REFERENTIAL MANAGEMENT BY ADVANCED LEARNERS OF JAPANESE AS A SECOND LANGUAGE

Masato Kogure*
University of Arizona

Previous studies on the use of referential expressions by second language (L2) learners have reported two conflicting results: one is that L2 learners tend to use noun phrases (NPs) more often than native speakers do (e.g., Tomlin, 1990) and the other is that L2 learners tend to overuse zero-anaphora, compared to native speakers (e.g., Williams, 1989). This study compares the referential expressions of advanced learners of Japanese as a second language (JSL) to that of native Japanese speakers by utilizing two models: the distance/recency model and the episode boundary model. Four advanced JSL learners, one bilingual speaker of Japanese and American English, and one native Japanese speaker are asked to describe a series of pictures. The study reveals that the JSL learners used NPs more frequently than their bilingual and native counterparts. I speculate that the frequent use of NPs by the JSL learners is due to their limited language processing abilities in an L2.

Introduction

Speakers' referential management in discourse has been vigorously investigated by functional grammarians. That is, they analyze how speakers choose either full noun phrases (hereafter NPs) or pronominals, such as pronouns, and zero anaphora in their speech. In this paper, zero anaphora refers to the non-use of a referential expression, either in the subject or object position, whose referent is potentially recoverable based on prior discourse, the context of the conversation, or general knowledge (Williams, 1988).

As Shibatani (1990) states, Japanese is highly elliptical in both speech and writing when compared to English. Consider the following example in Japanese:

(1) A: Kinoo Ø yuuhan nani tabeta?
'What did [you] eat for dinner?'
B: Ø sakana o tabeta na.
'(I) ate fish.'

In (1), neither A nor B expresses a subject pronoun; *you* and *I* are implicit, but the referent of each pronoun is recoverable from the context. However, the sentences in (1) would be ungrammatical if pronouns containing similar meaning were to be omitted in English. Such ellipsis has been frequently observed in Japanese.

There have been several kinds of models offered to account for the management of referential expressions. Some researchers argue for the distance/recency model, which claims that the efficacy of such management mainly depends on how recently the referent of an NP was expressed in previous clauses regardless of referential form. For example, Hinds

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(1983) has examined three kinds of data: 1) a stylized retelling of a Japanese folktale; 2) a semi-structured interview involving two females; and 3) a relaxed conversation between two males. He found that the more the same topic extends continuously over numerous clauses, the more likely a zero anaphora will be chosen for the topic in Japanese. Clancy (1980), who looked at the narratives English and Japanese native speakers produced after seeing the film called *Pear Story*, found that as the distance from the last mention of a referent increased, speakers increasingly tended to select a full NP in both languages.

In contrast, researchers have also frequently scrutinized the episode boundary model (Chafe, 1994; Clancy, 1980; Fox, 1987; Givón, 1983; Hinds, 1983, 1984; Kintsch, 1983; Tomlin, 1987; Tomlin & Pu, 1991; van Dijk, 1982; van Dijk & Saul, 1986). According to this model, speakers depend, to a large extent, on an episode boundary, whether they are using an NP, a pronoun, or a zero anaphora. Here, an episode has been defined based on one of the following two perspectives: memory status or the introduction of a new character in speech. In the former it is at an episode boundary that the limited capacity of working memory manifests itself. Thus, the speaker tends to use a full NP at the beginning of an episode in order to enable listeners to activate the referent in their memory. In the latter perspective, similarly, it is at an episode boundary that a new character tends to be introduced; this induces the speaker to use a full NP for the character.

Several researchers have empirically tested this model. In one such study, Saul (1986) asked 20 native speakers of Japanese to tell a well-known folktale called *Momotaro* while looking at a set of pictures. She found that a full NP tended to be used to refer to the first mention of a character at a picture boundary (i.e., an episode boundary); thereafter a less explicit referential form, such as a pronoun or a zero anaphora, tended to be used. Tomlin's (1987) experiment yielded a result similar to Saul's (1986): he looked at the narratives of 40 native speakers of English and found that the referent mentioned for the first time after an episode boundary was mostly coded by NPs. The referents previously mentioned within an episode boundary were usually found to be coded by pronouns. Later, Tomlin and Pu (1991) looked at Mandarin discourse from within a framework of memory limitation by precisely following Tomlin's procedure. They found that speakers tended to use a full NP as a referent when they believed that the referent was not yet activated in the hearer's memory, while a pronominal was used as a referent when the speaker believed that the referent had been activated in the hearer's memory.

The present study focuses on the referential management of Japanese by second language (JSL) learners. I utilize both the distance/recency model and the episode boundary model to identify the similarities and differences between the referential management of JSL learners and that of native speakers of Japanese. More specifically, the narrative production data of four advanced JSL learners are compared to those of two native speakers of Japanese in terms of the choice of NPs and zero anaphora. Based on the data, we learned that advanced JSL learners used NPs and zero anaphora in a manner similar to that of native Japanese speakers based on either the distance between the two identical referents, or the episode boundary. However, this study also points to some of the differences between the two groups of speakers: Within an episode, JSL learners used NPs more often than native Japanese speakers, while native Japanese speakers produced zero anaphora more often than JSL learners at the episode boundary. I argue that these differences are related to the relative Japanese language processing abilities of the two groups of subjects.

Previous second language acquisition (SLA) studies in referential management

Several studies have been conducted concerning the similarities and differences between both native speakers' and L2 learners' referential choices in discourse (e.g., Appel & Goldberg, 1984; Polio, 1995 for nonnative speakers of Chinese; Sasaki, 1997; Tomlin, 1990; Williams, 1988 for ESL/EFL learners; Watanabe, 1984; Yanagimachi, 1996, for JSL learners). Some researchers have found similarities in referential choice between the two groups. For example, Appel and Goldberg (1984) looked at how nine German learners of English as a foreign language (EFL) referred to the major character of a folktale in the subject position of their narratives.[1] They found that the EFL learners used pronouns and NPs like native English speakers. Pronouns and NPs were based on the distance between the two identical referents, the episode boundary, and other factors. Watanabe (1984) looked at how JSL learners chose referential expressions at the subject position in telling a personal history. She asked six JSL learners of varying proficiency levels to tell their personal history in Japanese and argued that they used zero anaphora in a similar manner to that of native speakers. Even the least proficient JSL learner used zero anaphora based on how predictable the current referent in the discourse was. Yanagimachi (1996) used a retelling task (a two-minute silent animation video clip) to look at the developmental sequence of the referential management of JSL learners based on four levels of proficiency, novice to advanced. He found that although there were some individual differences in the manner of referential management, overall, management methods remained very similar to that of native Japanese speakers.

Others have focused on differences between L2 learners and native speakers in the management of referential choice. Tomlin (1990) looked at the data produced by 30 advanced learners of English as a Second Language (ESL) in an on-line narrative production task and found differences in narrative production between ESL learners and native English speakers: the ESL learners exclusively used NPs in their narrative productions, regardless of the distance between the two identical referents. Similarly, Polio (1995) studied Chinese learners whose native languages were English and Japanese. In the three levels of proficiency analyzed, all used NPs more frequently than native Chinese speakers. There are still few SLA studies in which researchers utilize both the distance/recency model and the episode boundary model in order to investigate the referential management of L2 learners. This study attempts to close that gap.

The Present Research

Subjects

A total of six subjects participated in the study: four male JSL learners who are enrolled in a fourth-year Japanese reading class at an American university, one female English-Japanese bilingual student enrolled in the same class, and one female native speaker of Japanese. Table 1 describes the subjects' years of experience in learning Japanese, and their time spent in Japan.

As shown in Table 1, the learning experience of each subject ranges from two years and seven months to more than 20 years. All the subjects lived in Japan with a Japanese family for at least one month. During that time they were exposed to Japanese input.[2] Note

Table 1. Time spent learning Japanese and time spent in Japan.

Subject	Time spent learning Japanese	Time spent in Japan
A	3 years, six months	1 month studying Japanese
B	5 years	9 months studying Japanese
C	5 years	2 months studying Japanese and 2 months working
D	2 years, 7 months	2 months studying Japanese
E	bilingual speaker (Japanese and English)	Born and lived in Okinawa until graduation from high school.
F	native speaker	26 years

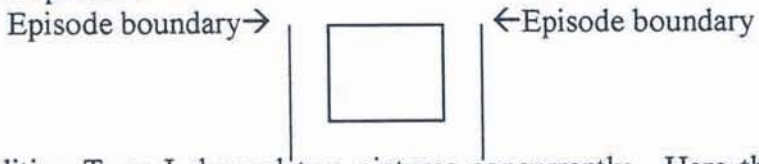
that I treat subject E as a native speaker.

Procedure

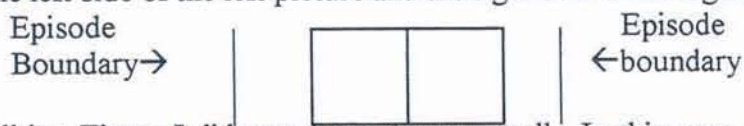
The subjects were asked to describe 21 individual frames in a picture book called *Frog in Winter* by Velthuijs (1992). In the story, a frog, the main character, walks around one cold winter day meeting his friends, a goose, a pig, and a rabbit. This book was chosen for its clear and simple story line. In addition, more than one character appears in some pictures. This provides the opportunity for the use of a number of referential strategies.

In order to manipulate the episode boundary, I detached each picture from the book and created three conditions. The following diagrams illustrate my procedure.

(a) Condition One: I showed one picture at a time. The episode boundary was at both sides of the picture.



(b) Condition Two: I showed two pictures concurrently. Here the episode boundary was at the left side of the left picture and the right side of the right picture.



(c) Condition Three: I did not show pictures at all. In this case, narrators decided the episode boundary, if any.

I asked each subject to narrate the story four times, in sequence. In the first two instances, the subjects viewed the pictures one by one, as shown in Condition One.[3] In the third instance they saw the pictures two pages at a time, as shown in Condition Two. In the last condition they were asked to narrate the story without looking at the pictures. In Condition Three, the position of the episode boundary was left to the narrator. For this paper, I used the data from the first condition alone.

During the experiment, I showed the pictures one by one, piling them on top of each other so the subjects would not be distracted. I moved on to each picture consecutively, and showed the next one when the subjects became silent and looked at me. Their narratives were tape-recorded and later transcribed for analysis.

Units for analysis

Based on Saul (1986), I categorized the referential expressions in this study in the following manner:

1. Singular full NPs:
   kaeru 'frog'; *ahiru* 'goose'; *buta* 'pig'; and *usagi* 'rabbit'
2. Plural NPs:
   kaeru to usagi 'frog and rabbit'; *usagi to buta* 'rabbit and pig'; *buta to ahiru* 'pig and goose'; *buta to usagi to ahiru* 'pig, rabbit, and goose'; and *buta to usagi to ahiru to kaeru* 'pig, rabbit, goose, and frog'
3. Quantified definite nouns:
   minna 'everyone'
4. Zero anaphora related to the three descriptions above

To determine whether or not speakers chose referential expressions based on a recency/distance model, I divided all of the transcriptions into clauses, which are defined as units including one predicate and its arguments. Then I counted the number of clause boundaries that appeared between two expressions of the same referent following Clancy (1980). Note that I use the term *distance* or *referential distance* in referring to the number of clause boundaries. For the above referential expressions I looked at the subject position, the object position, and obliques. Consider the following example:

(2) JSL learner A: Episode 17/18

17 ano kaeru wa byooki ni natta mitai desu kedo/ sono buta to ano ahiru wa suupu o Ø tsukette agemashita.
'Though that frog seemed to get ill, the pig and that goose cooked soup (for the frog).'

18 ima sono buta to usagi to ano ahiru wa anoo= sono kaeru no mendoo o miteru mitai desu.
'Now, the pig, the rabbit, and that goose seem, well, to be taking care of the frog.'

In (2), episode 17 was divided into two clauses (represented by the slash), while episode 18 consisted of one clause. The distance of *kaeru* 'frog' in episode 17 was counted as one, because *kaeru* 'frog' had been mentioned one clause before the present clause (*i.e.*, episode 16 which is not shown here). In the second clause of episode 17, the oblique case, *kaeru ni*, 'for the frog' was unexpressed, i.e., Ø. I also counted this as 1 because in this instance *kaeru* refers to the *kaeru* found in the clause prior to this one. Following Hinds' (1983) convention, the subject of episode 18, *sono buta to usagi to ano ahiru* 'the pig, the rabbit, and that goose' was arbitrarily counted as 20, since this was the first mentioned NP.

There were also some instances in which the referential distance was counted as zero in the data. Consider the following example:

(3) JSL learner A: Episode 16

a ima sono buta to ano u- usagi to ahiru to issho ni ano **kaeru** o u=n ano= **kaeru** o hakondeimasu.

'Ah, now, the pig, that rabbit, and the goose, all together, surround **the frog, the frog**.'

In (3), JSL learner A repeated the same NP *kaeru* 'frog' for some reason. I counted the second *kaeru* 'frog' as being zero in terms of referential distance, as both instances appeared in the same clause. As for the effect of episode boundary on referential choice, I used the notion of hits and misses as defined by Tomlin (1987, pp. 462-463):

- Hits: If the referents mentioned for the first time after an episode boundary are coded by NPs or if the referents previously mentioned within an episode boundary are coded by zero anaphora, they are counted as hits.
- Misses: If the referents mentioned for the first time after an episode boundary are coded by zero anaphora or if the referents previously mentioned within an episode boundary are coded by NPs, they are counted as misses.

As stated previously, I considered each picture as possessing episode boundaries. This meant that there were 21 arbitrarily created episode boundaries in this study. Consider the following example:

(4) JSL learner B: Episode 14
de mooichi do **kaeru** ga yoru mitai ni etto ie kara dete etto yuki ga futteite etto **kaeru** ga totemo samusoo desu.
'And once again, the frog went out, probably at night, and it was snowing, and well, the frog looks freezing.'

In (4) the first *kaeru* 'frog' was considered a hit because this NP was its first occurrence in the episode 14, but the second *kaeru* 'frog' was considered a miss, because this NP was its second mentioning within episode 14.

Analysis

Similarities and differences based on the distance/recency model

I found that the JSL learners and the native speakers in this study used NPs and zero anaphora in a similar manner. For the most part, both JSL learners and native speakers of Japanese seemed to use NPs and zero anaphora based on referential distance. Table 2 shows how the four JSL learners and two native speakers used zero anaphora in their narrative production based on the distance/recency model:

Table 2. Use of Zero Anaphora

# of clause	JSL learners	Native speakers
0	0% (0/57)	0% (0/55)
1	82.4% (47/57)	87.3% (48/55)
2	12.3% (7/57)	7.3% (4/55)
3	1.8% (1/57)	1.8% (1/55)
4-6	3.5% (2/57)	1.8% (1/55)
7-9	0.0% (0/57)	0.0% (0/55)
10-20	0.0% (0/57)	0.0% (0/55)
20-	0.0% (0/57)	1.8% (1/55)

In Table 2 percentages as well as the actual number of zero anaphora used by the four JSL learners and two native speakers is shown. Note that a total of 57 anaphora and a total of 55 anaphora appeared in the narratives of the JSL learners and native speakers respectively.

As illustrated in Table 2 the most frequent use of zero anaphora by both sets of speakers occurred within one clause boundary between two mentions of the same referent. Furthermore, for the first three clauses, consider that the JSL learners used 95.5 % of total zero anaphora while the native speakers were found to utilize 96.4 % of total zero anaphora.

Table 3 shows how four JSL learners and two native speakers used NPs in their narrative production, based on the distance/recency model. Note that the JSL learners used a total of 158 NPs and the native speakers used a total of 62 NPs in their narratives:

Table 3. Use of Full NPs

# of clause	JSL learners	Native speakers
0	4.4% (7/158)	4.8% (3/62)
1	32.3% (51/158)	40.3% (25/62)
2	15.2% (24/158)	8.1% (5/62)
3	8.9% (14/158)	6.5% (4/62)
4-6	6.9% (11/158)	4.8% (3/62)
7-9	2.5% (4/158)	3.2% (2/62)
10-20	5.1% (8/158)	8.1% (5/62)
20-	24.7% (39/158)	24.2% (15/62)

Table 3 shows similar tendencies regarding the use of NPs by JSL learners and native speakers. The most frequent use of full NPs by both types of speakers occured within one clause boundary. Again, for the first three clauses, the JSL learners utilized 60.8 % of their total NPs, while the native speakers used 59.8 % of their total NPs. Similarly, looking at the final sets, the JSL learners used 29.8 % of NPs when the two referents were more than nine clauses apart, while the native speakers used 32.3 %. However, Table 3 illustrates some of the differences in the use of NPs between the two types of speakers. That is, the number of NPs used by JSL learners is twice that of the native speakers: The JSL learners used 158 full NPs, while the native speakers used 62 full NPs. This is worth mentioning, since it seemingly contradicts the fact that the number of zero anaphora used by both sets of speakers was, in fact, about the same.

Table 3 also seems to indicate that the distance/recency model cannot explain the use of NPs by either the JSL learners or the native speakers. Recall that the most frequent use of NPs occurred at a distance of one clause, which is a very short distance. However, in the distance/recency model, the closer the two identical referents are found, the more often zero anaphora, and not a full NP, tends to be used. The data appear to contradict this prediction, as pointed out in previous studies. As a result, this model alone cannot describe the referential choice in this discourse.

Similarities and Differences Based on the Episode Boundary Theory

Recall that the episode boundary model predicts that full NPs appear when they are mentioned for the first time, i.e., at the episode boundary. A hit, then, according to this theory, means that an NP/zero anaphor is used, whereas a miss indicates that the appearance

of an NP/zero anaphor cannot be explained on the basis of this theory. Table 4 shows the hits and misses by the JSL learners and native speakers in this study:

Table 4. Hits and Misses

Hits & Misses	JSL learners		Native speakers	
Hits	189/217	87.1%	92/115	80.0%
Misses	28/217	12.9%	23/115	20.0%

In Table 4 the frequencies, as well as the actual numbers of occurrence of hits and misses, are shown. For example the JSL learners produced a total number of 189 hits out of 217 referential expressions; they used zero anaphora and NPs based on the episode boundary model 87.1 % of the time. On the other hand the table also shows that the JSL learners, out of 217 referential expressions, produced a total number of 28 misses. This means that they used zero anaphora and NPs in a manner not based on the episode boundary model 12.9 % of the time.

As shown in Table 4 both the JSL learners and the native speakers in this study displayed very similar patterns regarding hits; they seemed to use zero anaphora and NPs based on the episode boundary for most of the cases. An average of 83.6 % of total NPs and zero anaphora occurs at an episode boundary or within an episode. However, the table also shows that the native speakers produced misses more frequently than the JSL learners -- 20.0% for native speakers and 12.9 % for JSL learners. These misses are analyzed further in the following section.

Comparison of Misses

Here, a close look at the misses produced by the JSL learners and the native Japanese speakers reveals that there are some differences between the two groups of subjects. Table 5 shows the misses divided into two categories: inter-episode misses and intra-episode misses. Based on Saul (1986), I define these two misses as follows:

- The inter-episode miss is defined as a miss made by speakers when they use a zero anaphor in the episode boundary for the first time;
- The intra-episode miss is defined as a miss made by speakers when they use an NP within one episode after the first mention of the same referent.

This distinction helps to determine the types of mistakes which my subjects made. Consider the following table:

Table 5. Two Types of Misses

Two types of misses	JSL learners	Native speakers
inter-episode zero anaphora	5/28 (17.9%)	17/23 (74.0%)
intra-episode NP	23/28 (82.1%)	6/23 (26.0%)

As shown in Table 5 the JSL learners produced intra-episode NPs more often than the native speakers -- 82.1 % for the JSL learners and 26.0 % for the native speakers. The table also shows that the native speakers produced inter-episode zero anaphora more often than the JSL learners -- 74.0 % for native speakers and 17.9 % for JSL learners. Thus, the pattern is completely opposite for the two sets of speakers. The probable causes of these differences are explained in the following sections.

Analysis of Intra-episode NPs

The use of intra-episode NPs was induced for: 1) repair, after non-narrative comments; 2) ambiguity resolution, and 3) the avoidance of complex sentences. Repair is defined as "correction by the speaker of that which is being self-corrected" (Schegloff, Jefferson, & Sacks, 1977). Seven NPs used by the JSL learners and three NPs used by the native speakers fall into this category. Consider the following example:

(5) JSL learner D: Episode five
un **ahiru**, kono **ahiru** wa, sukeeting shite- shiteimasu.
'Yes, a goose, this goose, is doing skating.'

In (5), JSL learner D said *ahiru* 'goose' twice. The purpose of this is to define 'this goose' rather than any other goose by adding *kono* 'this', which is a function of repair.

Non-narrative comments refer to the personal comments of the narrator. It shows confirmation, an opinion, and so on. Four intra-episode NPs used by the JSL learners and two intra-episode NPs used by the native speakers appeared after non-narrative comments. Consider the following example:

(6) Native speaker F: Episode one
kore wa **kaeru** san desu ne. **kaeru** san wa soshite beddo ni suwarikomimashita.
'This is a frog, isn't this? And the frog sat on the bed.'

In (6) native speaker F used an intra-episode NP *kaeru* 'frog' after making a non-narrative comment, which was a confirmation of a picture. Ambiguity resolution is when a narrator finds that something which was said might create ambiguity and resolves the problem by defining the subject, using a full NP (Tomlin, 1987). Five of the intra-episode NPs used by JSL learners and one of the intra-episode NPs used by the native speakers were the result of ambiguity resolution. In the following example, note that the subject of the first clause is *kaeru* 'frog'.

(7) Native speaker E: Episode eight
kondo wa Ø chigau tokoro de, anoo, yuki no ue aruitete **buta** san ni atte **buta** san ga nanika kaeru san ni itte masu nanka.
'This time, (the frog) is walking on the snow and came across with a **pig**, and the **pig** seems to be saying something to the frog.'

In (7), native speaker E used *buta* 'pig' twice; she used this in both the first clause and the second clause. Here, *buta* 'pig' is the new subject. There are now two subjects in the second clause, and the narrator had to state *buta* 'pig' in order to show that the subject that she was talking about was indeed *buta* and not *kaeru* 'frog.' Otherwise, the subject of the second clause might be understood as being the same subject which was expressed as a zero anaphor in the first clause, that being *kaeru* 'frog.'

The JSL learners also used intra-episode NPs in order to avoid complex sentences. That is, they broke up a complex sentence into two simple sentences, and they used a full NP in each of these simple sentences. Seven intra-episode NPs used by the JSL learners were a result of this.

(8) JSL learner C: Episode ten
to juuban me wa sono kaeru wa etto usagi o miteru. Sono usagi ga hashitteru n desu.
'And in the tenth (picture), the frog is, well, looking at the **rabbit**. The **rabbit** is running.'

In (8), JSL learner C added another narration for episode ten after giving one narration *sono kaeru wa etto usagi o miteru* 'the frog is, well, looking at the rabbit.' In contrast, a native speaker produced the following example:

(9) Native speaker E: Episode ten
... ano genki na **usagi** kun anoo hashitteru tokoro o kaeru ga mitemansu.
'... well, the frog is seeing the cheerful rabbit running.'

Here, we see that native speaker E has merged two simple sentences: "A rabbit is cheerfully running" and "A frog is looking at the rabbit." Clearly only JSL learners showed this pattern in (8) because they were not proficient enough in Japanese to produce modifier clauses. Hence their strategy was to break up a sentence into two simple sentences and use full NPs each time in order to convey the meaning clearly. I found that only the two native speakers in this study used zero anaphora at the same episode boundaries (see Table 2). In episodes two and four especially, one character appeared in the sequence. Consider the following example:

(10) Native speaker F: Episode two
E kore wa asa kana, ano kumottette, ano Ø mado akete, tori ga irukara...
'Well, this may be [the scene of] the morning. Well, it is cloudy, and well, [the frog] opened the door, and there is a bird ...

In (10) native speaker F used a zero anaphora for *kaeru* 'frog', which is a first-mentioned referent in episode two. In other words, in spite of the episode boundary, F used a zero anaphora instead of a full NP to refer to the first-mentioned referent. None of the JSL learners produced such an inter-episode zero anaphor except for subject D, who did so in a manner similar to that of the native speakers between episodes two and three. This would indicate that the JSL learners were more constrained by an induced boundary (picture boundary). In other words, their performance was due to the cognitive limitation that the JSL learners faced: they could not examine the broader story structure because of the difficulty of dealing with the task right in front of them, using a second language. On the other hand, the native speakers were able to look at natural discourse boundaries; they easily grasped the flow of the story as well as the natural story boundaries.

Conclusion

I have found that JSL learners and native Japanese speakers chose referential expressions similarly when considered in terms of the distance/recency model and the episode boundary model. Both groups seemed to base their referential choice--a full NP or zero anaphora--on the following three factors: the distance between the two identical

referents; the episode at which a new referent is introduced; and the hearer's memory limitations. I also found some differences between the narratives of the JSL learners and those of the native speakers. First, as pointed out in previous studies (Fakhri, 1989; Polio, 1995; Tomlin,1990), JSL learners used NPs more often than native speakers. Tomlin (1990) speculated that the exclusive use of nominal NPs by L2 learners was part of a general communicative strategy to ensure coherent and complete understanding. In a similar way Fakhri (1989) found that L2 learners of French increasingly used structurally marked elements such as NPs and avoided unmarked elements such as zero anaphora as the period after completing a French class got longer. He speculated that it might be related to a communicative strategy to avoid ambiguity in a sentence. Polio (1995), who supports Fakhri's view, argues that the reason they used NPs where the usage of pronouns was required was that it better allowed them and their interlocutors to keep track of referents in a clear manner.

A close investigation of the types of misses which were made by JSL learners and the native speakers further suggests that the reason JSL learners used NPs more often than the native speakers is related to the learners' processing/cognitive constraints. There was one condition for the production of the intra-episode NP which was only observed in JSL learners: JSL learners produced the intra-episode NPs after giving non-narrative comments. In contrast, only the native speakers produced inter-episode zero anaphora in episode boundaries if the same character reoccurred. These findings highlight the differences between their language processing abilities. The JSL learners could not produce complex sentences such as those which include subordinate structures because of their limited language processing abilities in an L2. For the very same reason, they could not recognize natural episode boundaries which were hidden among pictures in the same way as the native Japanese subjects did.

I will conclude by stating some points that should be refined in future studies: Depending on the length of the time for the observation, the subjects had a chance to add another narration to the picture. It seems that by controlling time, different results might be produced. Second, more subjects for each group are needed to generalize the results. Third, future studies might consider including other levels of JSL learners to discover how these learners develop their referential management ability in Japanese discourse. Finally, there is a possibility that the distance/recency model and the episode boundary model represent a universal tendency of referential management strategies (Givón, 1983). Further studies will corrobate whether this tendency of referential management is common to both native speakers and L2 learners.

The Author

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Analysis of Intra-episode NPs

The use of intra-episode NPs was induced for: 1) repair, after non-narrative comments; 2) ambiguity resolution, and 3) the avoidance of complex sentences. Repair is defined as "correction by the speaker of that which is being self-corrected" (Schegloff, Jefferson, & Sacks, 1977). Seven NPs used by the JSL learners and three NPs used by the native speakers fall into this category. Consider the following example:

(5) JSL learner D: Episode five
un **ahiru**, kono **ahiru** wa, sukeeting shite- shiteimasu.
'Yes, a goose, this goose, is doing skating.'

In (5), JSL learner D said *ahiru* 'goose' twice. The purpose of this is to define 'this goose' rather than any other goose by adding *kono* 'this', which is a function of repair.

Non-narrative comments refer to the personal comments of the narrator. It shows confirmation, an opinion, and so on. Four intra-episode NPs used by the JSL learners and two intra-episode NPs used by the native speakers appeared after non-narrative comments. Consider the following example:

(6) Native speaker F: Episode one
kore wa **kaeru** san desu ne. **kaeru** san wa soshite beddo ni suwarikomimashita.
'This is a frog, isn't this? And the frog sat on the bed.'

In (6) native speaker F used an intra-episode NP *kaeru* 'frog' after making a non-narrative comment, which was a confirmation of a picture. Ambiguity resolution is when a narrator finds that something which was said might create ambiguity and resolves the problem by defining the subject, using a full NP (Tomlin, 1987). Five of the intra-episode NPs used by JSL learners and one of the intra-episode NPs used by the native speakers were the result of ambiguity resolution. In the following example, note that the subject of the first clause is *kaeru* 'frog'.

(7) Native speaker E: Episode eight
kondo wa Ø chigau tokoro de, anoo, yuki no ue aruitete **buta** san ni atte **buta** san ga nanika kaeru san ni itte masu nanka.
'This time, (the frog) is walking on the snow and came across with a **pig**, and the **pig** seems to be saying something to the frog.'

In (7), native speaker E used *buta* 'pig' twice; she used this in both the first clause and the second clause. Here, *buta* 'pig' is the new subject. There are now two subjects in the second clause, and the narrator had to state *buta* 'pig' in order to show that the subject that she was talking about was indeed *buta* and not *kaeru* 'frog.' Otherwise, the subject of the second clause might be understood as being the same subject which was expressed as a zero anaphor in the first clause, that being *kaeru* 'frog.'

The JSL learners also used intra-episode NPs in order to avoid complex sentences. That is, they broke up a complex sentence into two simple sentences, and they used a full NP in each of these simple sentences. Seven intra-episode NPs used by the JSL learners were a result of this.

(8) JSL learner C: Episode ten
to juuban me wa sono kaeru wa etto usagi o miteru. Sono usagi ga hashitteru n desu.
'And in the tenth (picture), the frog is, well, looking at the **rabbit**. The **rabbit** is running.'

In (8), JSL learner C added another narration for episode ten after giving one narration *sono kaeru wa etto usagi o miteru* 'the frog is, well, looking at the rabbit.' In contrast, a native speaker produced the following example:

(9) Native speaker E: Episode ten
... ano genki na **usagi** kun anoo hashitteru tokoro o kaeru ga mitemansu.
'... well, the frog is seeing the cheerful rabbit running.'

Here, we see that native speaker E has merged two simple sentences: "A rabbit is cheerfully running" and "A frog is looking at the rabbit." Clearly only JSL learners showed this pattern in (8) because they were not proficient enough in Japanese to produce modifier clauses. Hence their strategy was to break up a sentence into two simple sentences and use full NPs each time in order to convey the meaning clearly. I found that only the two native speakers in this study used zero anaphora at the same episode boundaries (see Table 2). In episodes two and four especially, one character appeared in the sequence. Consider the following example:

(10) Native speaker F: Episode two
E kore wa asa kana, ano kumottette, ano Ø mado akete, tori ga irukara...
'Well, this may be [the scene of] the morning. Well, it is cloudy, and well, [the frog] opened the door, and there is a bird ...

In (10) native speaker F used a zero anaphora for *kaeru* 'frog', which is a first-mentioned referent in episode two. In other words, in spite of the episode boundary, F used a zero anaphora instead of a full NP to refer to the first-mentioned referent. None of the JSL learners produced such an inter-episode zero anaphor except for subject D, who did so in a manner similar to that of the native speakers between episodes two and three. This would indicate that the JSL learners were more constrained by an induced boundary (picture boundary). In other words, their performance was due to the cognitive limitation that the JSL learners faced: they could not examine the broader story structure because of the difficulty of dealing with the task right in front of them, using a second language. On the other hand, the native speakers were able to look at natural discourse boundaries; they easily grasped the flow of the story as well as the natural story boundaries.

Conclusion

I have found that JSL learners and native Japanese speakers chose referential expressions similarly when considered in terms of the distance/recency model and the episode boundary model. Both groups seemed to base their referential choice--a full NP or zero anaphora--on the following three factors: the distance between the two identical

referents; the episode at which a new referent is introduced; and the hearer's memory limitations. I also found some differences between the narratives of the JSL learners and those of the native speakers. First, as pointed out in previous studies (Fakhri, 1989; Polio, 1995; Tomlin,1990), JSL learners used NPs more often than native speakers. Tomlin (1990) speculated that the exclusive use of nominal NPs by L2 learners was part of a general communicative strategy to ensure coherent and complete understanding. In a similar way Fakhri (1989) found that L2 learners of French increasingly used structurally marked elements such as NPs and avoided unmarked elements such as zero anaphora as the period after completing a French class got longer. He speculated that it might be related to a communicative strategy to avoid ambiguity in a sentence. Polio (1995), who supports Fakhri's view, argues that the reason they used NPs where the usage of pronouns was required was that it better allowed them and their interlocutors to keep track of referents in a clear manner.

A close investigation of the types of misses which were made by JSL learners and the native speakers further suggests that the reason JSL learners used NPs more often than the native speakers is related to the learners' processing/cognitive constraints. There was one condition for the production of the intra-episode NP which was only observed in JSL learners: JSL learners produced the intra-episode NPs after giving non-narrative comments. In contrast, only the native speakers produced inter-episode zero anaphora in episode boundaries if the same character reoccurred. These findings highlight the differences between their language processing abilities. The JSL learners could not produce complex sentences such as those which include subordinate structures because of their limited language processing abilities in an L2. For the very same reason, they could not recognize natural episode boundaries which were hidden among pictures in the same way as the native Japanese subjects did.

I will conclude by stating some points that should be refined in future studies: Depending on the length of the time for the observation, the subjects had a chance to add another narration to the picture. It seems that by controlling time, different results might be produced. Second, more subjects for each group are needed to generalize the results. Third, future studies might consider including other levels of JSL learners to discover how these learners develop their referential management ability in Japanese discourse. Finally, there is a possibility that the distance/recency model and the episode boundary model represent a universal tendency of referential management strategies (Givón, 1983). Further studies will corrobate whether this tendency of referential management is common to both native speakers and L2 learners.

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