACC show that suppose Q

Who do you suppose will show the video today?

- a) same as *dare* b) another person c) both (a) and (b)

(27) (Type 3) **Overt pronoun with a quantified NP (*dono X mo*) antecedent**

[Dono ueetoresu-mo [kanozyo-ga Zyonsan-san-ni denwa-suru to] itteimasu yo].

Which waitress-too she-NOM Johnson-DAT call-do that is saying

‘Every waitress is saying that she will call Johnson.’

Q: Dare-ga denwa-suru n desyoo ka.

Who-NOM call-do that suppose Q

‘Who do you suppose will call?’

- a) same as *dono ueetoresu* b) another person c) both (a) and (b)

(28) (Type 4) **Empty pronoun with a quantified NP (*dono X mo*) antecedent**

[Dono daigakusee-mo rainen [hurasugo-o toru to] itteimasu yo].

Which college student-too next year French-ACC take that is saying

‘Every college student is saying that next year (he) will take French.’

Q: Dare-ga hurasugo-o toru n desyoo ka.

Who-Nom French-ACC take that suppose Q

‘Who do you suppose will take French?’

- a) same as *dono daigakusee* b) another person c) both (a) and (b)**

(29) (Type 5) **Overt pronoun with a referring NP antecedent**

[Yamamoto-san-ga asita [kare-ga butyoo-ni au to] itteimasu yo].

Yamamoto-NOM tomorrow he-NOM division manager-DAT meet that is saying

‘Yamamoto is saying that he will meet the division manager tomorrow.’

Q: Dare-ga asita butyoo-ni au n desyoo ka.

Who-NOM tomorrow division manager-DAT meet that suppose Q

‘Who do you suppose will meet the division manager tomorrow?’

- a) Yamamoto b) someone other than Yamamoto c) both (a) and (b)**

(30) (Type 6) **Empty pronoun with a referring NP antecedent**

[Kaataa-san-ga ato de [denwa-o kakeru to] itteimasu yo].

Carter-NOM later call that is saying

‘Carter is saying that (he) will call later.’

Q: Dare-ga ato de denwa-o kakeru n desyoo ka.

Who-NOM later call that suppose Q

‘Who do you suppose will call later?’

- a) Kaataa b) someone other than Kaataa c) both (a) and (b)**

Sentences of Types 1 and 3 contain a quantified NP antecedent (*dare* and *dono X mo* respectively) with an embedded overt pronoun (*kare/kanozyo*). Accordingly, the correct answer for these sentence types is (b). Sentences of Types 2 and 4 contain a quantified NP antecedent with an embedded empty pronoun, and accordingly, the correct answer for these sentence types can be either (a), (b) or (c). In the Type 5 sentences the overt pronoun could refer to the referring NP in the main clause or an extra-sentential referent. Similarly in the Type 6 sentences, the empty pronoun could refer to the referring NP in the main clause or an extra-sentential referent.

4.5. Results of the QNP sentences

4.5.1. Results of the Type 1 sentences

Let us compare the results of the Type 1 sentences (*dare* with an overt pronoun) across all of the five JFL learner groups and the native speaker control group. The results are shown in Table 11 below.

Level	Answer (a)	Answer (b)	Answer (c)
L2 (<i>n</i> =11)	21/33 (63.6%)	11/33 (33.3%)	1/33 (3%)
L3 (<i>n</i> =12)	9/36 (25%)	26/36 (72.2%)	1/36 (2.8%)
L4 (<i>n</i> =9)	3/27 (11.1%)	21/27 (77.8%)	3/27 (11.1%)
L5 (<i>n</i> =9)	0/27 (0%)	26/27 (96.3%)	1/27 (3.7%)
Natives (<i>n</i> =20)	0/60 (0%)	56/60 (93.3%)	4/60 (6.7%)

Table 11. Results for QNP *dare* overt (Type 1) sentences

In Levels 2 to 5, we see that Level 2 had the highest number of errors with 63.6% followed by a decrease in errors from Levels 3 to 5. Level 3 made errors 25% of the time,

followed by 11.1% of the time in Level 4. The Level 5 group contained the lowest number of errors at 0% or at most 3.7% when (a) and (c) are combined. Comparatively, the number of correct rejections of the quantified NP (*dare*) as the antecedent of the overt pronoun was the lowest in Level 2 with 33.3% followed by an increase in the higher levels with 72.2% in Level 3, 77.8% in Level 4, and 96.3% in Level 5. The native speaker control group made slightly more errors than the L5 group, however, they were comparable in that in both groups, no participants chose answer (a) only. However, the native speakers chose answer (c) higher (6.7%) than the L5 learners (3.7%). Although the native speakers did make some errors, their responses were still consistently accurate.

A one-way ANOVA reveals that the JFL and native speaker groups' (a) and (c) responses were significantly different ($F(4,178)=16.705, p<.000$). A post-hoc Bonferroni test revealed a significant difference between the native speaker group and Level 2 ($p<.000$). Level 2 also showed a significant difference with Levels 3 to 5 (all $p<.000$). No significant difference was found between the native speaker group and Level 3 ($p<.069$).

A one-way ANOVA of the Type 1 sentence percentages of students who chose only answer (a) showed a significant difference ($F(4,178)=21.128, p<.000$).²⁵ A post-hoc Bonferroni test resulted in a significant difference between the native speaker group and each of Level 2 ($p<.000$), Level 3 ($p<.005$), and Level 4 ($p<.047$). Significant differences were also found between the Level 2 group and each of Levels 3 – 5 (all $p<.000$).

²⁵ The total number of strictly (a) answers for Level 2 was 21 ($M = 1.91, SD = 1.04$). The total number of strictly (a) answers for Level 3 was 9 ($M = 0.75, SD = 1.06$). The total number of strictly (a) answers for Level 4 was 3 ($M = 0.33, SD = 0.71$). The total number of strictly (a) answers for both Level 5 and the native speakers was 0.

Let us now look at the percentage of individuals that consistently had incorrect (2 or more) responses by level. Incorrect responses were considered to be those responses other than (b) (i.e., choice (a) or (c)). These percentages are as follows: Level 2, 8 participants (73%), Level 3, 3 participants (25%), Level 4, 2 participants (22%), Level 5, 0 participants (0%), Native participants, 0 (0%). From these percentages, we can see that the Level 2 learners had the highest number of consistently incorrect responses at 73%. The lowest percentage of consistently incorrect responses was found in Level 5 at 0%. This percentage was the same as for the Native participants. The percentages show that the percentage of inconsistently incorrect answers decreases by level from Level 2 to 5.

4.5.2. Results of the Type 3 sentences

Let us now look at the percentages of the Type 3 sentences (*dono X mo* with an overt pronoun) across all of the levels as shown in Table 14.

Level	Answer (a)	Answer (b)	Answer (c)
L2 (n=11)	21/55 (38.2%)	26/55 (47.3%)	8/55 (14.5%)
L3 (n=12)	12/60 (20%)	35/60 (58.3%)	13/60 (21.7%)
L4 (n=9)	9/45 (20%)	30/45 (66.7%)	6/45 (13.3%)
L5 (n=9)	1/45 (2.2%)	39/45 (86.7%)	5/45 (11.1%)
Natives (n=20)	10/100 (10%)	84/100 (84%)	6/100 (6%)

Table 12. Results for QNP *dono* overt (Type 3) sentences

From the results, we can see that Level 2 had the highest number of errors with 38.2% and Level 5 had the lowest number of violations with 2.2%. In fact, the Level 5 learners surpassed the native speaker control group in overall correct responses, but this was

likely due to the fact that Level 5 had fewer participants (9) as compared to the native speakers (20). The Level 5 students also chose both answer (a) and (b) more (11.1%) than the native speaker control group (6%).

Interestingly, Level 3 and Level 4 had the same number of incorrect (a) responses at 20%. However, the number of correct (b) responses was lower in Level 3 (58.3%) than in Level 4 (66.7%). The percentages for (c) responses was also higher in Level 3 than in Level 4 which shows that the Level 3 students were more likely to accept choice (a) as well as (b) as a possible correct answer more than the Level 4 participants. What we see in the results is a general trend for the Level 2 learners to treat the quantified NPs as viable antecedents for the overt pronouns in both the Type 1 and Type 3 sentences, and that as the level of the JFL learners increases, the number of correct rejections of the (a) answers decreases.

A one-way ANOVA reveals that the JFL and native speaker groups were significantly different in their (a) and (c) answers ($F(4,300)=9.112$, $p<.000$). A post-hoc Bonferroni test showed that the native speaker group was significantly different in their (a) and (c) answers from the Level 2 and Level 3 groups ($p<.000$ and $p<.004$, respectively). Both Levels 2 and 3 showed a significant difference from Level 5 ($p<.000$ and $p<.011$, respectively).

Examining the strict answer (a) percentages for the Type 3 sentences resulted in a significant difference ($F(4,300)=7.603$, $p<.000$).²⁶ A post-hoc Bonferroni test showed a

²⁶ The total number of strictly (a) answers for Level 2 was 21 ($M = 1.91$, $SD = 1.22$). The total number of strictly (a) answers for Level 3 was 12 ($M = 1.0$, $SD = 1.41$). The total number of strictly (a) answers for Level 4 was 10 ($M = 1.0$, $SD = 1.32$). The total number of strictly (a) answers for Level 5 was 1 ($M = 0.11$, $SD = 0.33$). The total number of strictly (a) answers for the native speakers was 10 ($M = 0.5$, $SD = 1.0$).

significant difference between the native speaker group and Level 2 ($p < .000$). The Level 2 and 3 groups showed no significant difference ($p < .079$), but the Level 2 and 5 groups did show a significant difference ($p < .000$).

The percentage of participants that had consistently incorrect (3 or more) responses by level are as follows: Level 2, 7 learners (64%), Level 3, 6 learners (50%), Level 4, 3 learners (33%), Level 5, 1 learner (11%), Native participants, 3 (15%). In other words, seventeen out of fifty-one learners were consistently wrong. These results indicate that the Level 2 learners had the highest percentage of consistently incorrect responses (64%) while the Level 5 learners had the lowest percentage of incorrect ones (11%).

4.5.3. Comparison of the Type 1 and Type 3 sentences

Comparing the results from the Type 1 (QNP *dare* overt) and Type 3 (QNP *dono* overt) sentences, we see that for both sentence types the Level 2 participants made the most errors in comparison with Levels 3 to 5. They also were significantly different in their responses from both the Level 5 participants and the native speaker control group. What is also observed is that as the level of the JFL learners increases, the number of errors decreases, which indicates that the Level 2 learners are utilizing a transfer strategy in their treatment of the overt pronouns, but learners at higher levels acquire the knowledge of the bound variable readings. This is in support of Masumoto & Nakayama (2009) and Pimentel & Nakayama's (2012a) claims that it takes time for JFL learners to learn that *kare/kanozzyo* cannot take a bound variable reading.

A comparison of strictly (a) or (b) answers for each of the two sentence types shows that in Level 3, Level 4, and Level 5, the Type 1 sentences showed a higher percentage of correct (b) answers, but for the Level 2 group this percentage was higher in the Type 3 sentences. Similar to Level 3 to Level 5, the native speaker control group's responses revealed a higher percentage of correct (b) answers in the Type 1 sentences (93.3% versus 84% in Type 3).

Comparing the individual responses, we see that the Level 2 learners had the highest percentage of errors with 73% in both the Type 1 and Type 3 sentences. This was followed by a general decrease in the number of errors from Level 3 to Level 5. In the case of both sentence types, the Level 5 learners had the lowest percentage of consistently incorrect responses. Although the percentage of errors was higher for the Type 3 sentences for Levels 3 to 5 and the Native speaker group, this could have been due to the higher number of overall questions in the Type 3 sentences.

Eight out of the 51 JFL learners got two out of the three Type 1 sentences, and three out of the four Type 3 sentences wrong. In other words, 8 JFL learners chose consistently incorrect answers for both the Type 1 and 3 sentences. Out of these eight learners, five were in in Level 2, two were in Level 3, and one was in Level 4. None of the Level 5 learners made consistently incorrect answers across both sentence types.

4.5.4. Combination of the Types 1 and 3 sentences

Table 13 below shows the results of the Type 1 and 3 sentences combined.

Level	Answer (a)	Answer (b)	Answer (c)
L2 (<i>n</i> =11)	42/88 (47.7%)	37/88 (42.1%)	9/88 (10.2%)
L3 (<i>n</i> =12)	21/96 (21.9%)	61/96 (63.5%)	14/96 (14.6%)
L4 (<i>n</i> =9)	12/72 (16.7%)	51/72 (70.8%)	9/72 (12.5%)
L5 (<i>n</i> =9)	1/72 (1.4%)	65/72 (90.3%)	6/72 (8.3%)
Natives (<i>n</i> =20)	10/160 (6.25%)	140/160 (87.5%)	10/160 (6.25%)

Table 13. Results of Type 1 and 3 sentences combined

The results show that the Level 2 learners made the most errors at 47.7% and accepted answer (c) 10.2% of the time. The Level 5 learners made the lowest number of errors at 1.4% choosing answer (a), 90.3% choosing answer (b) and 8.3% choosing answer (c). The native speaker control group made more errors than the Level 5 learners (6.25% and 1.4% respectively for answer (a) only). The percentage of errors was higher in Level 3 (21.9%) as compared with Level 4 (16.7%). The combined percentages show that there was a decrease in the number of overall errors from Level 2 to Level 5.

Let us now look at the number of individuals who made consistent errors in both the Type 1 and Type 3 sentences. These numbers are as follows: Level 2, 5 learners (45%), Level 3, 2 learners (17%), Level 4, 1 learner (11%), and Level 5, 0.²⁷ These results show a decrease in the number of consistent errors by group indicating that over time and with exposure to Japanese, the learners are gaining knowledge that the overt pronouns cannot be bound by quantified NP antecedents.

²⁷ The sum of strictly (a) answers for the Type 1 plus the Type 3 sentences in Level 2 was 42 ($M = 3.82$, $SD = 1.78$). For Level 3, the sum was 21 ($M = 1.75$, $SD = 1.86$). For Level 4, the sum was 12 ($M = 1.33$, $SD = 1.22$). For Level 5, the sum was 1 ($M = 0.11$, $SD = 0.33$). For the native speakers, the sum was 10 ($M = 0.5$, $SD = 1.0$).

4.5.5. Results of the Type 2 sentences

Table 14 below lists the results for the Type 2 sentences. These sentences contained an empty pronoun with *dare*. In these sentences the participants had to decide whether the empty pronoun would be coreferential with the quantified NP antecedent *dare* or an extra-sentential referent. All the answers below are correct and show the preferences of the participants.

Level	Answer (a)	Answer (b)	Answer (c)
L2 (<i>n</i> =11)	23/33 (69.7%)	8/33 (24.2%)	2/33 (6.1%)
L3(<i>n</i> =12)	28/36 (77.8%)	8/36 (22.2%)	0/36 (0%)
L4 (<i>n</i> =9)	22/27 (81.5%)	2/27 (7.4%)	3/27 (11.1%)
L5 (<i>n</i> =9)	12/27 (44.5%)	5/27 (18.5%)	10/27 (37%)
Natives (<i>n</i> =20)	27/60 (45%)	22/60 (36.7%)	11/60 (18.3%)

Table 14. Results for QNP *dare* empty (Type 2) sentences

As per the results, we can see that all of the JFL learners and the native speaker control group showed a higher preference for the intra-sentential quantified NP antecedent *dare* to be the antecedent of the empty pronoun. Interestingly, the answer (a) responses rose from Level 2 to Level 4 (L2: 69.7%, L3: 77.8%, L4: 81.5%). The percentage of answer (b) responses also decreased by level from Level 2 to Level 4 (L2: 24.2%, L3: 22.2%, L4: 7.4%). The percentage of (c) responses was lowest in Level 3 (0%) and highest in Level 5 (37%). These results indicate that the JFL learners prefer the quantified NP to be the antecedent of *kare/kanozoyo*. Comparing the Level 5 learners with the native speakers, we find that both groups showed higher percentages for answer (a) (44.5% and 45% respectively), but that the native speaker group percentage for answer (b) was higher.

A one-way ANOVA showed the groups were significantly different in their (a) and (c) answers ($F(4,178)=2.481$, $p<.046$). A post-hoc Bonferroni test showed that the native speaker control group was significantly different from Level 4 ($p<.46$).

Now let us look at the number of participants that consistently chose (a) (two out of three times). The percentages by level are as follows: Level 2, 8 learners (73%), Level 3, 10 learners (83%), Level 4, 9 learners (100%), Level 5, 3 learners (44%), and Native participants, 9 (45%). The percentages for participants that consistently chose (b) (two out of three times) by level are as follows: Level 2, 2 learners (18%), Level 3, 2 learners (17%), Level 4, 0 learners (0%), Level 5, 1 learner (11%), and Native participants, 8 (40%). The percentages for participants that consistently chose (c) (two out of three times) by level are as follows: Level 2, 1 learner (9%), Level 3, 0 learners (0%), Level 4, 0 learners (0%), Level 5, 3 learners (33%), and Native participants, 3 (15%).

These results showed that the JFL learners had a generally high preference for the QNP *dare* to be the antecedent of the empty pronoun. An increase was found in the percentage of (a) answers from Levels 2 to 4. However, the Level 5 participants showed the lowest consistency for (a) answers (45%) and the highest consistency for (c) answers (33%). The Native speakers showed a higher consistency for (a) answers (40%) than (b) answers (45%) with (c) showing the least consistency (15%) in this group. The higher percentage of consistently (a) answers for Levels 2 to 4 indicates a much higher preference for (a) answers among these groups.

4.5.6. Results of the Type 4 sentences

From the results of the Type 4 sentences in Table 15 below, we can see that the JFL learners showed a higher percentage of (a) responses with comparison to (b) and (c) across the four groups. This means that the JFL learners showed a higher preference for the quantified NP *dono X mo* to be the antecedent of the empty pronoun in contrast with either an extra-sentential antecedent (answer (b)) or both the quantified NP and an extra-sentential antecedent (answer (c)).

Level	Answer (a)	Answer (b)	Answer (c)
L2 (<i>n</i> =11)	34/55 (61.8%)	11/55 (20%)	10/55 (18.2%)
L3 (<i>n</i> =12)	33/60 (55%)	3/60 (5%)	24/60 (40%)
L4 (<i>n</i> =9)	29/45 (64.4%)	10/45 (22.2%)	6/45 (13.4%)
L5 (<i>n</i> =9)	23/45 (51.1%)	4/45 (8.9%)	18/45 (40%)
Natives (<i>n</i> =20)	90/100 (90%)	2/100 (2%)	8/100 (8%)

Table 15. Results for QNP *dono X mo* empty (Type 4) sentences

In comparing answer (c) across the JFL learner groups, we see that the highest percentages for this choice were in Level 3 and Level 5 (40% each), and the lower percentages were in Level 2 and Level 4 (18.2% and 13.4% respectively). The native speaker control group showed a strong preference for the quantified NP to be the antecedent of the empty pronoun (answer (a)) at 90%. They only chose answer (b) and answer (c) 2% and 8% of the time, respectively. A one-way ANOVA revealed a significant difference in the (a) and (c) answers ($F(4,300)=6.043$, $p<.000$). A post-hoc Bonferroni test showed that the native speaker group's responses were significantly different from the Level 2 and Level 4 groups ($p<.002$ and $p<.001$, respectively). The

Level 2 and Level 3 groups did not show a significant difference ($p < .057$), but the Level 3 and Level 4 groups did show a significant difference ($p < .027$).

The percentages for participants that consistently chose (a) are as follows: Level 2, 7 learners (64%), Level 3, 8 learners (67%), Level 4, 6 learners (67%), Level 5, 6 learners (67%), and Native participants, 19 (95%). From this we can see that the percentage of learners that chose (a) consistently differed very little from Levels 2 to 5. The percentages of learners that chose (b) consistently by level are as follows: Level 2, 1 learner (9%), Level 3, 0, Level 4, 2 learners (22%), Level 5, 0, and Native participants, 0. The percentages of learners that chose (c) consistently by level are as follows: Level 2, 3 learners (27%), Level 3, 4 learners (33%), Level 4, 1 learner (11%), Level 5, 3 learners (33%), and Native participants, 1 (5%).

For the percentages of participants that consistently chose (a), an increase in the number of individuals by level from Level 2 to 4 was observed in the Type 2 sentences, but this was not the case in the Type 4 sentences. Rather, in the Type 4 sentences, the percentages of individuals that consistently chose (a) were very similar across the levels (Level 2, 64%, Level 3, 67%, Level 4, 67%, Level 5, 67%). The number of individuals that consistently chose (c) also increased in the Type 4 sentences but remained the same in Level (5).

4.5.7. Results of the Type 2 and 4 sentences combined

Table 16 lists the results for both the Type 2 and Type 4 sentences combined.

Level	Answer (a)	Answer (b)	Answer (c)
L2 (n=11)	57/88 (64.8%)	19/88 (21.6%)	12/88 (13.6%)
L3 (n=12)	61/96 (63.5%)	11/96 (11.5%)	24/96 (25%)
L4 (n=9)	51/72 (70.8%)	12/72 (16.7%)	9/72 (12.5%)
L5 (n=9)	35/72 (48.6%)	9/72 (12.5%)	28/72 (38.9%)
Natives (n=20)	117/160 (73.1%)	24/160 (15%)	19/160 (11.9%)

Table 16. Results of Type 2 and 4 sentences combined

Levels 2 to 4 showed a high preference for (a), but the Level 5 learners showed the least preference for (a) (48.6%). Rather, they were more divided in their answers and showed the highest number of (c) answers (38.9%). This is interesting because the native speaker group showed the highest preference for (a) with only 15% for (b) and 11.9% for (c). This means that in an overall comparison of sentences containing empty pronouns with quantified NP antecedents, the tendency was for the Level 5 learners to choose either that NP or an extra-sentential referent as the antecedent.

None of the individuals in any of the JFL groups or the Native speaker group chose all (a) responses for all of the Type 1 to 4 sentences. Only two learners in Level 2 chose (a) consistently in all of the Type 1 to 4 sentences.

4.6. Results of the RNP sentences

4.6.1. Results of the Type 5 sentences

The results for the Type 5 sentences with an overt pronoun and a referring NP are listed in Table 17 below. An overall comparison of the results shows that for Levels 2 to 4, percentage of (b) answers was higher than that of the (a) answers. These learners

showed a preference for the overt pronoun to have an extra-sentential antecedent rather than to have the intra-sentential matrix clause subject as its antecedent.

Level	Answer (a)	Answer (b)	Answer (c)
L2 (<i>n</i> =11)	26/55 (47.3%)	29/55 (52.7%)	0/55 (0%)
L3 (<i>n</i> =12)	18/60 (30%)	36/60 (60%)	6/60 (10%)
L4 (<i>n</i> =9)	13/45 (28.9%)	31/45 (68.9%)	1/45 (2.2%)
L5 (<i>n</i> =9)	1/45 (2.2%)	37/45 (82.2%)	7/45 (15.6%)
Natives (<i>n</i> =20)	21/100 (21%)	59/100 (59%)	20/100 (20%)

Table 17. Results for the RNP overt (Type 5) sentences

There was a decrease in the percentage of choice (a) and an increase in answer (b) from Level 2 to 5. Looking at choice (c) Level 2 had the lowest percentage (0%) while Level 5 had the highest (15.6%). Level 3 had the second highest percentage for answer (c) of the JFL group learners (10%) and the Level 4 group only chose answer (c) 2.2% of the time. The native speaker control group chose answer (a) 21% of the time, answer (b) 59% of the time and, answer (c) 20% of the time. Therefore, an increase in JFL group level showed a higher preference for an extra-sentential antecedent for the overt pronoun when the matrix clause subject was a referring expression.

A one-way ANOVA for answers (a) and answers (c) revealed no significant difference ($p < .053$). However, a post-hoc Bonferroni test did show a significant difference between the native speaker control group and the Level 5 participants ($p < 0.50$). A one-way ANOVA of the strict (a) answers also did not reveal a significant difference.

4.6.2. Results of the Type 6 sentences

Table 18 below shows the results for the Type 6 sentences, which contained an empty pronoun with a referring NP. For all of the JFL learner groups, high percentages were recorded for answer (a): Level 2: 81.8%; Level 3: 83.3%; Level 4: 93.3%; Level 5: 69%. Levels 2 to 4 showed an increase in the answer (a) responses by level and a decrease in the percentage of (b) responses. What is interesting is that all three levels chose a strict (a) response or (b) response (i.e., 0% responses for answer (c)).

Level	Answer (a)	Answer (b)	Answer (c)
L2 (<i>n</i> =11)	45/55 (81.8%)	10/55 (18.2)	0/55 (0%)
L3 (<i>n</i> =12)	50/60 (83.3%)	10/60 (16.7%)	0/60 (0%)
L4 (<i>n</i> =9)	42/45 (93.3%)	3/45 (6.7%)	0/45 (0%)
L5 (<i>n</i> =9)	31/45 (69%)	4/45 (9%)	10/45 (22%)
Natives (<i>n</i> =20)	95/100 (95%)	0/100 (0%)	5/100 (5%)

Table 18. Results for the RNP empty (Type 6) sentences

This shows that these learners had a strong preference for taking the referring NP in the matrix clause to be the antecedent of the empty pronoun in most of the sentences, but did not accept the possibility that both the matrix subject NP and an extra-sentential subject could be the antecedent of the empty pronoun. The Level 5 learners, on the other hand, showed a lower percentage of answer (a) responses (69%), and the highest number of answer (c) responses (22%) of all groups. The Native speaker group showed the highest preference for answer (a) (95%), the lowest for (b) (0%).

A one-way ANOVA with answers (a) and (c) reported a statistical significance ($F(4,300)=6.043$, $p<.000$). A post-hoc Bonferroni test revealed a significant difference

between the native speaker group and Level 2 and Level 4 groups ($p < .002$ and $p < .001$, respectively). A difference approaching statistical significance was also found between Level 2 and Level 3 ($p < .057$), while statistical significance was observed between Level 3 and Level 4 ($p < .027$).

4.7. Comparison of results: Kanno (1997) vs. current study

4.7.1. L2 JFL learner groups

Table 19 below shows the response percentages by sentence type for both Kanno (1997) and the current study. The percentages listed below for the current study for the QNP overt and QNP empty sentences are the aggregate percentages of the *dare* and *dono X mo* sentences. Since Kanno did not give a breakdown of sentences by quantifier NP antecedent type, the aggregate needed to be used in order to give an accurate comparison of the JFL learners' responses.

Sentence Type	Kanno (1997)			Current Study		
	Answer (a)	Answer (b)	Answer (c)	Answer (a)	Answer (b)	Answer (c)
QNP Overt	9.3%	87%	3.7%	47.7%	42.1%	10.2%
QNP Empty	73.5%	21.5%	5%	64.8%	21.6%	13.6%
RNP Overt	39%	58%	3%	47.3%	52.7%	0%
RNP Empty	80%	18.5%	1.5%	81.8%	18.2%	0%

Table 19. L2 learner percentages for Kanno (1997) and the current study

Beginning with the QNP overt sentences, we can see that there is a disparity between the responses of the Level 2 learners in both studies. Kanno's learners chose answer (b) 87% of the time as opposed to answer (a) which they chose only 9.3% of the time. Their (c) answers were also low at 3.7%. In contrast to these results, the current study's L2 learners had a higher percentage of (a) answers (47.7%) than (b) answers (42.1%) and the lowest percentage of (c) answers (10.2%). Furthermore, the individual results for the Level 2 learners showed that five out of eleven learners (45%) consistently chose (a) answers. This means that almost half of the learners had (a) answers consistently for both the Type 1 and Type 3 sentences. Therefore, it seems as though Kanno's learners know that overt pronouns cannot take bound variable readings, while

the lower level learners of the present study still have not acquired this knowledge. These results support the data from the previous chapter's truth value judgment task and also support Masumoto's (2008) findings.

The QNP empty sentence percentages, however, were more similar in both studies. Kanno's learners chose answer (a) 73.5% of the time, answer (b) 21.5% of the time, and answer (c) 5% of the time. In comparison, the Level 2 learners in the current study chose answer (a) less at 64.8%, however, their answer (b) responses were almost identical to Kanno's learners at 21.6%. The Level 2 learners in the present study chose answer (c) more at 13.6%. Consequently, the learners of both groups showed a higher preference for the antecedent of the empty pronoun to be the quantifier NP in the matrix clause.

In the RNP overt and empty sentences, the Level 2 learners showed similar performance in their responses with the greater similarity between in the RNP empty sentences. For the RNP overt sentences, Kanno's participants chose answer (a) 38% of the time, answer (b) 58% of the time, and answer (c) 3% of the time. The current study's participants chose answer (a) 47.3% of the time, answer (b) 52.7% of the time, and none of the participants chose answer (c) (0%). This means that the Level 2 learners of both groups showed a preference for the overt pronoun to refer to an extra-sentential referent. The RNP empty sentences showed the greatest similarity among all of the sentence types with a high preference for the empty pronoun to be coreferential with the referring NP matrix clause subject.

4.7.2. Native speaker control groups

Table 20 below shows the percentages for all sentence types in both studies for the native speaker control groups. For the QNP overt sentences, Kanno's (1997) native speaker group chose answer (a) 0% of the time, answer (b) 98% of the time and answer (c) 2% of the time. The native speakers in the current study made slightly more errors. They chose answer (a) 6.25% of the time, answer (b) 87.5% of the time, and answer (c) 6.25% of the time.

Sentence Type	Kanno (1997)			Current Study		
	Answer (a)	Answer (b)	Answer (c)	Answer (a)	Answer (b)	Answer (c)
QNP Overt	0%	98%	2%	6.25%	87.5%	6.25%
QNP Empty	52%	17%	31%	73.1%	15%	11.9%
RNP Overt	7%	53%	40%	21%	59%	20%
RNP Empty	76%	0%	24%	95%	0%	5%

Table 20. Native speaker percentages for Kanno (1997) and the current study

Although both groups made slight errors by accepting answer (a) or (c), the high number of (b) choices is consistent with knowledge of the correct interpretations. The QNP empty

sentences showed a preference for answer (a), although Kanno's group showed a higher preference for answer (c) (31%) as opposed to the current study's participants (11.9%).

For the RNP overt sentences both native speaker groups chose answer (b) more than answer (a). However, the percentages of (c) answers were higher for Kanno's native speakers than for those in the present study (40% and 20%, respectively). For the RNP empty test sentences, both groups showed a much higher preference for answer (a) than answer (b) which was 0% in both groups. The percentage of (c) answers was higher in Kanno's group (24%) in contrast with those of the present study (5%).

4.8. Discussion

The previous sections of this chapter explained the findings of the present experiment. In this section the findings will be discussed with regard to the four hypotheses proposed at the beginning of the chapter. Recall that in section 4.1, Hypothesis IIa predicted that if the quantified NP *dare* contributes to less errors, then in an experiment similar to Kanno's, we would expect less errors in the *dare* sentences with overt pronouns at the lower levels than in the *dono X mo* sentences with overt pronouns. Hypothesis IIb predicted that if the use of the quantified NP *dare* does not contribute to less errors, then in an experiment similar to Kanno's, we would expect an equal number of errors in both the *dare* and *dono X mo* sentences for learners at the lower levels of Japanese instruction.

The results from both the Type 1 (*dare* overt) and Type 3 (*dono* overt) sentences showed that Level 2 learners in the present study made more errors in the Type 1

sentences than in the Type 3 sentences. The Type 1 sentence results showed that the JFL learners in Level 2 chose answer (a) 63.6% of the time and answer (b) 33.3% of the time. For the Type 3 sentences they chose answer (a) 38.2% of the time and answer (b) 47.3% of the time. These results are more in accordance with Hypothesis IIb than Hypothesis IIa.

Although the Level 2 JFL learners made less errors in the Type 1 sentences than in the Type 3 sentences, both the Type 1 and Type 3 sentences showed a significant difference between the Level 2 learners and the native speaker control group. A combination of both the Type 1 and Type 3 sentences showed a higher number of overall errors, or (a) choices (47.7%), as opposed to answer (b) (42.1%). These results are in contradiction to Kanno's (1997, 1998) findings in which her JFL learners' results did not show a significant difference from her native speaker control group.

Hypothesis Ia predicted that if the task difference between Kanno (1997, 1998) and Pimentel & Nakayama (2012a) is a contributing factor in the difference in the Level 2 learners' pronominal interpretations, then given a similar task to that of Kanno's JFL learners, the learners in the current study should perform similarly to Kanno's JFL learners (i.e., they should show knowledge that overt pronouns cannot take a bound variable reading). Hypothesis Ib predicted that if the task difference between Kanno (1997, 1998) and Pimentel & Nakayama (2012a) is not a contributing factor in the difference in the results, but rather an L1 transfer hypothesis is, we would expect to find that the JFL learners, especially at the lower levels, make more bound variable interpretation errors than those at the higher levels. The present results support

Hypothesis 1b and offer evidence against Hypothesis 1a for the Level 2 learners. That is, since the Level 2 learners did not perform as well as the native speaker control group and made significantly more errors in interpretation, the hypothesis that these learners are utilizing an L1 transfer strategy to interpret the overt pronouns is supported.

In general, the JFL learners' errors decreased from Levels 2 to 5. This phenomenon was observed in both the Type 1 and 3 sentences. These findings are consistent with those of Pimentel & Nakayama (2012a), in that with more exposure to the language, the JFL learners acquire the knowledge that overt pronouns cannot take a quantified NP as an antecedent.

The Type 2 (*dare* empty) sentence results revealed a higher percentage of answer (a) percentages and a lower percentage of answer (b) percentages by level from Levels 2 to 4. These learners showed a strong preference for the QNP *dare* to be the antecedent of the empty pronoun. It is important to remember that in these as well as the Type 4 questions, the answer is a matter of preference since all three answers (i.e., (a), (b) or (c)) are viable. This contrasted with the Level 5 and native speaker control group answers. Level 5 showed the lowest percentage of (a) answers at 44.5%, but also a low percentage of (b) answers at 18.5%. The (a) percentage was fairly similar to that of the native speaker group (45%), but a difference was apparent in the percentages for answers (b) and (c). The native speaker group chose answer (b) 36.7% of the time, while answer (c) was chosen 18.3% of the time. On the other hand, the Level 5 learners chose answer (c) 37% of the time. Therefore, despite both the Level 5 learners and native speakers showing an almost equal percentage for the QNP *dare* to be a viable antecedent for an

empty pronoun, the L5 learners showed more flexibility in their allowance of both answer (a) and (b).

Similarly, the Type 4 sentence results indicated a preference for answer (a) over answer (b) in Levels 2 to 5, although the Level 3 and 5 learners showed very similar percentages in their answers choosing answer (c) 40% of the time. An interesting result was the difference in percentages by the native speaker control group between the Type 2 and 4 sentences. The native speakers showed the highest preference for answer (a) (90%), only 2% of the responses for answer (b), and 8% for answer (c). Comparing this to the Type 2 sentences, we see that the choice between (a) and (b) was more evenly distributed with 45% choosing answer (a) and 36.7% choosing answer (b). 18.3% chose answer (c).

A view of the combined Type 2 and 4 sentence percentages still shows the QNP to be the antecedent of an empty pronoun with the highest percentages of (a) answers in Levels 2 to 4. Interestingly, as discussed, the Level 5 learners seemed to show equal acceptability for the QNP in the main clause and an extra-sentential NP to be coreferential with the empty pronoun. Due to the very high percentage of (a) choices in the Type 4 sentences for the native speakers, the combined results of the Type 2 and 4 sentences show a high preference for answer (a) (73.1%) over answers (b) and (c) (15% and 11.9%, respectively). Of the native speakers, 14 out of 20 (70%) chose (a) answers only for the Type 4 sentences.

The RNP overt (Type 5) sentence results found that the Level 2 learners either chose answer (a) or answer (b). Answer (a) was chosen slightly less than answer (b) although the ratio was about the same. These learners showed a slightly higher preference

for the overt pronoun to have an extra-sentential antecedent as did Kanno's JFL learners. Additionally, as the level of the learners increased, we saw an increase in percentage for answer (b). Therefore, the students of the higher levels were choosing the overt pronoun to have an extra-sentential referent. Under an L1 transfer strategy, an intra-sentential referring NP or an extra-sentential referent are viable antecedents. Despite this, the higher level learners seem to prefer the extra-sentential antecedent.

Returning to the question posed at the beginning of the chapter, it seems as though JFL learners of different levels have varying interpretations with respect to the overt pronoun (*kare/kanozoyo*) and show a tendency to choose an extra-sentential reading for an overt pronoun in the absence of a context. If this is the case, then this could explain why Levels 3 to 5 performed better on the Type 1 and 3 sentences than Level 2. In other words, through increased exposure to the target language, JFL learners tend to treat the overt pronouns in general as having extra-sentential antecedents.

The RNP empty (Type 6) sentences showed very different results from the Type 5 sentences in that all of the JFL learner groups showed a higher ratio of (a) answers over (b) answers. This was especially the case in Levels 2 to 4 where answer (c) was not chosen at all (0%). Although the Level 5 group had the lowest percentage of answer (a) responses (69%), the percentage of (b) responses was comparatively low at only 9%, with answer (c) being chosen 22% of the time. The native speakers also had a high ratio of (a) answer in comparison with the (b) responses. In comparison with Kanno's JFL learners, the Level 2 learners in the present study performed quite similarly to hers in terms of a much higher ratio of answer (a) over answer (b) responses.

The experimental results in this chapter show conflicting results to those of Kanno (1997, 1998), but show support for the results of Masumoto (2008), and Pimentel & Nakayama (2012a). The results show evidence for Hypothesis Ib that: (a) it takes time for learners to acquire the knowledge that Japanese overt pronouns cannot have bound variable interpretations, and (b) the JFL learners in the early stages were employing an L1 transfer strategy in interpreting the overt pronouns. The JFL learners' larger percentage of bound variable interpretation errors in the *dare* overt sentences than in the *dono X mo* overt sentences, shows evidence for Hypothesis IIb.

Furthermore, the results of the RNP overt (Type 5) sentences showed that as the JFL learners' levels increased, their preference for the overt pronoun to take an extra-sentential antecedent, also increased. As mentioned above, under an L1 transfer strategy, the overt pronoun can take a referring NP or an extra-sentential referent as its antecedent. Despite this, the higher level learners, as do the native speakers, show a stronger preference for the extra-sentential antecedent. Through the implementation of two corpus studies, chapter 5 investigates whether the frequency of exposure to overt pronouns and sentences similar to Type 5 might account for this increased preference.

Chapter 5: Corpus studies

5.1. Corpus purposes

This chapter investigates whether L2 input frequency might account for the JFL learners' tendency to prefer the pronouns *kare* and *kanozō* to have extra-sentential antecedents as their Japanese level increases. In other words, if the majority of sentences to which the JFL learners are exposed, are those where the pronoun takes an extra-sentential antecedent, then this might influence the learners' shift from more of an ambiguous interpretation to one where the antecedent is extra-sentential.

Recall that the native speakers in Kanno (1997), Yamada (2005), and Experiment 2 in Chapter 4, displayed a similar preference in sentences containing an overt pronoun and a referential NP. The results from the RNP overt (Type 5) sentences in Experiment 2 are repeated in Table 21 below.

Level	(a) Matrix Subject	(b) Other than MS	Both (a) and (b)
L2 (<i>n</i> =11)	26/55 (47.3%)	29/55 (52.7%)	0/55 (0%)
L3 (<i>n</i> =12)	18/60 (30%)	36/60 (60%)	6/60 (10%)
L4 (<i>n</i> =9)	13/45 (28.9%)	31/45 (68.9%)	1/45 (2.2%)
L5 (<i>n</i> =9)	1/45 (2.2%)	37/45 (82.2%)	7/45 (15.6%)
Natives (<i>n</i> =20)	21/100 (21%)	59/100 (59%)	20/100 (20%)

Table 21. Results for the RNP overt (Type 5) sentences

As seen in the table, from Level 2 to Level 4, the JFL learners also showed a slight increase in the same preference. However, it appears that their interpretations are more or less native-like from Level 2.²⁸ This is interesting since in English there should be no clear preference for one interpretation over another without the presence of a context to guide the interpretation (note that Experiment II did not have any contexts). In this corpus study, we will see whether L2 input frequency might account for this tendency. Furthermore, sentences of the type shown in (31) below must be checked to see if there are any instances of this type of sentence in the JFL learners' textbooks. It is important to check these materials to see if there is a tendency for one interpretation over another of the overt pronouns, since explicit instruction could also be a factor.

(31) John_i-wa kare_i-ga gitaa-o hiita to itteimasita.

John-TOP he-NOM guitar-ACC played that was saying.

'John_i was saying that he_{i/j} played the guitar.'

In order to consider the influence that the L2 input has on the preferences of the JFL learners, two corpus studies were conducted. The first measured the frequency of *kare* and *kanozyo* in the primary textbook materials used by the Level 2 to 4 participants. The second corpus study measured the frequency of these pronouns in newspapers and magazines using the NINJAL Kotonoha Shonagon Corpus. This was done for two reasons: (i) to compare the frequency of the pronouns, and the types of sentences they

²⁸ The Level 5 learners showed a higher preference for answer (b) than the native speakers, but this may be because of the small number of the participants.

appear in, with those of the JFL learners' language learning materials, and (ii) to measure the frequency of the pronouns in the types of materials used by the L5 learners.

The Level 2 to 4 participants, utilized Jorden & Noda's (1987, 1988, 1990) textbook series, *Japanese: The Spoken Language: Part 1, 2, & 3*, (hereafter *JSL, Part 1, 2, & 3*), as well as Jorden & Noda's reading and writing textbook series *Japanese: The Written Language Part 1 & 2 Field Test Edition 1.0* (hereafter *JWL, Part 1 & 2*) (Jorden & Noda, 1995). At the time of the experiments, the Level 2 participants had finished using *JSL 1* and *JWL 1*, and were using *JSL 2* and *JWL 2*. The Level 3 participants were using *JSL 3* and *JWL 2*. The Level 4 participants were in the process of completing *JSL 3* and *JWL 2*. The Level 5 participants studied using primary source materials written in Japanese, such as newspaper and magazine articles, novels, and materials pertaining to their own academic and personal interests.

Jorden & Noda designed their *JSL* textbooks series in a way such that new vocabulary and grammatical patterns (known as "Structural Patterns") build on patterns introduced in previous lessons. *Kare* and *kanozyo* are first introduced in Lesson 10A in *JSL, Part 2*, and are classified as "third person singular referents ('he' and 'she')." ²⁹ The authors caution the JFL learners to use them with "special care" in the same way they were warned against overusing expressions indicating personal referents, such as *anata* ('you') and *boku/wata(ku)si* ('I') (Jorden & Noda, 1987). ³⁰ The authors explain that the use of personal referents in Japanese is typically avoided unless there is a situation that

²⁹ See Jorden & Noda (1987:260).

³⁰ The Japanese language also contains the plural forms of *kare* and *kanozyo* which are *karera* and *kanozyotati* respectively. None of the *JSL* or *JWL* textbooks contain these plural forms and this dissertation will not be concerned with their frequency.

requires a special focus to be placed on a particular individual. *JWL, Part 2*, however, formally introduces the kanji character for *kare* and *kanozyo* in lesson 21A with the additional demonstrative definition of ‘that man’ for *kare* as well as ‘she’ and ‘that woman’ for *kanozyo*.³¹ As mentioned in section 1.0, the textbook series does not explain that overt pronouns cannot take quantified NP antecedents. It also does not mention that in sentences such as in (31) above, overt pronouns can take either an intra-sentential or extra-sentential antecedent.

5.2. *Kare & kanozyo in JSL, Part 1*

The number of sentences containing *kare* and *kanozyo* in *JSL, Part 1* was counted, and the frequency is shown in Table 22 below.

Number of sentences	Intra-sentential antecedent	Extra-sentential antecedent
<i>kare</i> = 20	0 (0%)	18 (60%)
<i>kanozyo</i> = 10	0 (0%)	12 (40%)
Total = 30	0 (0%)	30 (100%)

Table 22. Frequency of *kare* and *kanozyo* in *JSL, Part 1*

There were a total number of 30 appearances of *kare* (20) and *kanozyo* (10). In all 30 appearances, the antecedent of the pronoun was extra-sentential.

Table 23 below shows that all of the pronouns appeared in simplex (consisting of only one clause) sentences.

³¹ The kanji for *kare* actually first appears in *JWL, Part 2* Lesson 18 in a reading passage. This appears to have been an inadvertent oversight by the authors since the textbook series is designed in such a way that the kanji that appear in the reading passages are only those that have been previously introduced. See Jorden & Noda (1995:216).

Number of sentences	Simplex sentences	Complex sentences
<i>kare</i> = 20	20 (67%)	0 (0%)
<i>kanozyo</i> = 10	10 (33%)	0 (0%)
Total = 30	30 (100%)	0 (0%)

Table 23. Frequency of *kare* and *kanozyo* in *JSL, Part I*

The positions in which the pronouns appeared are summarized in Table 24.

Number of sentences	Subject	Genitive	Direct Object	Postpositional phrases
<i>kare</i> = 20	14 (60.8%)	1 (3.3%)	1 (3.3%)	4 (13.3%)
<i>kanozyo</i> = 10	9 (30%)	0 (0%)	1 (3.3%)	0 (0%)
Total = 30	23 (76.8%)	1 (3.3%)	2 (6.6%)	4 (13.3%)

Table 24. Breakdown of *kare* and *kanozyo* in *JSL, Part I* by syntactic positions

As can be seen from the table, the pronouns appeared in subject position 23 times (76.8%). This was followed by 4 appearances in a postposition phrase (13.3%), followed by 2 appearances as a direct object (6.6%), and 1 appearance in the genitive position (3.3%). Examples sentences containing the pronouns in these positions are listed in (32)-(35) below:

(32) *Kare, kimasen ka?* (subject position)

He won't come Q

'Won't he come?'

(33) *Kare-no-mae-no-sigoto-wa booeiki desita.* (genitive position)

He-GEN-before-GEN-work-TOP trade COP-past

(34) Kanozyo-o syookai-simasita. (direct object position)

She-ACC introduced

‘I introduced her.’

(35) Kare-to, kanozyo-ga kekkon-suru. (postpositional position)

He-with, she-NOM marry-do

‘She will marry him.’

5.3. *Kare & kanozyo in JSL, Part 2*

Table 25 below shows the frequency of *kare* and *kanozyo* in *JSL, Part 2*.

Number of sentences	Intra-sentential	Extra-sentential
<i>kare</i> = 44	0 (0%)	44 (61%)
<i>kanozyo</i> = 28	0 (0%)	28 (39%)
Total = 72	0 (0%)	72 (100%)

Table 25. Frequency of *kare* and *kanozyo* in *JSL, Part 2*

There were a total number of 72 appearances of *kare* (44) and *kanozyo* (28). The antecedents of the pronouns in all of the sentences were extra-sentential.

Table 26 below shows the frequency in simplex and complex sentences.

Number of sentences	Simplex	Complex
<i>kare</i> = 44	25 (35%)	19 (26%)
<i>kanozyo</i> = 28	25 (35%)	3 (4%)
Total = 72	50 (70%)	22 (30%)

Table 26. Frequency of *kare* and *kanozyo* in *JSL, Part 2*

Of the 72 sentences containing *kare* and *kanozyo*, 50 were simplex (70%) and 22 were complex (30%). The following are examples of the simplex and complex sentences in *JSL, Part 2*.

(36) Kanozyo, moo modorimasita ka? (simplex)

She already returned Q

‘Did she already return?’

(37) Kare-wa nani-mo tabezuni gakkoo-ni ittyatta. (complex)

He-TOP what-too while not eat school-LOC went

‘He ended up going to school without eating anything.’

As shown in Table 27 below, *kare* and *kanozyo* appeared most frequently in subject positions (84.7%) followed by the indirect object position (5.6%) and as a postposition (5.6%).

Number of sentences	Subject	Genitive	Direct Object	Indirect Object	Postpositional Phrase	Other
<i>kare</i> = 44	40 (55.5%)	2 (2.8%)	0 (0%)	1 (1.4%)	2 (2.8%)	1 (1.3%)
<i>kanozyo</i> = 28	21 (29.2%)	0 (0%)	0 (0%)	3 (4.2%)	2 (2.8%)	0 (0%)
Total = 72	61 (84.7%)	2 (2.8%)	0 (0%)	4 (5.6%)	4 (5.6%)	1 (1.3%)

Table 27. Breakdown of *kare* and *kanozyo* in *JSL, Part 2* by syntactic positions

In this volume, the pronouns did not appear in direct object position. Table 28 provides a separate breakdown of the number of simplex and complex sentences in which the pronouns appeared, by syntactic position.

Sentence Type	Subject	Genitive	Direct Object	Indirect Object	Postpositional Phrase	Other
Simplex	42 (58.3%)	2 (2.8%)	0 (0%)	3 (4.2%)	4 (5.5%)	1 (1.4%)
Complex	19 (26.4%)	0 (0%)	0 (0%)	1 (1.4%)	0 (0%)	0 (0%)

Table 28. Breakdown of simplex and complex sentences by syntactic position in *JSL*, *Part 2*

Forty-two of the pronouns appeared in the subject position of simplex sentences (58.3%), 19 were in the subject position of complex sentences (26.4%). Sentences containing pronouns appearing as a postpositional phrase, or in a genitive position, were all simplex. For the indirect object position, three were in simplex sentences (4.2%), and one was in a complex sentence (1.4%). An example of a sentence where the pronoun was in a postpositional phrase is as follows:

(38) Kanozyo-to hanasite kudasai.

She-with talk please

‘Please talk with her.’

There was one other use of *kare* along with the auxiliary nominal *–mitai*, which in the case of the example in the textbook is used to express the likeness of someone. The actual sentence in (39) below is from Jorden & Noda (1990:340):

(39) Kare mitai na hito, nihonjin-ni-wa ooi desu nee.

He like person Japanese people-LOC-TOP many COP

‘There are many Japanese people like him, aren’t there.’

5.4. *Kare & kanozyo in JSL, Part 3*

Table 29 below shows the frequency of *kare* and *kanozyo* in *JSL, Part 3*.

Number of sentences	Intra-sentential	Extra-sentential
<i>kare</i> = 35	0 (0%)	35 (90%)
<i>kanozyo</i> = 4	0 (0%)	4 (10%)
Total = 39	0 (0%)	39 (100%)

Table 29. Frequency of *kare* and *kanozyo* in *JSL, Part 3*

There were a total number of 39 appearances of *kare* (35) and *kanozyo* (4). The antecedents of the pronouns in all of the sentences were extra-sentential.

Table 30 shows that out of the 39 sentences 12 were simplex and 27 were complex. A complex example sentence is shown below:

Number of sentences	Simplex	Complex
<i>kare</i> = 35	8 (21%)	27 (69%)
<i>kanozyo</i> = 4	4 (10%)	0 (0%)
Total = 39	12 (31%)	27 (69%)

Table 30. Frequency of *kare* and *kanozyo* in *JSL, Part 3*

(40) Demo, hakkiri ittara, kare-no-ki-o waruku suru n zya nai desyoo ka.

But directly if say he-GEN-spirit-ACC make bad that isn’t it Q

‘But if I lay it on the line, isn’t it the case that I’ll hurt his feelings.’

The syntactic positions they appeared in are summarized in Table 31.

Number of sentences	Subject	Genitive	Direct Object	Indirect Object	Postpositional Phrase
<i>kare</i> = 35	24 (61.5%)	4 (10.3%)	1 (2.6%)	3 (7.7%)	3 (7.7%)
<i>kanozyo</i> = 4	3 (7.7%)	1 (2.5%)	0 (0%)	0 (0%)	0 (0%)
Total = 39	27 (69.2%)	5 (12.8%)	1 (2.6%)	3 (7.7%)	3 (7.7%)

Table 31. Frequency of *kare* and *kanozyo* in *JSL, Part 3* by position

Table 31 above shows that as in *JSL Parts 1 & 2*, the pronouns appeared with the most frequency in subject positions (69.2%), followed by the genitive position (12.8%). There were three instances of the pronouns appearing in the indirect object position and with a postposition (7.7%), respectively. There was only one instance of the pronoun in direct object position (2.6%). Table 32 below shows the breakdown of the simplex and complex sentences by syntactic position.

Sentence Type	Subject	Genitive	Direct Object	Indirect Object	Postpositional Phrase
Simplex	7 (17.9%)	3 (7.7%)	1 (2.6%)	0 (0%)	1 (2.6%)
Complex	20 (51.3%)	2 (5.1%)	0 (0%)	3 (7.7%)	2 (5.1%)

Table 32. Breakdown of simplex and complex sentences by syntactic position in *JSL, Part 3*

Kare and *kanozyo* mostly appeared in subject positions in 20 complex sentences, followed by 7 appearances in subject positions of simplex sentences. Of the 5 appearances in genitive position 3 were in simplex sentences, and 2 were in complex ones. Only one occurrence was found in the direct object position, and this was in a simplex sentence. Three were found in the indirect object positions of complex sentences

only. For the postpositional phrases, 2 occurrences were in complex sentences, and 1 was in a simplex sentence. Examples of the postpositional phrase sentences are below:

(41) Kare-to hanasu toki-ni-wa itumo nihongo-de hanasimasu.

He-with talk time-at-TOP always Japanese-by talk

‘When I talk to him it is always in Japanese.’

(42) Ee, mainiti-no yoo ni kare-ni kodomo-o okosarete, iya ni nattyaimasita.

Yes every day like he-by children-ACC be woken up, troublesome become

‘Having had the kids being woken up by him every day has been troubling.’

5.5. *Kare & kanozyo in JWL, Part 2*

Kare and *kanozyo* do not appear in *JWL, Part 1*.³² Table 33 below shows the frequency of sentences containing *kare* and *kanozyo* in *JWL, Part 2*.³³

Number of sentences	Intra-sentential	Extra-sentential	Simplex	Complex
<i>kare</i> = 15	4 (19%)	13 (62%)	6 (28.6%)	10 (47.6%)
<i>kanozyo</i> = 6	0 (0%)	4 (19%)	1 (4.7%)	4 (19.1%)
Total = 21	4 (19%)	17 (81%)	7 (33.3%)	14 (66.7%)

Table 33. Frequency of *kare* and *kanozyo* in *JWL, Part 2*

³² This is most certainly due to the fact that the kanji for *kare* and *kanozyo* are not introduced until the *JWL Part 2* textbook.

³³ There were actually 25 instances of the pronouns however two sentences containing *kare* and two containing *kanozyo* were omitted from the sample because the meanings were ‘boyfriend’ and ‘girlfriend’ rather than the pronominal meaning of ‘he’ and ‘she’.

A total of 21 occurrences of the pronouns were examined. There were 15 instances of *kare* and 6 of *kanozyo*. As in the other books in the textbook series, the number of sentences with extra-sentential antecedents outnumbered those with intra-sentential antecedents (81% and 19% respectively). In comparison with *JSL, Part 3*, *JWL, Part 2* contains a higher percentage of complex sentences (66.7%) versus simplex ones (33.3%). This book also contains the first instances of sentences containing pronouns having intra-sentential antecedents. There were only four sentences of this type, all of which are complex as seen below:

- (43) Yokoyama_i-kun-ni mo itte aru no desu ga kare_i-wa raisyuu kara Hokkaido da
 Yokoyama to too say exist COP but he-TOP next week from Hokkaido COP
 kara, kuru ka doo ka wakarimasen.
 so come Q how Q don't know
 'I told Yokoyama_i too, but starting next week he_i will be in Hokkaido so I don't
 know whether or not he will come.'

- (44) Ano dansei_i-to onazi zemi desita no de kare_i-no koto-wa yoku
 That male-with same seminar COP-past because he-GEN thing-TOP well
 sitteorimasu.
 know
 'I was in the same seminar with him_i so I know him_i pretty well.'

(45) Matuda-san_i-no seki made tikazukanakutemo, kare_i-no koe-wa yoku

Matsuda-Mr.-GEN chair until not get close he-GEN voice-TOP well

kikoeta.

could hear

‘I could hear Mr. Matsuda’s voice well without even getting close to his seat.’

(46) Simada_i-san-ni soodan sezu ni kimeta no de, kare_i-wa mada nani-mo

Shimada-Mr.-DAT consult without decide-past because he-TOP still what-too

siranai.

does not know

‘I decided without consulting Mr. Shimada so he still doesn’t know anything about

it.’

As shown by the co-indexing, the pronoun *kare* in each sentence is coreferential with a noun phrase occurring in a different clause earlier in the sentence. None of the sentences contained antecedents that c-commanded *kare* and *kanozyo*. There were also no sentences with quantifier antecedents and none of them contained bound variable readings.

Number of pronouns	Intra-sentential	Extra-sentential
<i>kare</i> = 114	4 (2.5%)	110 (68%)
<i>kanozyo</i> = 48	0 (0%)	48 (30%)
Total = 162	4 (2.5%)	158 (98%)

Table 34. Total number of pronouns in *JSL, Parts 1, 2, 3* and *JWL, Part 2*

As Table 34 shows, the total number of pronouns in the *JSL* and *JWL* textbooks was 162. Of these there were 114 sentences with *kare* and 48 with *kanozyo*. There were only four sentences where the pronoun had an intra-sentential antecedent.

5.6. *Kare* and *kanozyo* in newspapers

The second corpus study measured the frequency of *kare* and *kanozyo* in newspapers from 2001 to 2005 using the NINJAL Kotonoha Shonagon Corpus.³⁴ A total of 204 sentences out of 500 that were listed containing *kare* or *kanozyo* were reviewed and the results are shown in Table 35 below.

Number of sentences	Intra-sentential	Extra-sentential	Simplex	Complex
<i>kare</i> = 111	18 (8.8%)	93 (45.6%)	37 (18%)	74 (36%)
<i>kanozyo</i> = 93	10 (4.9%)	83 (40.7%)	16 (8%)	77 (38%)
Total = 204	28 (13.7%)	176 (86.3%)	53 (26%)	151 (74%)

Table 35. Frequency of *kare* and *kanozyo* in newspapers (2001 to 2005)

The table above shows that a slight majority of the sentences contained *kare* (111 occurrences) over *kanozyo* (93 occurrences). The sentences contained a high percentage of extra-sentential antecedents (86.3%) over intra-sentential ones (13.7%), and a high percentage (74%) of complex sentences, as opposed to the percentage of simplex sentences (26%). For the complex sentences, 114 out of the 151 (75%) did not contain an antecedent within the sentence in contrast to the type of sentence in (31) above. Therefore,

³⁴ The newspaper and magazine sentences that were examined for corpus studies were only ones in which the meaning of *kare* and *kanozyo* was used in the pronominal/demonstrative sense meaning ‘he’ and ‘she,’ not the ones with the alternative meaning of ‘boyfriend’ and ‘girlfriend.’ Sentences containing multiple occurrences of a pronoun within a sentence were also not included. The plural versions of the pronouns were also excluded.

the results show a high frequency of complex sentences containing *kare* and *kanozoyō* without antecedents within them (i.e. extra-sentential/discourse antecedents).

Table 36 below shows a breakdown of the 28 sentences in which the antecedent of *kare/kanozoyō* was intra-sentential as well as the syntactic positions in the sentences in which they appeared.

Number of sentences	Subject	Genitive	Direct Object	Postposition
<i>kare</i> = 17	4 (14.3%)	9 (32.1%)	4 (14.3%)	0 (0%)
<i>kanozoyō</i> = 11	1 (3.6%)	7 (25%)	2 (7.1%)	1 (3.6%)
Total = 28	5 (17.9%)	16 (57.1%)	6 (21.4%)	1 (3.6%)

Table 36. Frequency of sentences with intra-sentential antecedents in newspapers (2001 to 2005)

Kare appeared in 17 of the 28 sentences and *kanozoyō* appeared in 11 of them. The majority of the pronouns appeared in the genitive position (57.1%) within the sentence followed by the direct object position (21.4%), the subject position (17.9%) and a single occurrence as a postposition (3.6%). Examples of *kanozoyō* in genitive position and *kare* in subject position are in (47) and (48) below.

- (47) Itinengo, Kazumi-wa Miyako_i-no-haka mairi de kanozoyō_i-no ani,
 One year later Kazumi-TOP Miyako-GEN-grave visit at she-GEN-older brother
 Yosuke-to deai, imooto-wa korosareta kamosirenai to tugerareru.
 Yosuke-with meet younger sister-TOP was killed probably that was told
 ‘A year later, at a visit to Miyako_i’s grave Kazumi met her_i older brother who told
 her that his younger sister was probably murdered.’

(48) Toosyu_i-ga kieta to omottara, totuzen kare_i-ga futatabi kao-o
pitcher-NOM disappeared that when thought suddenly he-NOM again face-ACC
mise, aita doa-ga baan to simari, kamera-to gekitotu...
show open door-NOM slam close camera-with collide
‘Just when I thought the pitcher_i disappeared, suddenly he_i showed his face again
and the open door slammed shut colliding with the camera.’

Of the 176 sentences with extra-sentential antecedents, none were of the form in (31)
with a referential noun phrase antecedent.

5.7. *Kare and kanozyo in magazines*

The second corpus study measured the frequency of *kare* and *kanozyo* in news, sports, and leisure magazines from 2001 to 2005 using the Kotonoha Shonagon Corpus. A total of 181 instances of *kare* (112) and *kanozyo* (69) were reviewed and the results are shown in the table below.

Number of sentences	Intra-sentential	Extra-sentential	Simplex	Complex
<i>kare</i> = 112	5 (3%)	107 (59%)	53 (29%)	59 (33%)
<i>kanozyo</i> = 69	4 (2%)	65 (36%)	33 (19%)	36 (19%)
Total = 181	9 (5%)	172 (95%)	86 (48%)	95 (52%)

Table 37. Frequency of *kare* and *kanozyo* in magazines (2001 to 2005)

As was the case for the newspaper corpus sentences, in the magazine sentences, a high majority of the sentences were those in which *kare/kanozyo* took extra-sentential antecedents (95%) in contrast to the ones that took intra-sentential antecedents (5%). In this sample, the percentage of simplex sentences (48%) was closer to the percentage of complex sentences (52%). This is in contrast to the sample of sentences drawn from the newspaper articles.

Table 38 shows a breakdown of the 9 sentences in which the antecedent of *kare/kanozyo* was intra-sentential along with the positions in the sentence in which the pronouns occurred.

Number of sentences	Subject	Genitive	Direct Object
<i>kare</i> = 5	0 (0%)	3 (33.3%)	2 (22.2%)
<i>kanozyo</i> = 4	0 (0%)	1 (11.1%)	3 (33.4%)
Total = 9	0 (0%)	4 (44.4%)	5 (55.6%)

Table 38. Breakdown of intra-sentential sentences with antecedents by position

Of the 9 sentences, *kanozyo* appeared in 4 of them and *kare* appeared in 5 of them. There were 4 pronouns in the genitive position and 5 in the direct object position. None of the extra-sentential sentences contained a viable antecedent in the sentence. Examples of *kare* with intra-sentential antecedents in the direct object position (49) and subject position (50) are below:

(49) Yumiko-san-wa hontoo ni Watanabe_i-o aisiteite, kare_i-o tehanasitakunai.

Yumiko-Ms.-TOP really Watanabe-CC loves he-ACC not want to let go

‘Yumiko really loves Watanabe_i and doesn’t want to let go of him_i.’

(50) Watasi-no-yuuzin-no-musuko_i, tyoodo zi-ga yomeru yoo ni natta
 I-GEN-friend-GEN-son just letters-NOM can read such that became
 bakari nan da ga, kare_i-ga aruhi titioya-ni mukatte kiitan da.
 just COP but he-NOM one day father-to faced asked COP
 ‘My friend’s son_i just learned to read but one day he_i turned to his father asked
 (this).’

Table 39 shows the total number of pronouns in magazines and newspapers examined in the Kotonoha Shonagon Corpus. There were a total number of 385 sentences with 223 containing *kare* and 162 containing *kanozyo*. As in the *JSL* and *JWL* textbooks, for the great majority of the sentences, the pronouns took extra-sentential antecedents.

Number of pronouns	Intra-sentential	Extra-sentential
<i>kare</i> = 223	23 (6%)	200 (52%)
<i>kanozyo</i> = 162	14 (4%)	148 (38%)
Total = 385	37 (10%)	348 (90%)

Table 39. Total number of pronouns in magazines and newspapers

5.8 Discussion

This chapter investigated the hypothesis of whether input frequency of *kare* and *kanozyo* and the sentential environments in which they appear could have an influence on the interlanguage grammars and the coreferentiality judgments of JFL learners. In the

case of all the corpus studies, the percentage of sentences in which the antecedent of the pronouns was extra-sentential was considerably higher than that of the intra-sentential sentences. This higher percentage was due to the fact that most of these sentences did not contain an antecedent within the sentence. In fact, sentences of the type in sentence (31) (repeated below), did not occur.

(31) John_i-wa kare_i-ga gitaa-o hiita to itteimasita.

John-TOP he-NOM guitar-ACC played that was saying.

‘John_i was saying that he_{i/j} played the guitar.’

This is most probably because sentences like (31) tend to either use the reflexive *zibun* (‘self’), or an empty pronoun, to express coreferentiality with the NP antecedent. In case where there is a particular focus to be expressed, the overt pronoun will tend to be used; otherwise a particular person’s name tends to be used. Only in four sentences in the *JSL* and *JWL* series, did the pronouns take an intra-sentential antecedent. This was in *JWL, Part 2*.

In terms of the overall frequency of the overt pronouns, the JFL learners receive the most exposure to pronouns with extra-sentential antecedents. In their acquisition of Japanese, the Level 2 learners will receive direct input of at least 30 sentences containing *kare* and *kanozōyo* in *JSL, Part 1*. By the time the learners end Level 4, they will have seen approximately 162 instances of *kare* and *kanozōyo* from *JSL, Parts 1,2&3*, and *JWL, Parts 1&2*. Although these sentences are few in number compared to the overall number

of sentences in each of the textbooks, the repeated exposure in a single pattern, namely the extra-sentential antecedence pattern, could influence the learners' judgments and shift them to be more like those of native speakers. The additional introduction of *zibun* in *JSL, Part 2*, serves to add complexity to the JFL learners' interlanguage grammars by offering a competing form from which to choose in sentences of the type in (31). This addition along with the constant of exposure to *kare* and *kanozoyō* as taking primarily extra-sentential antecedents serves to shift their coreferential judgments as they continue to learn Japanese.

5.9. Summary

The first part of this chapter served to show the results of a corpus study that showed the frequency of *kare* and *kanozoyō* in both the textbook materials utilized by the JFL participants in Experiments 1 and 2. The results showed that the overwhelming number of sentences using these pronouns take an extra-sentential antecedent. This is in part due to the fact that most of the sentences do not contain viable antecedents. Of the four that did, the reference was intra-sentential. Therefore, the Level 2 to 4 JFL learners associate *kare* and *kanozoyō* with taking an extra-sentential antecedent, even from Level 2.

In contrast, the second part of this chapter showed the results of a corpus study checking the frequency of *kare* and *kanozoyō* in newspapers and magazines from 2001 to 2005. This was done to gain insight into why the Level 5 participants' pronominal interpretations for sentences like (31) were like those of the native speakers.

A total of 285 sentences were examined. Level 5 was comprised of advanced learners of Japanese. Of all the levels, they generally had the most interactions with native speakers outside of class, and were very used to communicating in Japanese. By checking the frequency in newspapers and magazines, we could have an idea of how the pronouns are generally used by native speakers. Since the study found that the majority of the pronouns took extra-sentential antecedents, this suggests that the sentences with *kare* and *kanozyo* to which the Level 5 learners are exposed from their interactions with native speakers, also are highly extra-sentential in their referentiality. This indirect input serves to influence their interpretations, making them more native-like.

Chapter 6: Discussion and concluding remarks

6.1. Overview of experimental results and research questions

The discussion of the previous studies in Chapter 2 served to provide an overview of the findings dealing with L2 acquisition and bound variable (BV) readings. The main research question that those studies and this dissertation seek to answer is whether or not learners of an L2 language that does not share the same pronominal features as that of the L1 can understand the restrictions on bound variable interpretations (Kanno, 1997, 1998; Yamada, 2005 and Masumoto, 2008). The current studies also sought to the coreferential interpretations of the pronouns. The experimental results described in Chapter 3 showed support for Masumoto's (2008) findings, and offered more counter-evidence to Kanno's. These results suggest that: (i) it takes time for learners to acquire the knowledge necessary to reclassify the Japanese overt pronouns so that they cannot have bound variable interpretations, and (ii) the JFL learners in early stages were employing an L1 transfer strategy.

Two important research questions followed from the conclusions stated above. The first was to see whether different set of JFL learners who were presented with similar test items would exhibit the same knowledge of the BV readings as native speakers. The other question that remained was why Kanno's JFL learners interpreted the overt

pronouns in the bound variable sentences differently from those in Masumoto's study as well as the study in Chapter 3. One reason could be attributed to the differences in the tasks that were employed. Kanno's test instrument presented the sentences in the absence of a larger context whereas the latter one utilized a truth value judgment task that presented various contexts that determined the correct (coreferential or bound variable) interpretation. Another difference is reflected in the use of the quantifier NPs that were employed in the studies. Kanno used the WH-word *dare* 'who' (six sentences) and the existential quantifier *dareka* 'someone' (four sentences), whereas the present study used *dono X mo* 'every X'.³⁵ For the *dare* sentences, it could be hypothesized that the learners found it more difficult to select a set of members that the WH-word referred to (as opposed to *dono X ga* 'which X'), and so they might have preferred to interpret the overt pronoun as referring to someone other than *dare* in addition to its extra-sentential antecedent preference, compared to the empty pronoun. If this is the case, it would appear in the data as if the learners had knowledge that *kare* cannot have the BV reading. Under this explanation, the interpretation of the pronoun hinges on the use of *dare*. In order to investigate this assumption, a coreferential judgment task similar to that of Kanno (1997, 1998) utilizing both the *dare* and *dono X mo* quantifiers was employed in Experiment 2 in Chapter 4.

The results from both the Type 1 (*dare* overt) and Type 3 (*dono* overt) sentences showed the Level 2 learners also made more errors in the Type 1 sentences than in the Type 3 sentences. The participants of the two experiments were not the same, but if we

³⁵ Note that *dareka* also has a non-existential quantifier reading, i.e., the specific person the speaker does not want to name.

generalize these findings, then these results suggest that the learners might not have interpreted the WH-word *dare* as postulated above. Furthermore, the result does show that the JFL learners are treating the types of quantifiers differently. In fact, the native speakers also showed a higher number of errors in the Type 1 sentences (10%), as opposed to the Type 3 sentences (0%). This tendency for native speakers to choose a WH-word as an antecedent of an overt pronoun more than a quantifier antecedent has been reported in the case of Spanish monolinguals as well (Barski, 2011). This is an issue that is in need of further investigation.

An overall review of the results showed that, as in Experiment 1, the Level 2 learners did not perform as well as the native speaker control group and made significantly more errors. This means that these learners were utilizing an L1 transfer strategy in their interpretation of the overt pronouns. That is, like English overt pronouns can have BV readings. Pronominal acquisition takes place slowly over time.

In general, the JFL learners' errors in the BV sentences decreased from Levels 2 to 5. This phenomenon was observed in both the Type 1 and 3 sentences. These findings are consistent with those of the previous study in that with more exposure to the language, the JFL learners acquire the correct knowledge.

The Type 2 (*dare* empty) sentence results revealed a strong preference by Levels 2 to 4 for the QNP *dare* to be the antecedent of the empty pronoun. This contrasted with the Level 5 and native speaker control group answers. The Level 5 learners and native speakers showed an almost equal percentage for the QNP *dare* to be a viable antecedent for an empty pronoun. However, the Level 5 learners demonstrated more flexibility than

the native speakers by interpreting the empty pronoun as taking both the QNP *dare* and an extra-sentential referent as the antecedent.

Similarly, the results of the Type 4 (*dono X mo* Empty) sentence indicated a stronger preference for *dono X mo* to be the antecedent of the empty pronoun, over answer an extra-sentential one in Levels 2 to 5. However, the Level 3 and 5 learners showed very similar percentages (40%) by choosing an extra-sentential antecedent. An interesting result was the difference in percentages by the native speaker control group between the Type 2 and 4 sentences. The native speakers showed a very strong preference for answer (a) (i.e., a quantifier subject) in the Type 4 sentences but a similar preference between (a) and (b) (i.e., someone other than the referent the subject refers to) in the Type 2 sentences. The JFL learners did not show this kind of difference in preference across the Type 2 and Type 4 sentences. A view of the combined Type 2 and 4 sentence percentages showed similar results.

The results of the RNP overt (Type 5) sentence results found that the Level 2 learners either chose answer (a) or answer (b). Answer (a) was chosen slightly less than answer (b) although the ratio was about the same. These learners showed a slightly higher preference for the overt pronoun to have an extra-sentential antecedent as did Kanno's JFL learners. Additionally, as the level of learners increased we saw an increase in percentage for answer (b). Therefore, the higher levels were choosing the overt pronoun to have an extra-sentential referent. Under an L1 transfer strategy, either the intra-sentential referring NP or an extra-sentential referent is viable. Despite this, the higher level learners seem to prefer the extra-sentential antecedent.

Returning to the question posed at the beginning of the chapter, it seems as though JFL learners of different levels have varying interpretations with respect to the overt pronoun (*kare/kanozō*), and show a tendency to choose an extra-sentential reading for an overt pronoun in the absence of a context. If this is the case, then this could explain why Levels 3 to 5 performed better on the Type 1 and 3 sentences than Level 2. In other words, through increased exposure to the target language, JFL learners tend to treat the overt pronouns in general as having extra-sentential antecedents. However, as seen in Chapter 3 they could take intrasentential referents when the appropriate contexts were given.

The RNP empty (Type 6) sentences showed very different results from the Type 5 sentences in that all of the JFL learner groups along with the native speaker group showed a strong preference for (a) answers over (b) answers. This was especially the case in Levels 2 to 4 where answer (c) was not chosen at all. Although the Level 5 group had the lowest percentage of answer (a) responses, the strictly (b) responses were comparatively low at only 9%, with answer (c) being chosen 22% of the time. The native speakers also showed a high ratio of (a) answers in comparison with the (b) responses. In comparison with Kanno's JFL learners, the Level 2 learners in the present study performed quite similarly to hers in terms of a much higher ratio of answer (a) over answer (b) responses. In summary, from this data we see that the JFL learners (along with the native speakers) show a higher preference for the matrix RNP to be the antecedent of an embedded empty pronoun, whereas in sentences with embedded overt pronouns an extra-sentential antecedent is preferred.

Returning to the discussion in section 1.0 of this dissertation, it was mentioned that the OPC has been viewed as an apparent poverty-of-the-stimulus problem since the restrictions on bound variable interpretations are not taught in language classrooms. Despite this, Kanno (1997, 1998), and others, argue that L1 English-speaking learners of Japanese have this knowledge from an early level of instruction. Masumoto (2008) and the results of the current experiments suggest that this is not the case, but rather that this knowledge takes time to acquire.

With regard to the role of the OPC in [+empty subject] languages, the assumption has been that its applicability has been universally invariant (Lozano, 2002). Furthermore, with regard to the OPC in Japanese, the assumption has been that *kare* and *kanozō* are pronouns. Section 6.2 will discuss empirical problems for the OPC in [+empty subject] languages, and provide evidence challenging Lozano's (2002) claim that the OPC is universally invariant. Furthermore, section 6.3 will provide arguments suggesting that *kare* and *kanozō* are not pronouns, but rather, are demonstratives.

6.2. The OPC: Empirical problems

6.2.1. Gürel (2003): Problems with OPC universality in Turkish

Despite the claim that the OPC is universally applicable in all [+empty subject] languages, Gürel (2003) gives empirical evidence that puts the “universality” claim of the OPC into question in Turkish, which is another example of a [+empty subject] language. Turkish has two overt pronominals: *o* and *kendisi* which correspond to ‘s/he’ and ‘self’ respectively.

(51) Referential Antecedent Context:

a. Elif _i [o-nun* _{i/j}	çok inatçı	ol-dug-u]-nu	bil-iyor
Elif s/he-GEN	very stubborn	be-NOM-3sgposs-ACC	know-Prg
b. Elif _i [kendisi-si-nin _{i/j}	çok inatçı	ol-dug-u]-nu	bil-iyor
Elif self-3sg-GEN	very stubborn	be-NOM-3sgposs-ACC	know-Prg
c. Elif _i [pro _{i/j}	çok inatçı	ol-dug-u]-nu	bil-iyor
Elif	very stubborn	be-NOM-3sgposs-ACC	know-Prg
‘Elif _i knows that s/he* _{i/j} /self _{i/j} /pro _{i/j} / is very stubborn.’			

(Gürel, 2003)

Sentences (51a-c) show the binding distribution of pronominals *o*, *kendisi* and *pro* in sentences where they occupy the embedded clause subject position and the antecedent of the matrix clause is a referring noun phrase (*Elif*). The indices indicate that the pronominal *o* is different from *kendisi* and *pro* in that unlike Japanese and Spanish, it cannot take a referring noun phrase as its antecedent but can only have disjoint reference. *O* and *kendisi* however can take an extra-sentential referring noun phrase as their antecedent.

Sentences (52a-c) contain the *o*, *kendisi*, and *pro* in the embedded subject position with a quantified noun phrase *kimse* (‘nobody’) as a matrix clause antecedent.

(52) Quantified Antecedent Context:

a. Kimse _i [o-nun* _{i/j}	akıllı ol-dug-u]-nu	düşün-m-üyor
Nobody s/he-GEN	smart be-NOM-3sgposs-ACC	think-Neg-Prg

- b. Kimse_i [kendisi-si-nin_{i/j}] akıllı ol-dug-u]-nu düşün-m-üyor
 Nobody self-3sg-GEN smart be-NOM-3sgposs-ACC think-Neg-Prg
- c. Kimse_i [*pro*_{i/j}] akıllı ol-dug-u]-nu düşün-m-üyor
 Nobody *pro* smart be-NOM-3sgposs-ACC think-Neg-Prg
- ‘Nobody_i thinks (that) s/he*_{i/j} /self_{i/j} / *pro*_{i/j} /smart.’

(Gürel, 2003)

As in the case of the referential antecedent sentences in (51), *o* cannot take the matrix subject *kimse* as its antecedent and therefore it cannot have a bound variable interpretation. Hence, regardless of whether the antecedent is a referential or quantified NP, *o* can never be bound by these matrix subjects. *Kendisi* and *pro* on the other hand can have both a bound variable interpretation or disjoint reference interpretation. Therefore the contrast that is observed in Japanese and Spanish with regard to the distribution of overt and empty pronouns in referential NP contexts and quantified NP contexts is not obtained in Turkish. Gürel argues that contrary to other [+empty subject] languages such as Japanese and Spanish, there is no clear exemplification of the OPC in Turkish because the distributions of *kare* and *pro*, and *él* and *pro* are dissimilar from the distributions of *o* and *pro*.

6.2.2 Huang (1995): A problem for Chinese

Huang (1995) cites a problem for the OPC in Chinese which is also a [+empty subject] language. The problem deals with the inability of the OPC to explain the fact that the Chinese *ta* ('he') can function as a bound variable in the following construction:

(53) $[_{CP} \dots X_i \dots [_{CP} \dots [_{CP} \dots ta_i \dots]]]$

In (53) *X* is a quantified expression that is coindexed with *ta* which is embedded in the lowest CP. This is an example where an overt pronoun is in subject position of an embedded clause which itself is a subordinate clause, and the overt pronoun can act as a bound variable by a quantified antecedent in the main clause. This is illustrated in (54).

(54) *shei_i zhidao ni shou ta_i kanjian-le Lisi?*

Who knows you say he see-PAST Lisi

'Who_i knows that you said that he_i saw Lisi?'

(Huang, 1995)

Sentence (54) can have an alternation between an empty pronoun and *ta* and despite this *ta* can have a bound variable interpretation and hence shows another problem for the OPC.

6.2.3. Hara (2000): Semantically restricted quantified NPs in Japanese

Hara (2000) presents evidence that is problematic for the OPC with regard to the specificity of quantified noun phrase antecedents. He argues that pronouns such as *kare/kanozyo* in Japanese can be construed as bound variables if a specificity condition on the quantified noun phrase is met. His main argument is that Japanese pronouns can in fact be construed as bound variables by quantified antecedents such as *daremo* ('everyone') provided that these quantified antecedents are specified enough. Hara cites the following examples as evidence for his argument:

- (55) Sono ondai-ni hait-ta zyosi gakusei-no daremo_i-ga [kanozyo_i-no
that music college-to enter-PAST female student-GEN everyone-NOM she-GEN
sainoo-o mottomo hikidasi-te kureru] sensei-ni de-a-e-ta.
talent-ACC most fully bring out take the trouble teacher-DAT meet-can-PAST
'Every female student who entered that music college was able to meet a teacher
who could bring out her talent to the full extent.'

(Hara, 2000)

- (56) Akio, Hisashi, Kouichi-no daremo_i-ga kare_i-no sensei-o sonkei-site-iru.
Akiko Hisashi Kouichi-GEN everyone-NOM he-GEN-teacher-ACC respects
'Everyone, i.e. Akiko, Hisashi, and Kouichi, respects his teacher.'

(Hara, 2000)

Sentences (55) and (56) show that the Japanese pronouns *kare/kanozyo* can take a quantified antecedent if the specificity of the quantifier is high enough.³⁶ Hara argues that sentences such as (57) cannot have a bound variable interpretation in Japanese because the quantified NP antecedent is not specified enough to allow for this.

(57) Daremo_i-ga kanozyo*_{i/j}-no hon-o katta.
 Everyone-NOM she-GEN book-ACC bought
 ‘Everyone bought her book.’

In other words, if the range over the quantifier antecedent is semantically restricted enough, the bound variable interpretation can be realized leading to a felicitous sentence. If in fact as shown in (55) and (56) the Japanese pronouns do refer to the quantifier antecedent and not the set of members, then this shows a problem for the OPC.

6.2.4. Barski (2011): OPC variability in Spanish monolinguals

Barski’s (2011) study had the two-fold aim of: (a) showing how monolingual Spanish speakers interpret the OPC when presented with specific contexts designed to elicit and/or force an interpretation conforming to the given constraint; and (b) to show empirical evidence that despite the OPC’s constraint on both quantified and WH-word antecedents Spanish monolinguals treat these differently.

³⁶ A problem of these sentences however is that the universal quantifier and its set members are connected by appositive ‘no’ and it is unclear if *kare* refers to the set members and not the universal quantifier. It is most likely that *kare* refers to those referential nouns, not the universal quantifiers.

Twenty monolingual Spanish participants (11 female and 9 male) completed two experimental tasks. One was a sentence selection task (SST) and the other was a picture matching task (PMT). The SST consisted of 56 questions, 32 of which test the target structure and 24 were filler sentences used as distractors. The participants had to choose an appropriate concluding sentence between (a), (b) or (both) below. Their choices of sentences were between sentences that included an empty and overt subordinate subject where the context presented forced a bound variable interpretation. The following are examples of the test sentences:

Quantified Antecedent

(58) Un grupo de amigos siempre sale a bailar los fines de semana. Toman por lo menos 5 cervezas.

‘A group of friends goes out dancing over the weekend. (They) drink at least 5 beers.’

a. Nadie cree que él toma demasiado.

‘No one believes that he drinks too much.’

b. Nadie cree que *pro* toma demasiado.

‘No one believes that Ø drinks too much.’

c. a. y/and b.

WH-word Antecedent

(59) Los alumnos siempre estudian mucho cada fin de semana. La profesora les pregunta:

‘The students are always studying a lot every weekend. The professor asks them:’

- a. ¿Quién piensa que *pro* es el más inteligente de la clase?

‘Who thinks that $\emptyset$ is the most intelligent in the class?’

- b. ¿Quién piensa que él es el más inteligente de la clase?

‘Who thinks that he is the most intelligent in the class?’

- c. a. y/and b.

Referential Antecedent

(60) Juan siempre hace mil cosas a la vez y siempre está al teléfono.

‘Juan is always doing a million things at the same time and is always on the phone.’

- a. Juan cruza la calle mientras él habla por el teléfono.

‘Juan is crossing the street while he is talking on the phone.’

- b. Juan cruza la calle mientras *pro* habla por el teléfono.

‘Juan is crossing the street while $\emptyset$ is talking on the phone.’

- c. a. y/and b.

(Barski, 2011)

Both (58) and (59) force a bound reading where the embedded subject pronoun must be empty. Therefore, (b) is the correct choice in (58), and (b) is the correct one in (59). In (60) there is a referential antecedent, and so either (a) or (b) is possible, and is up to the speaker’s preference. However Barski points out (as is also the case in Japanese) that

Spanish monolinguals tend to omit the overt subject pronoun in the subordinate clause when it has already been introduced by the context. This being the case, (b) would be the preferred answer in (60).

The PMT that was also employed tested the participant's interpretation of empty and overt pronouns with and without quantified antecedents. The participants had to read a Spanish sentence describing the context, view a set of two pictures and then read a concluding sentence. On the basis of the concluding sentence, the participants were instructed to choose the picture that best described the scenario. The task included a total 78 pairs of picture scenarios where 14 were distractors. The sentences to be tested were comprised of six different antecedent types with eight tokens per antecedent type. Sixteen referential antecedent tokens were also included. The following are sample test sentences along with a description of the pictures associated with that scenario.

Quantified Antecedent

(61) Overt subject in subordinate clause

Los niños acaban de correr la carrera.

‘The children just ran the race.’

(This is followed by two pictures (A and B). Picture A shows a group of boys all staring disapprovingly at one boy with a medal around his neck. Picture B shows the same group of boys all wearing medals around their necks, with puzzled looks on their faces.)

Underneath picture A and B is the following sentence:

Nadie entiende por qué él ganó el premio.

‘No one understands why he won the prize.’

Quantified Antecedent

(62) Empty subject in subordinate clause

Los empleados están esperando las noticias.

‘The workers are waiting for the news.’

(This is followed by two pictures (A and B). Picture A shows a group of five employees sitting around a table and three out of the five of them are thinking that they each will receive a raise. Picture B shows a group of employees sitting around a table and three out of five of them are thinking that one other person in their group will receive a raise.)

Underneath picture A and B is the following sentence:

La mayoría de la compañía sabe que recibirá un ascenso.

‘The majority of the company knows that (they) will receive a raise.’

In (61) the correct target response was to choose picture A but in (62), the correct target response was to choose picture B. Similarly, there were also sentences with WH-word antecedents containing overt and empty subjects in the subordinate clause following picture A and B scenarios. Sentences and picture scenarios with referential noun phrase antecedents were also included.

Barski's results showed that despite an overall adherence to the OPC across sentences with both quantifier antecedents and WH-word antecedents, the Spanish monolinguals showed different preferences for the antecedents of the overt pronouns in the forced bound variable contexts. In the SST the participants showed a slightly higher preference for the WH-word antecedents (73.5%) over the quantified antecedents (71.75%). In the PMT the preference for WH-word antecedents over quantified antecedents was higher with the WH-word preference being 73% and the quantifier preference being 68%. What is relevant to the discussion here is that while Spanish monolinguals at least, do obey the OPC, it appears that they show unexpected preferences given the OPC as it has been defined.

6. 3. Hoji (1991): *Kare* as a demonstrative

Based on evidence from the Japanese deictic system, Hoji (1991) argues that the status of *kare* is not an overt pronoun but rather a demonstrative and thus this is why it cannot be construed as a bound variable. Japanese employs the deictic *ko-so-a-do* paradigm to which *kare* historically belongs. The paradigm is illustrated in (63), (64) and (65) below:

(63) Nominals

a. <i>kore</i>	'this thing'	as in 'I like <i>this</i> .' (close to the speaker)
b. <i>sore</i>	'that (thing)'	(far from the speaker and close to the hearer)
c. <i>are</i>	'that (thing)'	(far from both the speaker and the hearer)

d. *dore* ‘which (thing)’ (among 3 or more)

(64) Prenominal Modifiers

a. *kono* ‘this’

b. *sono* ‘that’

c. *ano* ‘that’

d. *dono* ‘which’

(65) Locatives

a. *koko* ‘here’

b. *soko* ‘there’

c. *a(so)ko* ‘there’

d. *doko* ‘where’

(Hoji, 1991)

Hoji explains that *ka* in Classical Japanese corresponds to *a* in modern Japanese. While *ka* does not participate in the full range of morphological combinations as the *ko*, *so*, *a*, *do* series, a remnant of the historically deictic *ka* does show itself in formal speech.

- (66) a. *kano yuumeina Chomsky-ga* *kita*
 famous Chomsky-NOM came
 ‘(That) famous Chomsky came.’
 b. *ano yuumeina Chomsky-ga* *kita*

famous Chomsky-NOM came

‘(That) famous Chomsky came.’

(Hoji, 1991)

Sentence (66a) shows the formal version of (66b). As shown in the translation both sentences have the same meaning. Hoji then cites discourse examples from Kuno (1973) that show the close relationship between the *ka* in *kare* and the *a* in *are*.

(67) a. Kinoo Yamada-san ni aimasita. **Ano** (*sono) hito itumo genki desu ne.

Yesterday, I met Mr. Yamada. That man is always in high spirits.

b. Hontoo ni soo desu ne.

Indeed so.

(68) a. Kinoo Yamada-san ni aimasita. **Kare** itumo genki desu ne.

Yesterday, I met Mr. Yamada. That man is always in high spirits.

b. Hontoo ni soo desu ne.

Indeed so.

(69) a-1. Kinoo Yamada to yuu hito ni aimasita. **Sono** (*ano) hito, miti ni mayotte komatte-ita node, tasukete agemasita.

Yesterday, I met a man by the name of Yamada. Since he lost his way and was having difficulties, I helped him.

b-1. **Sono** (*ano) hito, hige o hayasita tyuunen no hito desyoo?

Isn't that person a middle-aged man with a beard?

a-2. Hai, soo desu.

Yes, that's right.

b-2. **Sono/Ano** hito nara, watasi mo sitte-imasu yo. Watasi mo **sono/ano** hito o tasukete ageta koto ga arimasu.

I know him, too. I have helped that man, too.

(70) a-1. Kinoo Yamada to yuu hito ni aimasita. ***Kare**, miti ni mayotte komatte-ita node, tasukete agemasita.

Yesterday, I met a man by the name of Yamada. Since he lost his way and was having difficulties, I helped him.

b-1. ***Kare**, hige o hayasita tyuunen no hito desyoo?

Isn't that person a middle-aged man with a beard?

a-2. Hai, soo desu.

Yes, that's right.

b-2. **Kare** nara, watasi mo sitte-imasu yo. Watasi mo **kare** o tasukete ageta koto ga arimasu.

I know him, too. I have helped that man, too.

(Kuno, 1973)

As (67)-(70) show, in discourse contexts where *ano* is available so is *kare*, however in contexts where *sono* is available *kare* is not thereby demonstrating the close relationship

between *ka* and *a*, which is one of the Japanese deictics and as such is a demonstrative. Given the close relationship between *a* and *ka*, Hoji proposes that *ka* is essentially demonstrative. If this is the case, then *kare* should not be construed as a bound variable given that there are parallels in English in which demonstratives cannot be bound by an operator. Hoji then cites Hornstein & Weinberg's (1987) examples of English epithets to illustrate this point.

(71) *Every linguist_i's mother thinks that the poor s.o.b._i has chosen the wrong field.*

(72) **Every linguist_i's mother thinks that that poor s.o.b._i has chosen the wrong field.*

The sentence in (71) shows that in English, epithets such as *the poor s.o.b.* can be bound by an operator, in this case *every linguist's*, however, when the epithet is a demonstrative nominal as in *that poor s.o.b.* in (72), a bound variable reading is impossible.³⁷ Given the failure of demonstratives to be bound by an operator, and given Hoji's claim that *kare* is a demonstrative, he concludes that the failure of sentences such as (57) above are due to *kare*'s demonstrative status.

Hoji then further separates *a* from *so* in the *ko, so, a, do* deictic paradigm by providing examples that show that while *so* can be both deictic and non-deictic, *a* is strictly deictic.

³⁷ Hoji (1991) also notes that it is not the case that a demonstrative epithet in English cannot be coreferenced with an R-expression as his example shows:
John_i's mother (always) complains that *that poor s.o.b._i* has chosen the wrong field.

(73) a. sono hi gurasu

that day life

a hand-to-mouth life

b. sono ta 'etc.'

c. sono mukasi 'a long time ago'

d. sono uti ni 'in a short while'

e. soretonaku 'indirectly'

(74) a. *ano hi gurasu

b. *ano ta

c. *ano mukasi

d. *ano uti ni

e. *aretonaku

Hoji argues that the reason that *so* is possible in the idiomatic expressions in (73), and not in (74), stems from the expressions in (73) lacking a “deictic sense” and therefore the substitution of *a* leads to unacceptability. He then predicts that the ability for *so* to be non-deictic should lead to the possibility of its construal as a bound variable; a prediction which turns out to be the case as (75) and (76) show:

(75) a. Nanimo_k [[[*ec*_i sore_k-o tyuumon-sita] hito_i]-no uti]-ni(-wa)

nothing that-ACC order-PAST person-GEN house-to(-CONT)

todokanakatta

did not arrive

‘Nothing_k arrived at the house of the person who had ordered that_k.’

b. Dono baka_i-ga [Mary-ga soitu_i-ni horetei-ru to] it-ta no?

which fool-NOM Mary-NOM that guy-DAT love-PRES that say-PAST

‘Which fool_i said that Mary loved that guy_i?’

c. Nani_k-ga [[[ec_i sore_k-o tyuumon-sita] hito_i]-no uti]-ni todoi-ta no?

what-NOM that-ACC order-PAST person-GEN house-to arrive-PAST

‘What_k arrived at the house of the person who had ordered that_k?’

d. ?Daremo_i-ga sono hito_i-no hon-o sute-ta.

everyone-NOM that person-GEN book-ACC throw away-PAST

‘Everyone_i threw away that person_i’s book.’

(76) a. *Nanimok [[[ec_i are_k-o tyuumon-sita] hito_i]-no uti]-ni(-wa)

nothing that-ACC order-PAST person-GEN house-to(-CONT)

todokanakatta.

did not arrive

‘Nothing_k arrived at the house of the person who had ordered that_k.’

b. *Dono baka_i-ga [Mary-ga aitu_i-ni horetei-ru to] it-ta no?

which fool-NOM Mary-NOM that guy-DAT love-PRES that say-PAST

‘Which fool_i said that Mary loved that guy_i?’

c. *Nani_k-ga [[[ec_i are_k-o tyuumon-sita] hito_i]-no uti]-ni todoi-ta no?

what-NOM that-ACC order-PAST person-GEN house-to arrive-PAST

‘What_k arrived at the house of the person who had ordered that_k?’

d. *Daremo_i-ga ano hito_i-no hon-o sute-ta.

everyone-NOM that person-GEN book-ACC throw away-PAST

‘Everyone_i threw away that person_i’s book.’

The sentences in (75) and (76) show that the *so* and *a* differ in their ability to function deictically: *so* need not function deictically and therefore can be construed as a bound variable, but *a* cannot.

Hoji then cites examples that show that not all quantifiers in Japanese exhibit equal levels of acceptability when they are the antecedent of *kare* (or *kanozyo*).³⁸ Hoji’s examples show that, *kare* can be more readily bound by *dono* ‘which’ than *dare* ‘who’.

(77) a. *Dare_i-ga [Mary-ga kare_i-o butta to] itta-no?

who-NOM Mary-NOM he-ACC hit that said-Q

‘Who_i said that Mary had hit him_i?’

b. ?? Dono hito_i-ga [Mary-ga kare_i-o butta to] itta-no?

which person-NOM Mary-NOM he-ACC hit that said-Q

‘Which person_i said that Mary had hit him_i?’

(78) a. *[Dare_i-ga kare_i-no saifu-o nakusita ka]-ga mondai-ni natta.

Who-NOM he-NOM wallet-ACC lost Q-NOM issue-DAT became

‘Who_i lost his_i wallet has become an issue.’

³⁸ See Hoji (1984) for an earlier presentation of the differences in grammaticality by various quantifiers in Japanese.

b. ??[Dono hito_i-ga kare_i-no saifu-o nakusita ka]-ga mondai-ni natta.

which person-NOM he-GEN wallet-ACC lost Q-NOM issue-DAT became

‘Which person_i lost his wallet became an issue.’

Sentences (77a) and (78a) differ from (77b) and (78b) in that *kare* can be somewhat referentially dependent on *dono* (‘which’) but cannot be referentially dependent upon *dare* (‘who’). Based upon his claim that *kare* is a demonstrative and that English epithets such as *that poor s.o.b.* cannot be operator-bound, Hoji predicts that these types of epithets should be able to be bound by *which* phrases but not by *who* phrases. This prediction is indeed borne out as shown in his examples in (79) and (80) below.

(79) a. *Which man_i’s* friends think that *that man_i* is a genius?

b. *Which linguist_i’s* mother thinks that *that poor s.o.b._i* has chosen the wrong field?

(80) a. ?*Whose_i mother thinks that **that poor s.o.b._i** has chosen the wrong field?

b. Whose_i mother thinks that **the poor s.o.b._i** has chosen the wrong field?

Hoji casts doubt on the claim that (77b), (78b) and (79b) involve a bound variable construal and suggests that *dono hito* and *kare* are coreferential with each other. He offers supporting sentences in (81) – (83) below.

(81) a. ?Dono dansigakusei_i-ga kare_i-no kaban-o nakusita no?

which male student-NOM he-GEN bag-ACC lost

Which male student_i lost his_i bag?

b. ?Dono zyogakusei-ga kanozyo_i-no kaban-o nakusita no?

which female student-NOM she-GEN bag-ACC lost

Which female student_i lost her_i bag?

(82) *?Dono gakusei_i-ga [kare ka kanozyo]_i-no kaban-o nakusita no?

which student-NOM he or she -GEN bag-ACC lost

‘Which student_i lost [his or her]_i bag?’

(83) a. Who_i brought [his or her]_i book?

b. Everyone_i thought that [he or she]_i had to clean the room.

c. No one_i expected John to criticize [him or her]_i.

Hoji argues that if *kare/kanozyo* in (81) were indeed construed as bound variables “on par with *he* and *she* in English” that we would expect (82) to be as acceptable as (83) in English. However, the Japanese versions of all the English sentences in (83) are ungrammatical. Hence, the data in (82) demonstrates the inability for *kare/kanozyo* to be construed as bound variables. Hoji asserts that the contrasts in acceptability shown in (77) and (78) are a result of different degrees of “referentiality” between *dono hito* ‘which person’ and *dare* ‘who.’

In order to show justification for this claim Hoji cites Pesetsky’s (1987) notion of “D-linked” and “non-D-linked” WH-phrases where ‘D’ refers to “discourse.” He argues that *which*-phrases are D-linked while *who*-phrases are not normally D-linked (i.e. non-D-linked). The justification for such a contrast is explained in questions such as “Which apple did you eat?” In asking such a question, there is a commonly assumed set of apples

that both interlocutors have as a shared reference and the range of felicitous answers is limited to such a set. This question is odd when posed to a listener who is not aware of the discourse context in which the question is asked. Pesetsky (1987) represents D-linked and non-D-linked WH phrases as follows:

- (84) a. Non-D-linked *wh*-phrases are quantifiers and adjoin to S'
b. D-linked *wh*-phrases are not quantifiers.

Under this representation (84a) would apply to a ‘who’ phrase such as *dare* and (84b) would apply to a ‘which’ phrases such as *dono gakusei* (‘which student’). Assuming this analysis, Hoji claims that *dono gakusei* is not a quantifier but *dare* is. Since the ‘which’ phrase is more “referential” than the ‘who’ phrase, there is a referential dependency between *kare* and the *dono* phrases in sentences such as (77b) and (78b) rather than a bound variable construal.

Therefore, Hoji’s main claim is that the inability of *kare* to be construed as a bound variable is due to its deictic nature that he bases on the close relationship between *kare* and the *a* paradigm and the highly deictic nature of the *a* system as compared with the *so* system. He also shows that while the generalization that *kare* cannot be construed as a bound variable is maintained, *kare* can be somewhat referentially dependent to *dono* phrases (‘which’ phrases) and that this is a case of coreference rather than a bound variable construal.

Section 6.2 showed empirical evidence that is problematic for the OPC, and for the claim that it is universally invariant. Section 6.3 reviewed Hoji's (1991) arguments for the treatment of *kare* and *kanozyo* as demonstratives rather than pronouns. If we adopt Hoji's position, then the OPC becomes irrelevant since *kare* and *kanozyo* is not a pronoun. Adopting this position, however, does not detract from one of the original research questions posed, which was if JFL learners had knowledge that *kare* and *kanozyo* cannot take BV readings, and thus this original question has been answered.

Due to the fact that SLA research has been highly influenced by the theory that UG is accessible to second language learners when learning their L2, the types of studies that have been conducted have specifically focused on L2 languages that contain differing features from a learner's L1. As discussed, the poverty-of-the-stimulus hypothesis in L2 acquisition supports the theory of UG accessibility, and OPC studies which investigate the acquisition of an L2 containing shared features with the L1 have been lacking.

Kahraman & Nakayama (2014), however, conducted a reduplication study of Experiment 1 discussed in Chapter 3 using 25 native speakers of Turkish who were college students with varying degrees of Japanese proficiency who passed the Japanese Language Proficiency Test. Two students had passed the N1 exam, eight had passed the N2 exam and 15 students had proficiency between N2 and N3.³⁹ The groups were named N1, N2 and N3 respectively.

Kahraman & Nakayama predicted the following: (a) if either L1 transfer or the OPC is at work then learners even at the lower levels of proficiency would exhibit

³⁹ The N1 exam is the most difficult followed by N2 and N3.

knowledge that overt pronouns cannot have BV readings, and (b) if they are employing a default strategy where all pronouns can take a bound variable, then those at the lower levels of proficiency would accept the BV readings in these cases while the students with higher proficiency would not. Summarizing the overall results, Kahraman & Nakayama found that the N3 Japanese learners exhibited the highest percentage in erroneous BV readings followed by the N2 learners and then the N1 learners. Therefore, the results appear to point toward their second prediction. While this initial study offers evidence contradicting an L1 transfer strategy employed by learners as argued in this dissertation and by Masumoto (2006), the results in this dissertation are actually compatible with their default strategy account. However, it also shows evidence against the OPC being a part of UG, and that acquisition of the relevant features of *kare* and *kanozoyō* takes time to acquire. This raises further questions for the Turkish learners of Japanese in particular, and their treatment of the overt pronouns in cases where no context is given such as in test instruments employed in Kanno (1997, 1998) and Experiment 2 discussed in Chapter 4. If the default strategy of the N2 learners is to treat all of the pronouns as having a BV reading then this would predict that these learners would also show a high incorrect acceptance rate of (a) answers when presented with the Type 2 and 4 (QNP Overt) sentences in Experiment 2. If not then the difference in the experimental task could be playing a factor in their interpretations of the overt pronouns. In addition to the QNP Overt sentences, it would also be necessary to test the Turkish learners' interpretations of the RNP Overt sentences since, as Gürel (2003) notes, overt pronouns even in these sentences can only have disjoint reference. Therefore further inquiry is necessary.

The results of the studies have served to answer the research questions posed, however this research has led to more questions being raised regarding the pronominal acquisition of Japanese L2 learners. In order to explain the experimental results within the view that *kare* and *kanozō* are actually demonstratives, and that L1 transfer is what is driving the preferences of the JFL learners, it is proposed that they come to know that overt pronouns cannot be bound variables when they have acquired all of the anaphoric expressions of Japanese, i.e., when they come to know that *kare* and *kanozō* are actually demonstratives, and that *zibun* ('self') can act as a bound variable (as per Lardiere's (2008) Feature Assembly Hypothesis). Additionally as discussed in Chapter 5, the presentation of *kare* and *kanozō* in the JFL learners' textbook materials could also play a role in shaping their interpretations. As discussed, the students are warned against using the overt pronouns in the same way that they would English pronouns. However, the frequency in the number of sentences is very small. This warning serves to indicate that they are a marked form of sorts. When they are seen in the textbook sentences the majority take extra-sentential antecedents. Therefore the combination of the infrequency of the pronouns combined with the fact that most of the time they refer to extra-sentential antecedents could eventually influence their judgments about the overt pronouns, and this could explain why the JFL learners (at the L3-5 levels especially) tend to prefer the extra-sentential interpretation of the overt pronouns in the Type 1, 3 and 5 sentences.

The discrepancy between Kanno's results, and others, including those in this dissertation study, suggests the following: Kanno's learners were in Hawaii and possibly were more advanced than our learners as they were likely to be exposed to Japanese more

than our learners outside the classroom. If this is correct, her learners and our learners do not differ except with respect to their developmental stages (e.g., feature reassembling took place among Kanno's learners while our learners were in transition).

For future research it is necessary to conduct more studies of learners whose languages are both those that are similar to Japanese (such as Turkish), and whose languages differ from it in order to test the L1 transfer claim that has been made in this dissertation. Furthermore, in Experiment 1 a truth value judgment task was used in the form of a questionnaire that the participants completed at their leisure. Since the students were able to go back and review previous questions, and possibly change their answers, an experiment showing the stories one-by-one on a computer without the ability to view previously read stories, may give a better insight into the first intuitions of the bound variable interpretations by the participants.

In conclusion, the results of these studies have found that L1 transfer is being employed by English-speaking JFL learners in tasks that test their knowledge of the demonstratives *kare* and *kanozō*, and that gradually with more time and exposure to Japanese, they can achieve native-like interpretations of these expressions.

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Appendix A: English speaking learners' acquisition of Spanish empty pronouns:

A summary of Pérez-Leroux & Glass (1999)

The aim of Pérez-Leroux & Glass' (1999) study was to analyze the acquisition of empty pronouns by North American English speaking learners of Spanish. The study consisted of two parts. The results presented here will deal with the first part of the research that sought to determine whether the OPC is operative in the early stages of L2 Spanish acquisition.

The study contained 98 participants that were divided into three Spanish proficiency levels (elementary, intermediate, advanced) prior to the commencement of the study. A control group consisted of 20 native speakers from Spain, the Caribbean and Latin America. An elicitation task was employed that incorporated eight stories followed by an English-to-Spanish sentence translation task.⁴⁰ The eight stories were divided into two types: a referential story, as show in (1), and a bound variable story, as illustrated in (2). The referential stories were designed such that the antecedent of the subject pronoun in the embedded clause of the sentence to be translated was a referential noun phrase.

⁴⁰ Pérez-Leroux & Glass (1999) mention eight stories given to the experiment participants for translation: four referential stories and four bound variable stories. However, their appendix shows nine stories: five referential stories and four bound variable stories.

This means that, as shown in (1) below, that ‘he’ in “Some journalist said that he was a wife-beater” takes a referential noun phrase, OJ Simpson, as its antecedent.

(1) Referential Story

In the O.J. Simpson trial, it is clear that the press has a negative bias against the defendant in their reporting. Some journalist said that he was a wife-beater.

To translate:

‘But no journalist said he was guilty.’

Target translation:

Ningún periodista dijo que él era culpable.

No journalist said that he was guilty

For these stories, the Spanish translation could include either an empty or a lexical pronoun. In contrast, the bound variable stories were designed such that the antecedent of the subject pronoun in the embedded clause of the sentence to be translated was an empty pronoun. The sentences to be translated were prompted with the first word(s) to be translated. This first word in the translations for both story types corresponded to quantifiers varying between negative quantifiers (e.g., ‘nobody’, ‘no journalist’) and distributive (e.g., ‘everybody’, ‘each student’) ones.

(2) Bound Variable Story

The court charged that some journalists had been in contact with the jurors.

Several of them were questioned by the judge.

To translate:

‘No journalist admitted that he had talked to the jurors.’

Target translation

Ningún periodista admitió que ø le había hablado a los jurados.

No journalist admitted that ø to-them-had spoken to the jurors

The results are shown in Table 40 below.

	Referential Stories			Bound Variable Stories		
	Empty	Overt	Other	Empty	Overt	Other
Elementary (<i>n</i> =39)	21.2%	67.9%	10.9%	57.7%	34.0%	8.3%
Intermediate (<i>n</i> =21)	35.7%	59.5%	4.8%	73.8%	26.2%	0.0%
Advanced (<i>n</i> =18)	58.3%	31.9%	9.7%	93.1%	0.0%	6.9%
Native Control (<i>n</i> =20)	31.3%	67.5%	1.3%	85.0%	13.7%	1.3%

Table 40. Response percentages in Pérez-Leroux & Glass (1999)

The results show that all of the participants utilized a higher percentage of empty subject pronouns in the bound variable stories than in the referential ones across all of the learner levels. Looking at the percentages for the elementary Spanish participants we see that in

the case of the bound variable stories, empty pronouns were chosen 57.7% of the time and overt pronouns were chosen 34.0% of the time. The Advanced group had the highest number of correct translations with the least number of errors (93.1% empty pronouns vs. 0% overt pronouns), outperforming the native speaker control group (85.0% empty pronouns vs. 13.7% overt pronouns).⁴¹

Pérez-Leroux & Glass argue that their results “support the claim that the OPC is operative at all stages in the acquisition of Spanish.” Although Pérez-Leroux & Glass make this claim, the percentages especially at the elementary level are not overwhelmingly convincing. The fact that the empty pronouns were chosen only 57.7% of the time is not conclusive evidence for their argument. An increase in the use of empty pronouns in the translations for the bound variable stories in each subsequent level, only suggests that the lower level learners are still incorporating an L1 transfer strategy by misclassifying the Spanish overt pronouns as they do in English (34% of the time in this case) and with more exposure to Spanish, the data suggests that an adjustment in their classification of the overt pronouns is made such that the bound variable interpretation no longer becomes available. If knowledge of the bound variable interpretations were truly available at all stages, then the expectation would be that the percentage of overt pronouns would be far lower in the elementary and intermediate levels. Since this is not the case, what is being seen is that knowledge of the bound variable readings takes time to acquire.

⁴¹ In the case of the native speaker control group Pérez-Leroux & Glass identified the unusually high number of errors in the bound variable stories as coming from the Caribbean Spanish speakers. They explained these results as stemming from the fact that speakers of Caribbean Spanish dialect tend to use a higher number of overt pronouns in their speech.

For the Referential stories, the pattern among the participants showed a reverse trend from the elementary to the advanced group. In other words, the elementary level group and the native speaker group showed the highest similarity in empty and overt pronouns with the advanced group showing the least similarity to the native speaker group. The elementary level group chose empty and overt pronouns 21.2% and 67.9% respectively and the native speaker control group chose these 31.3% and 67.5% respectively. For the intermediate group and advanced group the percentages were 35.7% and 59.5%, and 58.3% and 31.9% respectively. Interestingly, this shows that although either an empty or overt pronoun is allowed in these test sentences, the intermediate and advanced groups tended to show preferences that were less native-like than the elementary group.

Appendix B: JFL Learners' interpretation of *zibun*: A summary of Kano & Nakayama
(2004)

Kano & Nakayama (2004) utilized a written version of a truth value judgment task in order to test whether JFL learners could interpret the anaphor *zibun* ('self') as a bound variable, and also whether they could correctly rule out the coreference interpretation of *zibun*. The experimental group consisted of thirty JFL learners and seventeen native speakers of Japanese. The JFL learners were university students in one of three Japanese courses (Level 3 = approximately ACTFL OPI Intermediate Mid/High, Level 4 = approximately ACTFL OPI Intermediate OPI High/Advanced, and Level 5 = approximately ACTFL OPI Advanced/Superior). The students' textbook introduced *zibun* simply in the expression *zibun-de* ('by self') without any other instruction.

The test instrument contained 30 short narratives including 8 test stimuli with 4 bound variable interpretations and 4 referential interpretations. The JFL learners received narratives written in English and the native speaker control group received the same narratives that were written in Japanese. The participants were asked whether or not the sentence written in Japanese matched the situation in the story by circling either 'True' or 'False.'

(1) Larry, Bill, Brian and Robert worked for the same accounting firm. One day, after a meeting, they decided to have lunch together at a nearby restaurant. Because both Brian and Robert needed to contact their clients, they asked Larry and Bill to go to the restaurant first. Since it was raining, Larry, using his umbrella, walked to the restaurant. Bill opened his own umbrella and followed Larry. After contacting their clients, Brian walked to the restaurant using his blue umbrella while Robert went there with his compact umbrella.

(Kano & Nakayama, 2004)

In the narrative above, Larry, Brian, Bill and Robert each used their own umbrella, thereby evoking an individual, bound variable reading. The pronouns ‘his’ can be used in English to refer to each individual, as the following sentences show.

(2) a. Everyone_i used his_i umbrella.

b. Daremo_i-ga zibun_i-no kasa-o tukatta.

Everyone-NOM self-GEN umbrella-ACC used

c. *Daremo_i-ga kare_i-no kasa-o tsukatta.

his

Sentence (2a) shows the universal quantifier ‘everyone’ is coindexed with the pronoun ‘his,’ thereby giving the bound variable interpretation. Sentence (2b) contains the universal quantifier *daremo* with the same coindex as the anaphor *zibun*.⁴² Notice that this sentence is grammatical, as in the English sentence in (2a). In sentence (2c), the universal quantifier *daremo* is coindexed with the overt pronoun *kare*, and the sentence is ungrammatical. As per the Overt Pronoun Constraint (OPC) the overt pronoun cannot be

⁴² *Zibuntati* (‘selves’), which is a plural form of *zibun* can also be used to describe the bound variable interpretation expressed in the story in (1).

bound by the quantifier antecedent. However, under different indexing, as shown below in (3), a referential interpretation is possible with the antecedent of *kare* being extra-sentential.

(3) Daremo_i-ga kare_j-no kasa-o tsukatta.

Everyone-NOM he-GEN umbrella-ACC used

‘Everyone_i used his_j umbrella.’

Let us now examine the following narrative:

(4) 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. Since his juice was no longer frozen, John offered it to Tyler, and he drank it.

In (4) all the brothers brought a drink but ended up drinking one that was not their own.

However, it is true that all the people drank what they brought, as can be expressed in

(5a) below. As Nakayama (2008) notes, this is a referential reading, or in other words a “group reading.”

(5) a. All (people) drank their drinks.

b. Minna-ga zibun-no nomimono-o nonda.

all people-NOM self-GEN drink-ACC drank

c. Minna-ga zibuntachi-no nomimono-o nonda.

selves-GEN

(Nakayama, 2008)

Sentence (5b) above cannot be used to describe the situation in (4) above. However, sentence (5c) can grammatically describe the situation. This illustrates that *zibun* in (5b) has a bound variable (distributional) interpretation but not a plural referential interpretation. *Zibuntachi*, however, in (5c) can have a bound variable interpretation or a “group/co-ownership” interpretation.⁴³ The JFL learners in this study were asked to judge whether or not the sentence written in Japanese correctly described the situation in the story by circling either ‘True’ or ‘False.’ Sentence (5b) is an example of the test sentence used in the study.

The results from the 30 JFL learners and the 17 native speakers are illustrated in Table 41 below. In the table, the sentence type BV stands for ‘bound variable’ and indicates the ‘True’ stimuli with the BV readings. CR indicates the ‘False’ stimuli where *zibun* was associated with its antecedent through the group reading. Recall that *zibun* can only have a BV interpretation and so the BV percentages below show a correct acceptance, and the CR percentages below show the percentage of correct rejections.

⁴³ Nakayama (2008) notes that despite the property of *zibun* to lend itself to both interpretations, the ‘co-ownership’ situation is the easier of the two interpretations.

Group	NS (<i>n</i> =17)		Level 3 (<i>n</i> =18)		Level 4 (<i>n</i> =5)		Level 5 (<i>n</i> =7)	
Sentence Type	BV	CR	BV	CR	BV	CR	BV	CR
Accuracy	96%	100%	97%	99%	100%	100%	100%	100%

Table 41. Subject group correct response percentages in Kano & Nakayama (2004)

The results show that both the JFL learners and the native speaker control group received high percentages of correct responses for both the BV sentences and the referential sentences. This data suggests that the JFL learners across all the levels can correctly interpret *zibun* as a bound variable, and also are aware that the coreferential reading is not possible with *zibun*.

Appendix C: Experiment 1 questionnaire

Background Questionnaire

1. Please indicate your age: 18-21 22-25 26-29 30-39 40-49 50-59 over 60

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
Faculty

Graduate student

Staff

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 each of your stays in Japan.

____ a. study at K-12 institution ()

- ____ b. undergraduate or graduate study ()
- ____ c. homestay with Japanese family without attending school ()
- ____ d. homestay with Japanese family while undergraduate or graduate study ()
- ____ e. homestay with family Japanese while undergraduate or graduate study ()
- ____ f. military service ()
- ____ g. travel ()
- ____ h. job (specify) _____ ()
- ____ i. other (specify) _____ ()
- Total time spent in Japan ()
- (1) Less than three months (2) 3-6 months (3) 6-12 months
- (4) 1-2 years (5) 2-3 years (6) More than 3 years

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)

Country	Reason(s)	Length of stay
(1) _____	_____	_____
(2) _____	_____	_____
(3) _____	_____	_____

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

- a. study at a 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. military service

f. travel

g. job (specify)

h. other (specify)

(1) Less than three 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.

Name of the language	Setting	How often?	How long?
(1) _____	_____	_____	_____
(2) _____	_____	_____	_____
(3) _____	_____	_____	_____

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. course 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

Questionnaire

Directions

Your job is to help us determine the winner of a contest for British students who have been studying Japanese for a little more than 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—Eric, Peter and Mike. The scores for Eric and Peter have already been entered, but we still need to know how well Mike 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 Mike’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. 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 three stories. At the end of the third story, you will see the words “End of Warm-Up.” Once you have completed the third story, please follow the instructions that are described on the following page.

1. Ted has a little brother named Randy. Randy likes chocolate cake and always uses his allowance to buy some. One day when Randy was eating his cake Ted asked if he could have a bite. Randy said no, which made Ted angry. When Randy went to the bathroom, Ted ate the rest of his cake. When Randy returned to see his cake had been eaten, he started to cry.

テッドが彼のケーキを食べた。

True/False

2. Ms. Chen is a college Chinese teacher. On Friday she told her upper level students to bring their favorite books on Monday so that they can talk about them in Chinese. When the students came to school on Monday, she found that only half of the students remembered to bring their favorite books.

どの学生も本を持ってきました。

True/False

3. Tomoka and Reika are good friends. They often talk for long hours on the telephone. Yesterday, Tomoka wanted to talk to Reika to tell her about her new boyfriend Kentaro. After Tomoka's mother finished talking on the telephone she told Reika about Kentaro.

ともかが彼女のボーイフレンドの話をした。

True/False

“End of Warm-Up”

If you have any questions or concerns about the task you completed in the warm-up session, please write them in the Comments section below. Please work on the next 34 stories and judge whether Mike's sentences are accurate for each story. Please circle 'True' if you think the Japanese sentence Mike 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 34 stories, please refer to the section entitled “Who is the Winner in 2009?”, 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. Please do not share your responses with anyone. The responses you provide on this task must be entirely based on your own personal view.

Please start now.

Comments:

Main Session

1. Manami was late for work for the second time this month. She intended to wake up at 7:00 a.m. so that she could catch her 8:00 o'clock train to work but she overslept, and woke up at 7:45. Using the train, it takes her half an hour to get to work. Since she woke up late she knew that she would never make it to work on time using the train so she decided to take a taxi. She made it to the taxi stand at 8:15 and was able to get to work on time.

まなみのうちから会社まで電車かいしゃ でんしゃで、三十分さんじゅうぶんくらいかかる。

True/False

2. Jerry loves to play basketball. He wants to play every day but his parent's will not let him. Every day after school his friends play basketball, but he can't because he has to go to take piano lessons. He doesn't like to play the piano, but his parents are very strict so he has no choice. He wants to be a basketball player when he gets older but his mother wants him to be a pianist.

ジェリーは毎日まいにちバスケットボールをする。

True/False

3. Susan and Theresa study contemporary American novels, and Jennifer and her boyfriend Tom study British poetry in the Department of English. Susan and Theresa were very excited because their favorite female science fiction writer would be giving a talk at the local library. Jennifer and Tom were not so interested in science fiction, but since Jennifer was invited by Susan and Theresa to go to the talk she decided to go. When they arrived, the three girls sat in the back row because many of the seats in the front were taken. They enjoyed the talk very much.

どの女おんなの人も彼女ひとの話かのじょを聞いたはなし き。

True/False

4. Tanaka, Kimura and Matsuda are section managers working for different divisions of a pharmaceutical company. Since they entered the company the same year they know each other quite well. One night after the company New Year's party, they decided to go out to drink more at a bar that Tanaka frequented. After a few hours they got so drunk that they missed the last train. Kimura then called his son to come pick them up. They all rode home in Kimura's car.

どの課長かちょうも車くるまに乗ったの。

True/False

5. Masako was window-shopping in town when she passed by a cake shop. She stopped in to look at the cakes. There were many different varieties and they all looked delicious. She bought a small piece of chocolate cake. When she left the store she thought that she should buy some cakes for her parents as well. She returned to the store and bought two more pieces of cake.

まさ子^こはチョコレートケーキをもう一つ^{ひとつ}買った。

True/False

6. Kenji, Takashi, and Shinsuke are cousins who went to a department store with their little sisters. Their grandfather accompanied them as well. They went to the department store in order to check out a large sale on electronics. While they were looking at televisions, their little sisters decided to go off in different areas of the store to see what else might be on sale. After looking at the televisions, Kenji, Takashi and Shinsuke went off to try to find their little sisters. Takashi found his little sister at the cosmetics counter looking at makeup so he called her. Kenji found his little sister in a café, so he called her. Shinsuke found his little sister, in the ladies apparel section so he called her. After they all found their sisters, they all got together and had lunch at a restaurant on the top floor of the department store.

どのい^{かれ}ところも彼の妹^{いもうと}を呼^よんだ。

True/False

7. Midori, Takako and Tomomi are high school students studying Spanish. Over the summer Midori went to Barcelona on an exchange program, and Takako spent the summer watching Spanish movies by her favorite director. Tomomi used the summer to improve her spoken Spanish by taking courses at a language school in Tokyo. One day in the fall, Midori invited the girls to her house to watch her video of Barcelona. Her sister who is in junior high school did not watch it with them though she likes to hang around with her sister's friends. While they were there they all watched a video of Midori's summer in Barcelona.

どの高^{こうこうせい}校生もビデオ^みを見た。

True/False

8. Joan, Eve, and Kim are journalists doing research for a newspaper story. The story is not theirs but their colleague Mark's. Mark could not finish the research because he is on paternity leave to help his wife with their new baby. After getting a briefing from Mark about what to do, Joan, Eve, and Kim got together and began researching his story.

どのジャーナリストも彼女の研究を始めた。

True/False

9. Dale and Harry were sitting at home watching TV when they saw a commercial for pizza. They immediately got hungry and decided to order some. The pizza took one hour to arrive so they did not give the delivery person a good tip. When they opened the pizza they discovered that the wrong one had been delivered to their house. But they were so hungry they ate it anyway.

デールとハリーはおながとてもすいていた。

True/False

10. Stacy and Lauren are part-time workers and Emily is a full-time employee at a convenience store. Their co-worker Brian who is also a full-timer has a very good CD selection. Stacy and Emily borrowed a pop CD that Brian had and they each made a copy of it.

どのアルバイトの人も彼のCDをコピーした。

True/False

11. Kerry, Jane, and Paula are secretaries who are in Paris on a business trip with their bosses. They attend meetings during the weekdays, and during the weekends they go sightseeing around the different parts of the city. They have seen many beautiful churches, and have visited a few museums. While they were sightseeing all of the secretaries took many beautiful photos. Since they would be in Paris for a month, the secretaries wrote emails to their families and included the photos that they took during their trip.

どの秘書もメールを書いた。

True/False

12. Tomohiro, Taro, and Jiro are salaried workers in Japan who share a house and are very good at fixing computers. One day, Jiro's American friend Amy who works at a company, came to their house because her computer was broken. Recently lightning hit nearby Amy's apartment and damaged the hard drive to her computer. The next day Tomohiro, Taro and Jiro went to the computer store to buy new parts for her computer. Since fixing the computer would take a long time, they decided to take turns fixing it until it was done. In the end, they were able to fix her computer and save the original data she had on it.

どのサラリーマンもコンピュータを^{なお}直した。

True/False

13. Christine, Jean, and Samantha are Australians working at a record store. One day, Christine came into the store with free tickets to a rock concert that she is performing in. She had three tickets and offered Jean and Samantha each a ticket. Jean accepted the ticket, but Samantha did not because she does not like rock music. Christine, Jean and their Irish friend Brian went to the concert together and had a great time.

どのオーストラリア人^{じん}もコンサート^いに行った。

True/False

14. Jan, Patricia, and Kelly are employees at a computer company. Jan and Patricia are division managers at the company but Kelly is a supervisor. One night they went out for drinks after work to celebrate Kelly's upcoming promotion to division manager. When they got to the bar, Jan ordered whisky, Patricia ordered a beer, and Kelly ordered wine. When the drinks arrived they each drank their drinks and then went to another bar to continue celebrating.

どの社員^{しゃいん}も彼女の飲み^{かのじょの}ものを飲^のんだ。

True/False

15. Nobutaka recently moved from Tokyo to Sendai and was still unfamiliar with his new neighborhood. He needed to buy some stamps and wanted to go to the post office. He went to a 7-Eleven and asked the clerk for directions. The clerk told him that the post office is across from the supermarket.

ゆうびんきょく
郵便局はスーパーの^{まえ}前にある。

True/False

16. Kenichi, Naoya, and Koichi are bus drivers. One summer day during a national holiday they decided to go to the beach together. After an hour at the beach they met their friends and decided to have a party so Kenichi, Naoya and Koichi each called their girlfriends to come to the beach. By the end of the day their girlfriends came and they had a lot of fun.

どのドライバーも彼の^{かれ}ガールフレンドに^{でんわ}電話をかけた。

True/False

17. Danielle, Margaret, and Victoria are receptionists. Every Friday night they go to a restaurant with Victoria's cousin John. Last Friday, they went to John's company to pick him up before the movie. After talking for a while with John at his company, they all left and went to the movie.

どの^{かのじよ}うけつけも^{かいしゃ}彼女の^で会社を出た。

True/False

18. Momoko, Etsuko, and Miyoko are girls taking the same class in American geography. They are working together on a presentation of the Grand Canyon. They needed a book with good photos but didn't have one. Momoko's friend Yoko had been to the Grand Canyon and had three albums of very nice photos. She lent each of them one album. On the morning of the presentation the girls got together at a coffee shop to talk about the presentation. When they left the restaurant and got to their class, they realized that they all had forgotten the photo albums they borrowed from Yoko, at the restaurant.

どの^{おんな}女の子も^こアルバムを^{わす}忘れた。

True/False

19. Harada is a businessman working for a trading company. His boss recently ordered him to go on a business trip to Hiroshima, but on that day he had promised his children that he would take them to Tokyo Disneyland. There was no way he could take them to Disneyland. When he told his children they were very disappointed.

^{はらだ}原田は^{とうきょう}東京に^{しゅつちよう}出張した。

True/False

20. Mei, Lin, and Yun are Chinese girls living in America. This year they have been invited to a Halloween party, but they still do not know what they will wear. Since Halloween is only four days away they do not have time to make a costume for the party. Therefore they ordered their costumes from an online website. They each ordered different costumes. Mei ordered a vampire costume, Lin ordered a Pikachu costume, and Yun ordered a rabbit costume. Mei's American co-worker Carol found out that Mei was ordering a costume on-line, and she decided to do so as well. The day they were all supposed to receive their costumes, they left work early so they would catch the mailman when he delivered the costumes.

どの中国^{ちゅうごくじん}人も家^{いえ}でコスチュームを待^まった。

True/False

21. Joseph, Matthew, and Edgar are students and roommates living in the same house. It is the end of the academic quarter, and they are preparing for their final exams. Joseph and Edgar will be staying up all night to finish their work. Matthew doesn't have any final examinations, and only has a 10-page paper that he has more than one week to finish. One day, he woke up at 6:00 a.m. and cooked breakfast for them since he was not so busy. That morning Matthew's girlfriend Jill came over, but she didn't eat anything while all the boys ate the breakfast.

どのルームメートも彼の朝^{あさ}ご飯^{はん}を食^たべた。

True/False

22. Martin, Sam, and Ben are fashion designers working for the same company. They are each designing a dress for an upcoming fashion show. Their friend Kate owns a famous fabrics and accessories store. Martin and Sam ordered some expensive buttons from Kate to use for the dresses they are designing. Ben did not order buttons from Kate because his dress is a one-piece without buttons.

どのデザイナーもボタンを注^{ちゅうもん}文した。

True/False

23. Charlotte, Diana, and Kim are waitresses who went to an ice cream parlor on their lunch break with their friend Dave. Charlotte and Diana ordered chocolate ice cream, whereas Kim ordered strawberry. Dave wasn't sure what flavor to order, but in the end he ordered chocolate ice cream as well.

どのウェイトレスも彼女^{かのじょ}のチョコレートアイスクリームを頼^{たの}んだ。

True/False

24. One day Kumiko's daughter Fumiko caught a cold and was not able to attend school. Fumiko was running a very high fever so Kumiko took her to the hospital. The doctor prescribed some medicine and said that Fumiko should be feeling better in a few days but that she should stay home from school until she felt completely better.

く み こ む す め び ょ う き
久美子の娘は病気になった。

True/False

25. Professors Ishikawa, Matsuda, and Tanaka are in the Department of Humanities of a small junior college in Kobe. Dr. Ishikawa teaches English, Dr. Matsuda teaches Japanese history, and Dr. Tanaka teaches Spanish. Since the three of them will be organizing a conference on the humanities, they decided to get together along with their graduate students for lunch to discuss the preparations for the conference. After eating lunch and discussing their plans for the conference, the professors promptly left and taught their classes.

せんせい おし
どの先生もクラスを教えた。

True/False

26. Koichi, Masanobu, and Tsuyoshi are factory workers. One day their boss Mr. Saito sent them a memo that he had written regarding some new company policies. Usually Mr. Saito handwrites his memos and his handwriting is difficult to read. That day, the memo that he sent was understood by Koichi, Masanobu, but not by Tsuyoshi.

おとこ かれ わ
どの男も彼のメモが分かった。

True/False

27. George and his girlfriend Erica have been dating for 5 years. Since he loves her very much he proposed to her and she accepted. They got married in the park where they first met. The ceremony was quite beautiful and many of their friends and relatives came.

きょうかい けっこん
エリカは教会で結婚した。

True/False

28. Gary, Edward, and Rick are brothers. Since it is Friday night, they decided to go see a new action movie that they were waiting to see. After school they ate a quick dinner before leaving for the movie. As they were going out to the car to drive to the theater their mother called out to them, and told them that they had left the lights on in their bedrooms. They went back inside to shut off the light in each of their bedrooms and then went off to the movie theater.

どの^こ子もベッドルームに^{もど}戻った。

True/False

29. Atsushi and Kazuki are friends living and working in Osaka. They decided to go to visit their friend Makoto who lives in Hokkaido. The three of them are avid snowboarders, and since it is winter, they are sure to have a lot of snow in Hokkaido. On Friday evening, Atsushi and Kazuki, flew to Sapporo to meet with Makoto, and his sister Chie whom they had never met. They spent the weekend at a lodge on the mountain and did some snowboarding. On Sunday night they spent the night at Chie's apartment with Makoto, and took a plane back to Osaka the next day.

どの^{ともだち}友達も^{かのじょ}彼女のうちに^と泊まった。

True/False

30. Kana, Michiko, and Aiko are members of the girls tennis club at their junior high school. One day during practice, Kana and Michiko were playing doubles and their rackets collided on the court. When this happened Kana and Michiko both broke their tennis rackets. Kana borrowed a racket from her teacher Ms. Kubo, and Michiko borrowed one from her friend Akira. Aiko did not borrow a racket because she did not break hers.

どのメンバーもラケットを^か借りた。

True/False

31. Haruka's older brother Kentaro was playing soccer at school and broke his foot. A girl in Kentaro's class told Haruka that her brother had gotten hurt. Haruko called her parents to tell them that Kentaro had gotten hurt, but her father was at work and her mother was out shopping. Eventually, her mother came home, and Haruka was able to tell her that Kentaro had broken his foot.

お兄さんは^{にい}両親^{りょうしん}に^{でんわ}電話をかけた。

True/False

32. Charles, Lewis and Joshua are college students in Massachusetts. They decided to go to a rock concert in Boston. They planned to drive one of their cars but they couldn't because none were available. But then, Lewis remembered that his roommate Tony, who works at a bank full-time, wouldn't need his truck, because he is flying out of town. Lewis asked Tony to borrow his truck and Tony kindly agreed. The three college students took Tony's truck to Boston, and had a great time at the concert.

どの^{だいがくせい}大学生も彼の^{かれ}トラックを^{つか}使った。

True/False

33. Mary was thinking about walking home with her friend after school. During lunch time she tried to find her friend but she could not. After school she waited by the front gate of the school, but her friend never came. After a while she walked home alone.

メアリーは^{ひとり}一人で^{いえ}家に^{かえ}帰った。

True/False

34. Luis, Juan and Pablo are foreigners from Spain on holiday in Kyoto. Since they wanted to visit many temples, one day they stopped into a bookstore and found a book in English that had descriptions of the temples in Kyoto. Juan bought the book and he and Pablo read the book, but Luis did not read the book because he does not understand English. On their third day in Kyoto, Luis contacted his Japanese pen pal Tetsuya who joined them for sightseeing.

どの^{がいこくじん}外国人もガイドブックを^よ読んだ。

True/False

Who Is the Winner in 2009?

1. Indicate the number of 'True' responses for each contestant:

2.

Name	Number of True Responses
Eric	(14)
Peter	(19)
Mike	()

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

The winner for this year is ()!

Appendix D: Experiment 2 questionnaire

Questionnaire

I. Please provide the following information.

Which Japanese language class are you currently taking?: _____

Your native language is _____ Your major _____

Have you ever lived in Japan _____ If so, for how long? _____

Are you living or have lived with a native speaker of Japanese for any length of time?
_____ If so, for how long? _____

Other foreign languages you have learned _____

II. Read each sentence and answer the questions that follow it by circling (a), (b) or both (a) and (b). If you are submitting this electronically, please highlight either (a), (b) or both (a) and (b). Please see the examples below.

(Note: *Yo*, which is used in every declarative sentence below is an emphatic sentence particle.)

Examples:

A) ジョンはメアリーのコーヒーを飲んだ。

Q: だれがコーヒーを飲んだんでしょうか。

a) John

b) another person

B) 本田さんと山田さんはコンサートに行きました。

Q: だれがコンサートに行ったんでしょうか。

a) Honda

b) another person

C) バーバラさんはケートさんのバスケットボールのゲームを見に行きました。

Q: だれがバスケットボールのゲームに出たんでしょうか。

a) Barbara

b) another person

Main Session

1) シェリーさんはポールさんが写真^{しゃしん}をとってもら^いうと言^いいましたよ。

Q: だれが写真^{しゃしん}をとる^んでしようか。

a) Paul

b) someone other than Paul

2) どの大^{だいがく}学^{せい}生^{せい}も来^{らい}年^{ねん}フ^ふラ^らン^んス語^ごをと^とる^いと言^いっていま^いすよ。

Q: だれがフ^ふラ^らン^んス語^ごをと^とる^いでしようか。

a) same as *dono daigakusee*

b) another person

3) キムさんは後^{あと}で、い^いと^いこ^こが、自^じ分^{ぶん}の学^が校^{こう}でテ^てニ^にス^すを^いす^いと^い言^いっていま^いすよ。

Q: どこでテ^てニ^にス^すを^いす^いる^いでしようか。

a) Kim's school

b) another person's school

4) どのド^どラ^らイ^いバ^あーもデ^まパ^えー^かの^れ前^{まへ}で彼^{かれ}がタ^たク^くシー^しをと^とめ^いる^いと言^いっていま^いすよ。

Q: だれがタ^たク^くシー^しをと^とめ^いる^いでしようか。

a) same as *dono doraibaa*

b) another person

5) ケンさんはマ^まー^あサー^ささんがド^どア^あをあ^いけ^いた^いと言^いっていま^いした。

Q: だれがド^どア^あをあ^いけ^いた^いん^いでしようか。

a) Maasaa (Martha)

b) another person

6) どの人^{ひと}も田^た中^{なか}さんとそ^いう^いだ^いん^いす^いと^い言^いっていま^いすよ。

Q: だれが田^た中^{なか}さんとそ^いう^いだ^いん^いす^いる^いでしようか。

a) same as *dono hito*

b) another person

7) 前^ま田^{えだ}さんは高^た野^{かの}さんに寺^て田^{らだ}さんがベ^もッ^もド^もを^い持^もっ^もて^いき^いて^いく^いれ^いる^いと^い言^いいま^いしたよ。

Q: だれがベ^もッ^もド^もを^い持^もっ^もて^いく^いる^いでしようか。

a) Terada

b) someone other than Terada

8) どの店員^{てんいん}も今日^{きょう}彼女^{かのじょ}が店^{みせ}にもどると言^いっていますよ。

Q: だれが今日^{きょう}店^{みせ}にもどるんでしょうか。

a) same as *dono tenin*

b) another person

9) サリーさんはビルにケビンがトラックをうんてんしてあげると言^いいましたよ。

Q: だれがトラックをうんてんするんでしょうか。

a) Kevin

b) someone other than Kevin

10) どのサラリーマンも明日^{あした}会社^{かいしゃ}まで歩^{ある}くと言^いっていますよ。

Q: だれが明日^{あした}会社^{かいしゃ}まで歩^{ある}くんでしょうか。

a) same as *dono sarariiman*

b) another person

11) 高田^{たかだ}さんは来週^{らいしゅう}、こどもが自分^{じぶん}のホテルにとまると言^いっていましたよ。

Q: だれのホテルにとまるんでしょうか。

a) Takada's

b) other than Takada's

12) カレンさんはジルさんのかばんを車^{くるま}のトランクにしまったと言^いっていましたよ。

Q: だれが車^{くるま}のトランクにかばんをしまったんでしょうか。

a) Ziru (Jill)

b) another person

13) 林^{はやし}さんは五時^{ごじ}までにレポートを書^かくと言^いいましたよ。

Q: だれが五時^{ごじ}までにレポートを書^かくんでしょうか。

a) Hayashi

b) someone other than Hayashi

14) 田中^{たなか}さんは来週^{らいしゅう}彼^{かれ}が東京^{とうきょう}へ行^いくと言^いいましたよ。

Q: だれが来週^{らいしゅう}東京^{とうきょう}へ行^いくんでしょうか。

a) Tanaka

b) someone other than Tanaka

15) だれが^{せんしゅう}先週^{つか}ワープロを使^いったと言^いっているんですか。

Q: だれがワープロを使^{つか}ったんでしょうか。

a) same as *dare*

b) another person

16) 山本^{やまもと}さんは明日^{あした}彼^{かれ}が部長^{ぶちょう}に会^あうと言^いっていますよ。

Q: だれが明日^{あした}部長^{ぶちょう}に会^あうんでしょうか。

a) Yamamoto

b) someone other than Yamamoto

17) カーターさんが後^{あと}で、電話^{でんわ}をかけると言^いっていますよ。

Q: だれが後^{あと}で電話^{でんわ}をかけるんでしょうか。

a) Kaataa

b) someone other than Kaataa

18) だれが今日^{きょう}彼^{かれ}が遅^{おそ}くなると言^いっているんですか。

Q: だれが今日^{きょう}遅^{おそ}くなるんでしょうか。

a) same as *dare*

b) another person

19) 山田^{やまだ}さんは彼^{かれ}がスーズンを知^しっていると言^いっていましたよ。

Q: だれがスーズンを知^しっているんでしょうか。

a) Yamada

b) someone other than Yamada

20) だれが今日^{きょう}彼^{かれ}が家^{うち}に居^いると言^いっているんですか。

Q: だれが今日^{きょう}家^{うち}に居^いるんでしょうか。

a) same as *dare*

b) another person

21) ピーターさんは中国語^{ちゅうごくご}を勉強^{べんきょう}していると言^いっていましたよ。

Q: だれが中国語^{ちゅうごくご}を勉強^{べんきょう}しているんでしょうか。

a) Piitaa (Peter)

b) someone other than Piitaa (Peter)

22) 中山^{なかやま}さんは来月^{らいげつ}コンピューター^かを^い買うと言っていますよ。

Q: だれが来月^{らいげつ}コンピューター^かを^い買うんでしょうか。

a) Nakayama

b) someone other than Nakayama

23) だれが昨日^{きのう}彼^{かれ}が英和辞典^{えいわじてん}を^いかしたと言っているんですか。

Q: だれが昨日^{きのう}英和辞典^{えいわじてん}を^いかしたんでしょうか。

a) same as *dare*

b) another person

24) リック^{あと}さんは後^{かれ}で彼^{でんき}が電気を^いけすと言っていますよ。

Q: だれが後^{あと}で電気を^{でんき}を^いけすんでしょうか。

a) Rikku (Rick)

b) someone other than Rikku (Rick)

25) だれが明日^{あした}日本^{にほん}に帰^{かえ}ると言っているんですか。

Q: だれが明日^{あした}日本^{にほん}に帰^{かえ}るんでしょうか。

a) same as *dare*

b) another person

26) スミス^{せんせい}先生^{あした}は明日^{だいがく}大学^いにいらっしゃると言っていますよ。

Q: だれが明日^{あした}大学^{だいがく}にいらっしゃるんでしょうか。

a) Professor Sumisu (Smith)

b) someone other than Professor Sumisu (Smith)

27) 三田^{みた}さんは来月^{らいげつ}彼^{かれ}が映画^{えいが}を^み見ると言っていますよ。

Q: だれが来月^{らいげつ}映画^{えいが}を^み見るんでしょうか。

a) Mita

b) someone other than Mita

28) だれが今日^{きょう}ビデオ^みを^い見せると言っているんですか。

Q: だれが今日^{きょう}ビデオ^みを^い見せるんでしょうか。

a) same as *dare*

b) another person

29) ベンさんはジョーさんにジェニーさんが駅^{えき}をおぼえてくれる
と言^いいましたよ

Q: だれが駅^{えき}をおぼえるんでしょうか。

a) Jenny

b) someone other than Jenny

30) どの学生^{がくせい}も昨日^{きのう}彼^{かれ}がテレビをなおしたと言^いっていますよ。

Q: だれが昨日^{きのう}テレビをなおしたんでしょうか。

a) same as *dono gakusee*

b) another person

31) トムさんはケリーさんにマイクさんがてつだってもら^いと言^いいましたよ。

Q: だれがてつだうんでしょうか。

a) Maiku (Mike)

b) someone other than Maiku (Mike)

32) どの社長^{しゃちょう}も今日^{きょう}、時間^{じかん}がかかると言^いっていますよ。

Q: だれが今日^{きょう}、時間^{じかん}がかかるんでしょうか。

a) same as *dono syatyoo*

b) another person

33) 小野^{おの}さんは安子^{やすこ}さんに高子^{たかこ}さんが日本語^{にほんご}を教^{おし}えてあげると言^いいましたよ。

Q: だれが日本語^{にほんご}を教^{おし}えるんでしょうか。

a) Takako

b) someone other than Takako

34) どの女^{おんな}の子^こも彼女^{かのじょ}が大^{おお}きなビルにびっくりすると言^いっていますよ。

Q: だれがビルにびっくりするんでしょうか。

a) same as *dono onna no ko*

b) another person

35) ジムさんはフランクさんにリチャードさんがキャサリンさんに花^{はな}をおくつた
と言^いっていましたよ。

Q: だれが花^{はな}をおくつたんでしょうか。

a) Rityaado (Richard)

b) someone other than Rityaado
(Richard)

36) どのアルバイトの人も先週^{ひと せんしゅう}ノートをわすれたと言^いっていますよ。
Q: だれがノートをわすれたんでしょうか。

- a) same as *dono arubaito no hito* b) another person

37) ヘンリーさんはスーさんが自分^{じぶん}のアパートに時計^{とけい}があると言^いっていましたよ。

Q: だれのアパートに時計^{とけい}があるんでしょうか。

- a) Sue's b) other than Sue's

38) どのウェイトレスも彼女^{かのじょ}がジョンソンさんに電話^{でんわ}すると言^いっていますよ。
Q: だれが電話^{でんわ}するんでしょうか。

- a) same as *dono ueetoresu* b) another person

39) 野田^{の だ}さんは学生^{がくせい}のリーさんの友だち^{とも}と話^{はな}したと言^いっていましたよ。
Q: だれがリーさんの友だち^{とも}と話^{はな}したんでしょうか。

- a) Noda b) another person

40) チャールズさんはサムさんがマーガレットさんの部屋^{へや}に入^{はい}ったと言^いっていましたよ。

Q: だれがマーガレットさんの部屋^{へや}に入^{はい}ったんでしょうか。

- a) Samu (Sam) b) another person