

**EXPERIMENTAL EVIDENCE FOR THE PARAMETER RESETTING
HYPOTHESIS:
THE SECOND LANGUAGE ACQUISITION OF ENGLISH REFLEXIVE-BINDING
BY JAPANESE SPEAKERS***

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1. Introduction

There are two conflicting hypotheses for the availability of Universal Grammar (UG) to second language (L2) learners: No UG Access Hypothesis (Clahsen and Muysken 1986, Schacter 1988, Bley-Vroman 1990, and Epstein, Flynn and Martohardjono 1996, among others) and Full UG Access Hypothesis (White 1985, 1989, 1992, du Plessis et al. 1987, Schwartz and Tomaselli 1990, Thomas 1991, and Martohardjono and Gair 1993, among others). The No UG Access Hypothesis states that L2 acquisition is not constrained by UG and it is different from first language (L1) acquisition. The Full UG Access Hypothesis states that UG is available to L2 learners, and the grammar of L2, as well as that of L1, is constrained by UG. If the latter hypothesis is right and L2 learners can access to UG, the next question naturally arises is how L2 learners access to UG. There are two major hypotheses regarding this question: Transfer Hypothesis (Cook 1988, Yuan 1994, and Cook and Newson 1996, among others) and Parameter Resetting Hypothesis (Finer and Broselow 1986, Thomas 1989, 1991, Finer 1990, Hirakawa 1990, and MacLaughlin 1996, 1998, among others). According to the Transfer Hypothesis, although L2 learners have access to UG, they cannot set the parameter values of the L2, and use the value of their NL in their L2. On the other hand, the Parameter Resetting Hypothesis states that L2 learners' interlanguage grammars are constrained by UG, and L2 learners can use the parameter values of the L2 (White 2003).

Based on an experimental study on the interpretation of the English reflexives *-self* (e.g., *himself*) by native speakers of Chinese and Japanese, MacLaughlin (1998) finds that there is an intermediate acquisition stage where some L2 learners reset the Governing Category Parameter (GCP) from the value of their NL to that of non-NL (i.e. Russian), thereby arguing

* We would like to express our deep gratitude to Natsuko Shintani, Tomoko Kawamura, Mamoru Saito, Tomohiro Fujii, Masaru Nakamura, Kensuke Takita, Dylan Tsai, Jonah Lin, T. T. Christina Hsu, and Masayuki Komachi for their invaluable comments and suggestions for the material presented in this paper. This paper was presented at Connecticut-Nanzan-Siena Workshop on Linguistics Theory and Language Acquisition, held at Nanzan University on February 21, 2007, and Nanzan-Tsing-Hua Consortium on March 10-11, 2007 held at Tsing-Hua University. We would like to thank the organizers and the participants for the workshops.

for the Parameter Resetting Hypothesis.¹ In this paper, we provide a piece of supportive evidence for MacLaughlin (1998) based on an experimental study on L2 acquisition of the English reflexives by the native speakers of Japanese. We discuss that our results are consistent with MacLaughlin's (1998) findings and that L2 learners are able to reset their parameter value.

This paper is organized as follows. In Section 2, we discuss the previous studies regarding how Japanese and Chinese learners of English interpret the English reflexives. In Section 3, we report the results of our experimental study. Section 4 concludes this paper.

2. Previous Case Studies

Before we discuss MacLaughlin (1998), we first examine how English, Japanese and Russian reflexives are interpreted.

2.1 The Cross-linguistic Variations of the Governing Category

It is well known that languages vary with respect to the way of applying Binding Principle A (Chomsky 1981).² In order to capture the cross-linguistic variations, Wexler and Manzini (1987) propose that the choice of the governing category is subject to the parametric variations. They argue that the Governing Category Parameter (GCP) has five values as in (1).

(1) Governing Category Parameter (GCP):

- γ is a governing category for α iff γ is the minimal category which contains α and
- a. has a subject, or
 - b. has an INFL, or
 - c. has a TNS, or
 - d. has a indicative TNS, or
 - e. has a root TNS;

(Wexler and Manzini 1987; 53)³

In this paper, we focus on the English, Japanese and Russian value of the GCP, which are crucial for our analysis of the experimental results.

The English reflexives are subject to the setting (1a) of the GCP, and they require local antecedents. The examples are shown in (2).

¹ However, MacLaughlin (1998) does not reject the possibility that the L1 parameter value is transferred to the L2 parameter value. According to him, 'the experimental evidence argues against an analysis of L2 learner performance which appeals solely to transfer (MacLaughling 1998; 216).'

² Binding Condition Principle (A): An anaphor is bound in a local domain (Chomsky 1981).

³ TNS in (1c-e) means Tense.

- (2) a. Fred_i believes that [John_j hurt himself_{*i/j}].
 b. Fred_i believes [John_j to have hurt himself_{*i/j}].

(MacLaughlin 1998; 197)⁴

(2a) has a finite embedded clause, and (2b) has an infinitival embedded clause. In both sentences, the antecedent of the reflexive must be the local subject *John*.

The sentences in (3) are the examples with the Japanese reflexive *zibun*. The Japanese GCP is set as (1e) and it allows both local and non-local antecedents.

- (3) a. [Kyoko_i-wa Hanako_j-ga zibun_{i/j}-o aisite iru to omotte iru].
 -Top -Nom self -Acc love is Comp think is

‘Kyoko thinks that Hanako loves herself.’

- b. [Alice_i-wa Hanako_j-ni zibun_{i/j}-o syokaisuru youni tanonda].
 -Top -Dat self -Acc introduce as asked

‘Alice asked Hanako to introduce herself.’

In (3), both the local and the non-local subjects can be the antecedent of the reflexive. According to Wexler and Manzini (1987), Chinese and Korean reflexives have the same GCP value as Japanese.

The Russian reflexive *sebja* is subject to the setting (1c) of the GCP. The sentences in (4) are the examples of the Russian reflexive.

- (4) a. Saša_i prosit, čtoby [Marinu_j narisovala sebja_{*i/j}].
 Sasha requests that Marina-Acc draw self

‘Sasha requests that Marina draws herself.’ (Bailyn 1992; 317)

- b. [Saša_i proposila Marinu_j narisovat’ sebja_{i/j}].
 Sasha requested Marina-Acc to draw self

‘Sasha asked Marina to draw herself.’ (Bailyn 1992; 311)

(4a) has a finite embedded clause and (4b) has an infinitival embedded clause. As shown in (4a), only the local subject *Marinu* can be the antecedent of the reflexive. On the other hand, both the local subject *Marinu* and the non-local subject *Saša* can be the antecedent of the reflexive in (4b).

In 2.2 through 2.4, we introduce some previous studies of L2 acquisition on the GCP

⁴ Although the original sentences do not have these square brackets, we put these square brackets to indicate the governing category for each reflexive for ease of exposition.

setting. We first overview Finer and Broselow (1986). They examine how Japanese, Chinese, and Korean learners of English interpret the English reflexives.

2.2 Finer and Broselow (1986)

As we discussed in 2.1, the English reflexives must be bound clause-internally. The Japanese reflexive *zibun*, Chinese *ziji*, and Korean *casino*, on the other hand, can be bound by some non-local antecedents (Wexler and Manzini 1987). Finer and Broselow (1986) study the acquisition of the English reflexives by Japanese, Chinese, and Korean learners of English. They examine whether L2 learners keep the value of the L1 in L2 or they use the value of L2 when L2 has a different value of the GCP from L1. A comprehension task was used in their experiment. The experimenter showed a picture and its description to subjects, and asked the subject whether or not the sentence describes the picture correctly. Some of the test sentences are shown below:

(5) a. Mr. Fat_i thinks that [Mr. Thin_j will paint himself_{*i/j}].

b. Mr. Fat_i told [Mr. Thin_j to paint himself_{*i/j}].

(Finer and Broselow 1986; 160)

(5a) has a finite embedded clause, and (5b) has an infinitival embedded clause. In both cases, the antecedent of the reflexive must be the embedded subject, *Mr. Thin*.

As the results, 91.7% of the subjects answered correctly to (5a), and 58.3% of the subjects answered correctly to (5b). These results show that more than 50 % of the subjects showed the tendency to follow the English value of the GCP. Based on these results, Finer and Broselow (1986) conclude that their subjects reset the value of the GCP from L1 to L2, thereby supporting the Parameter Resetting Hypothesis.

2.3 Yuan (1994)

Yuan (1994) argues that the results of Finer and Broselow (1986) do not support the Parameter Resetting Hypothesis, but rather, they support the Transfer Hypothesis. Yuan (1994) claims that there are two types of reflexives in Japanese, Chinese and Korean: bare reflexives and phrasal reflexives (cf. Wang and Stillings 1984, Tang 1985, 1989, Pica 1987, Battistella and Xu 1990, and Cole et al. 1990, among others). Two types of reflexives in these languages are summarized in Table 1.

Table 1: Bare reflexives and phrasal reflexives of Japanese, Chinese and Korean

the types of the reflexives languages	Bare reflexives	Phrasal reflexives
Japanese	<i>zibun</i> 'self'	<i>-zisin</i> '-self'
Chinese	<i>zìjǐ</i> 'self'	<i>-zìjǐ</i> '-self'
Korean	<i>casin</i> 'self'	<i>-casin</i> '-self'

The Japanese bare reflexive is *zibun* and the phrasal reflexives are *-zisin*. The Chinese bare reflexive is *zìjǐ* and the phrasal reflexives are *-zìjǐ*. The Korean reflexive is *casin* and the phrasal reflexives are *-casin*.

According to Yuan (1994), the bare reflexives and the phrasal reflexives in those languages have the different values of the GCP. The bare reflexives are subject to the setting (1e) of the GCP, while the phrasal reflexives are subject to the setting (1a) of the GCP, which is the same value of the English reflexives *-self*. Thus, Yuan (1994) argues that the Japanese, Chinese and Korean learners of English who participated in Finer and Broselow's (1986) experiment, in fact, applied their L1 value of the GCP for phrasal reflexives to English reflexives.

In the next sub-section, we overview MacLaughlin (1998), which provides some counter evidence to Yuan's (1994) proposal.

2.4 MacLaughlin (1998)

MacLaughlin (1998) examines the acquisition of the English reflexives by the native speakers of Japanese and Chinese. He performed an experimental study to examine how Japanese and Chinese learners of English interpret the English reflexives. The subjects consisted of 10 Japanese native speakers and 5 Chinese native speakers, and the comprehension task was used. Some examples of the test sentences are shown below:

- (6) a. Barbara thinks that [Lisa is proud of herself].
 b. *herself* can be *Barbara*. AGREE _____ DISAGREE _____
 c. *herself* can be *Lisa*. AGREE _____ DISAGREE _____
- (7) a. Michael forces [Peter to help himself].
 b. *himself* can be *Michael*. AGREE _____ DISAGREE _____
 c. *himself* can be *Peter*. AGREE _____ DISAGREE _____

(MacLaughlin 1998; 211)

Each test sentence has two following statements to check the interpretation of the reflexive. The statement in (b) asks if the non-local subject can be the antecedent of the reflexive. The statement (c) asks if the local subject can be the antecedent of the reflexive. The subjects were expected to indicate whether they agree or disagree with each statement, and to circle either AGREE or DISAGREE. Take (6) for instance. If the subjects agree to the statement (6b), '*herself* can be *Barbara*,' they circle AGREE, and if they disagree to the statement, they circle DISAGREE.

MacLaughlin (1998) reports that the subjects can be categorized into three groups: the subjects who used the English value of the GCP, the subjects who applied the Japanese value of the GCP, and the subjects who used the Russian value of the GCP. The number of subjects in each group is shown in (8).

- (8) a. Subjects who used the English value of the GCP : 6/15
 b. Subjects who applied the Japanese value of the GCP : 2/15
 c. Subjects who used the Russian value of the GCP : 7/15

6 out of 15 subjects used the English value of the GCP and 2 out of 15 subjects applied the Japanese value of the GCP. In addition, 7 out of the 15 subjects used the Russian value of the GCP.

The examples of the responses by the subjects in (8a) are given in (9) and (10).

- (9) a. Barbara thinks that [Lisa is proud of herself].
 b. *herself* can be *Barbara*. AGREE _____ DISAGREE ○
 c. *herself* can be *Lisa*. AGREE ○ DISAGREE _____
- (10) a. Michael forces [Peter to help himself].
 b. *himself* can be *Michael*. AGREE _____ DISAGREE ○
 c. *himself* can be *Peter*. AGREE ○ DISAGREE _____

The subjects in (8a) judged that the antecedent of the reflexive must be the local one in both sentences with a finite and an infinitival embedded clause. These results indicate that they have an English-type setting of the GCP.

The subjects in (8b) applied the Japanese value of the GCP, and answered as shown in (11) and (12).

- (11) a. [Barbara thinks that Lisa is proud of herself].
 b. *herself* can be *Barbara*. AGREE ○ DISAGREE _____
 c. *herself* can be *Lisa*. AGREE ○ DISAGREE _____
- (12) a. [Michael forces Peter to help himself].
 b. *himself* can be *Michael*. AGREE ○ DISAGREE _____
 c. *himself* can be *Peter*. AGREE ○ DISAGREE _____

Those subjects judged the non-local subject can be the antecedent of the reflexive in both the sentence with a finite embedded clause and the sentence with a non-finite embedded clause.

The subjects in (8c) has the Russian value of the GCP, and their responses showed some differences between the sentence with a finite embedded clause and the sentence with an infinite embedded clause as in (13) and (14).

- (13) a. Barbara thinks that [Lisa is proud of herself].
 b. *herself* can be *Barbara*. AGREE ○ DISAGREE _____
 c. *herself* can be *Lisa*. AGREE ○ DISAGREE _____

- (14) a. [Michael forces Peter to help himself].
 b. *himself* can be *Michael*. AGREE DISAGREE _____
 c. *himself* can be *Peter*. AGREE DISAGREE _____

In the sentence with a finite embedded clause, they allowed only the local subject for the antecedent of the reflexive, but in the sentence with an infinite embedded clause, either the local subject or the non-local subject could be the antecedent of the reflexive.

It is interesting that the number of subjects who chose the Russian value of the GCP is the largest, as shown in (8). 7 subjects out of 15 had the Russian-type setting, while only 2 had the Japanese-type setting and other 6 had the English-type.

The fact that the Japanese and Chinese learners of English use the Russian-type GCP, instead of merely using the value of his/her own NL, indicate that the L2 learners set the parameter value to the non-NL. Thus, MacLaughlin's (1988) results support the Parameter Resetting Hypothesis.

3. Experiment

MacLaughlin (1998) argues that some native speakers of Japanese and Chinese reset the value of the GCP from their NL to that of non-NL, English or Russian ones. Based on his results, we conducted an experiment with larger number of subjects. Using the grammatical judgement task, we examined whether or not his results hold for 92 native speakers of Japanese.

3.1 Subjects

We tested 92 university students in Japan who are native speakers of Japanese. We also tested five English native speakers for the subject of the control test. Table 2 summarizes the number of subjects in our experiment and in MacLaughlin (1998).

Table 2: The subjects in our experiment and in MacLaughlin (1998)

	Our experiment	MacLaughlin (1998)
Native languages	Japanese (N=92)	Japanese (n=10) Chinese (n=5)
The number of subjects	92	15

As shown in Table 2, the number of subjects in our experiment is far larger than that of MacLaughlin (1998).

3.2 Test Sentences

The experiment consists of two parts: four preliminary tests and one main test. The preliminary tests consist of Lexical Test, Governing Category Test, Syntax Test 1 and Syntax

Test 2. These preliminary tests were designed to examine the subjects' knowledge of the structures and the vocabularies that were used in the main test.⁵ 81 out of 92 passed the preliminary tests.

The main test was designed to examine the subjects' interpretation of the English reflexives with respect to the GCP. It consists of two types of sentences: one contains a finite embedded clause and the other contains an infinitival embedded clause.⁶ The test sentences are shown in (15a) and (16a).

- (15) a. Ann remembers that [Mary introduced herself].
 b. *herself* can be *Ann*.
 c. *herself* can be *Mary*.
- (16) a. Mary asked [Ann to introduce herself].
 b. *herself* can be *Mary*.
 c. *herself* can be *Ann*.

The sentence (15a) has a reflexive within a finite embedded clause, and the sentence (16a) has a reflexive within an infinitival embedded clause. Two statements (b) and (c) follow each test sentence. The statement (b) checks whether or not the non-local subject can be the antecedent of the reflexive; the statement (c) checks if the local subject can be the antecedent of the reflexive.

3.3 Prediction

If MacLaughlin's (1998) analysis is on the right track, we predict that subjects' answers should fall into three groups: Japanese-type, English-type and Russian-type, as summarized in Table 3.

Table 3: The Prediction

Clause type \ Reflexive type	A sentence with a finite embedded clause	A sentence with an infinitival embedded clause
English-type	Local subject only	
Japanese-type	Local/ non-local subject	
Russian-type	Local subject only	Local/ non-local subject

The subjects with the English-type GCP would answer as in (17) and (18).

⁵ See Appendix A for the contents of the preliminary tests.

⁶ We used the same verb, 'introduce', for both the finite and the infinitival embedded clause in order to avoid the influence of subjects' knowledge of vocabularies on the interpretation of the English reflexive.

- (17) a. Ann remembers that [Mary introduced herself].
 b. *herself* can be *Ann*. AGREE ~~DISAGREE~~
 c. *herself* can be *Mary*. AGREE DISAGREE
- (18) a. Mary asked [Ann to introduce herself].
 b. *herself* can be *Mary*. AGREE ~~DISAGREE~~
 c. *herself* can be *Ann*. AGREE DISAGREE

The subjects would answer that only the local subject is allowed for the antecedent of the reflexive. Then, the subjects would circle DISAGREE for the statement (b) and AGREE for the statement (c).

The subjects with the Japanese-type GCP would answer as in (19) and (20).

- (19) a. [Ann remembers that Mary introduced herself].
 b. *herself* can be *Ann*. AGREE DISAGREE
 c. *herself* can be *Mary*. AGREE DISAGREE
- (20) a. [Mary asked Ann to introduce herself].
 b. *herself* can be *Mary*. AGREE DISAGREE
 c. *herself* can be *Ann*. AGREE DISAGREE

If subjects keep their Japanese setting of the GCP, they would answer both the local and the non-local subject are available for the antecedent of the reflexive.

The subjects with the Russian-type GCP would answer as (21) and (22).

- (21) a. Ann remembers that [Mary introduced herself].
 b. *herself* can be *Ann*. AGREE ~~DISAGREE~~
 c. *herself* can be *Mary*. AGREE DISAGREE
- (22) a. [Mary asked Ann to introduce herself].
 b. *herself* can be *Mary*. AGREE DISAGREE
 c. *herself* can be *Ann*. AGREE DISAGREE

If subjects have the Russian-type GCP, they would disallow the non-local subject for the antecedent of the reflexives in the sentence with a finite embedded clause, but they would allow it in the sentence with an infinite clause.

3.4 Results

3.4.1 Group Results

The results of the control test are shown in Table 4.

Table 4: The responses to the main test by the native English speaker (n=5)

The responses The types of the embedded clause	The antecedent is			
	local subject only	non-local subject only	both local/non-local subject	none of them
a finite embedded clause	100%(n=5)	0%	0%	0%
infinitival embedded clause	100%(n=5)	0%	0%	0%

It shows that the subjects of the control test (native English speakers) chose only the local subject as the antecedent of the reflexive.

Table 5 and 6 present the performance of the L2 learners on the main test. Table 5 shows the responses to the sentence with a finite embedded clause.

Table 5: The responses to the test sentence with a finite embedded clause (n=81)

The responses	The antecedent is				SUM
	local subject only	non-local subject only	both local/non-local subject	none of them	
The number of subjects (%)	92.6% (n=75)	0%	7.4% (n=6)	0%	100% (n=81)

92.6% of the subjects chose only the local subject as the antecedent of the reflexive and 7.4% of the subjects chose both the local and the non-local subject as the antecedent of the reflexive.

Table 6 shows the responses to the sentence with an infinitival embedded clause.

Table 6: The responses to the test sentence with an infinitival embedded clause (n=81)

The responses	The antecedent is				SUM
	local subject only	non-local subject only	both local/non-local subject	none of them	
The number of subjects (%)	33.3% (n=27)	0%	66.7% (n=54)	0%	100% (n=81)

33.3% of the subjects answered that only the local subject can be the antecedent of the reflexive, and 66.7% of the subjects answered that both the local and the non-local subject can be the antecedent of the reflexive. These results show that, in contrast to the subject of the control test, some L2 learners chose not only the local subject but also the non-local subject as the antecedent of the reflexive. That is, some L2 learners applied the non-English GCP values to interpret the English reflexives.

In the next sub-section, we examine the results individually in order to determine which value of the GCP each subject uses.

3.4.2 Individual Results

The responses by the subject of the control test are repeated below. The English reflexives must be bound locally in both the sentence with a finite clause and the sentence with an infinitival clause. Therefore, we expected that the English native speaker would allow only the local subject as the antecedent of the reflexive in both the finite and the infinitival embedded clauses.

Table 4: The responses to the main test by the native English speaker (n=5)

The responses The types of the embedded clause	The antecedent is			
	local subject only	non-local subject only	both local/non-local subject	none of them
a finite embedded clause	100%(n=5)	0%	0%	0%
an infinitival embedded clause	100%(n=5)	0%	0%	0%

As we expected, the English native speaker allowed only the local subject as the antecedent of the reflexive.

Turning now to the L2 learners, we found three patterns of responses, just like MacLaughlin (1998) did. Out of 81 subjects, 27 showed the English-type setting of the GCP, 6 showed the Japanese-type setting, and 48 showed the Russian-type setting. Table 7 through 9 show the details of those three responses.

Let us first examine the first 27 subjects who showed the English-type setting of the GCP.

Table 7: English-type (n=27)

The responses The types of the embedded clause	The antecedent is			
	local subject only	non-local subject only	both local/non-local subject	none of them
a finite embedded clause	100%(n=27)	0%	0%	0%
an infinitival embedded clause	100%(n=27)	0%	0%	0%

Those subjects allowed only the local subject as the antecedent of the reflexive, just like the English native speaker did.

Table 8 shows the responses of 6 subjects who showed the Japanese-type setting of the GCP.

Table 8: Japanese-type (n=6)

The responses The types of the embedded clause	The antecedent is			
	local subject only	non-local subject only	both local/non-local subject	none of them
a finite embedded clause	0%	0%	100% (n=6)	0%
an infinitival embedded clause	0%	0%	100% (n=6)	0%

Those subjects allowed both the local and the non-local subject as the antecedent of the reflexive. Note that their responses did not show any differences between the sentence with a finite clause and the sentence with an infinite clause. This indicates that they use the Japanese-type of the GCP to interpret the English reflexives.

Table 9 shows the responses of 48 subjects.

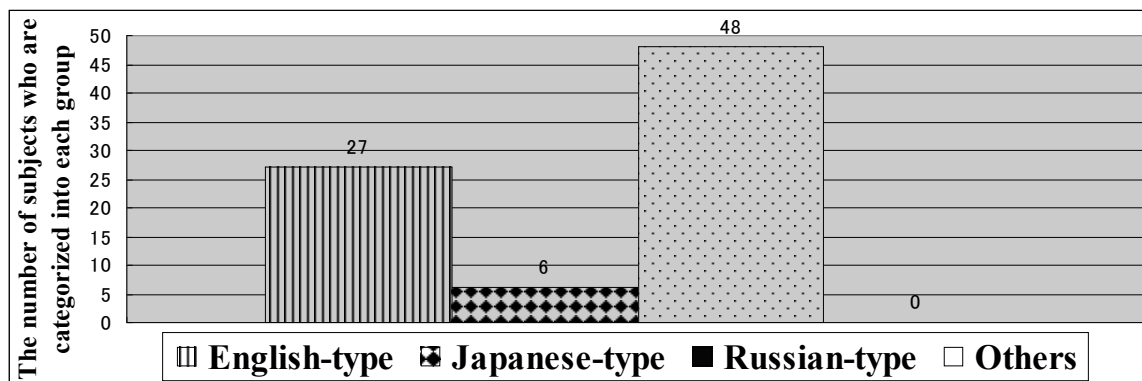
Table 9: Russian-type (n=48)

The responses The types of the embedded clause	The antecedent is			
	local subject only	non-local subject only	both local/non-local subject	none of them
a finite embedded clause	100% (n=48)	0%	0%	0%
an infinitival embedded clause	0%	0%	100% (n=48)	0%

They did not allow the non-local subject as the antecedent of the reflexive in the sentence with a finite embedded clause, while they allowed the non-local subject as the antecedent of the reflexive in the sentence with an infinitival embedded clause. This indicates that they use the Russian-type setting of the GCP.

Those results of the main test are summarized in Figure 1.

Figure 1: The results of the main test



The “English-type” refers to the subjects who used the English value of the GCP to interpret the English reflexives. The “Japanese-type” refers to the subjects who applied the Japanese value of the GCP to interpret the English reflexives, and the “Russian-type” refers to the subjects who used the Russian value of the GCP to interpret the English reflexives. “Others” refers to the subjects who used the GCP value other than that of English, Japanese or Russian. It is interesting that the number of subjects who has the Japanese-type setting of the GCP is the smallest. 6 out of 81 subjects applied the Japanese value of the GCP. More than half of the subjects, 48 out of 81, have the Russian-type setting of the GCP. 27 subjects have the GCP value of English. It means that 93% of our subjects interpreted the English reflexives using the non-NL binding system (i.e., either the English-type or the Russian-type).

Our results are summarized in Table 10.

Table 10: The value of the GCP exhibited by the L2 learners

The types of the GCP value	The number of subjects	The response patterns	
		The sentence with a finite embedded clause	The sentence with an infinitival embedded clause
English-type (L2)	27	Local subject only	
Japanese-type (NL)	6	Local/non-local subject	
Russian-type	48	Local subject only	Local/non-local subject

3.5 Discussion

The responses of our subjects are clearly divided into three types. Observe Table 10. 27 out of 81 subjects used the English-type of the GCP to interpret the English reflexives. They chose the local subject only as the antecedent of the reflexives in both a finite and an infinitival embedded clause. The number of subjects who applied the Japanese-type of the GCP is 6. They chose both the local and the non-local subject as the antecedent of the reflexive in both a finite and an infinitival embedded clause. The subjects who used the Russian-type of the GCP chose only the local subject as the antecedent of the reflexive in a finite embedded clause, and both the local and the non-local subject as the antecedent of the

reflexive in an infinite embedded clause. 48 out of 81 subjects are categorized into this group. The results are consistent with those of MacLaughlin (1998), and confirm his results with larger number of subjects.

All three types of the GCP value, which are found in L2 acquisition, are actually the possible grammar in some languages; English, Japanese, and Russian.⁷ These results indicate that the grammar of L2 learners is constrained by UG, and our results support the Full UG Access Hypothesis, but not the No UG Access Hypothesis.

In addition, according to MacLaughlin (1998), the results also support the Parameter Resetting Hypothesis because L2 learners use the GCP value of non-NL (i.e., English or Russian). Before we conclude that our results support the Parameter Resetting Hypothesis, we examine two other possible analyses on our results.

We first examine a possible analysis of the responses by subjects with the Russian-type GCP. According to MacLaughlin (1998), the presence of the Russian-type is one of the crucial points to support the Parameter Resetting Hypothesis. However, there is another possible analysis for the responses. That is, as Dulay et al. (1982) and Lott (1983) among others argue, the responses may be due to the NL interference on L2.⁸ According to Dulay et al. (1982), the NL interference is the automatic influence of the learners' L1 grammar on the L2 production. Our experimental results, however, are not explained well by this analysis.

If the NL interference may disturb the subjects' interpretation of the English reflexives, then, the four types of responses should be found. The four possibilities are summarized in Table 11.

Table 11: The possible interpretations of the English reflexives

Type \ Clause type	A finite clause	An infinitival clause
A	Local subject only	
B	Local/ non-local subject	
C	Local subject only	Local/ non-local subject
D	Local/ non-local subject	Local subject only

The response in Type-A is predicted if NL does not interfere with the interpretation of the English reflexives. If the Japanese value of the GCP interferes with the interpretation of the English reflexives in both a finite and an infinitival embedded clause, then we predict that the response in Type B will be found. Moreover, the response in Type C is predicted if NL

⁷ Mamoru Saito, Tomohiro Fujii and Masayuki Komachi questioned whether or not the subjects set such parameter values as (1b) and (1d) other than the Russian parameter value in the intermediate acquisition stages. Our experimental study does not falsify nor support the possibility, as (1b) and (1d) are not overt in the English syntax.

⁸ We would like to thank T. T. Christina Hsu for this suggestion.

interferes with the interpretation of the English reflexives in an infinitival embedded clause. In addition, if the Japanese value of the GCP interferes with the interpretation of the English reflexive in a finite embedded clause, the response like Type D is predicted.

The responses of Type A, B and C are corresponding to the responses of the English-type, the Japanese-type, and the Russian-type respectively. However, none of our subjects are categorized in Type D. Thus, the analysis of Dulay et al. (1982) fails to make the correct prediction.

Next, let us discuss the English-type setting of the GCP. MacLaughlin (1998) proposes that the presence of this English-type GCP in L2 acquisition supports the Parameter Resetting Hypothesis. However, these responses can be interpreted in another way: the subjects might transfer the L1 value (Yuan 1994).

In order to examine whether or not the Japanese learners of English used the Japanese value of the GCP to interpret the English reflexives, we conducted a follow-up test, and the results provide a piece of counter evidence to Yuan's argument. We employed the grammatical judgement task to examine the interpretation of the English reflexives and the Japanese reflexives. Subjects were 14 university students whose native language was Japanese.

The tests consisted of two parts: Session 1 and Session 2. Session 1 consisted of two parts, 4 preliminary tests and one main test. The preliminary tests were same as the one used in Section 3 and all subjects passed the preliminary tests. For the main test, we used 6 test sentences as in (23).

- (23) a. Mary thinks that Lisa is proud of herself.
b. Ann remembers that Mary introduced herself.
c. Bob knows that Ken blames himself.
d. Bob wants Peter to be proud of himself.
e. Lisa asked Alice to introduce herself.
f. Mary asks Alice to blame herself.

The main test was preceded in the same way as the experiment in Section 3. In Session 2, subjects were asked to translate the test sentences in (23) into Japanese.

According to Yuan's (1994) Transfer Hypothesis, some Japanese learners of English use the GCP value of the Japanese phrasal reflexives *-zisin* for the interpretation of the English reflexives. Hence, if Yuan's argument is on the right track, those subjects who have the English GCP value and do not allow the non-local antecedent would translate English *-self* as

-zisin, while those subjects who have the Japanese GCP value and allow the non-local antecedent would translate *-self* as *zibun*. Those predictions are summarized in Table 12.

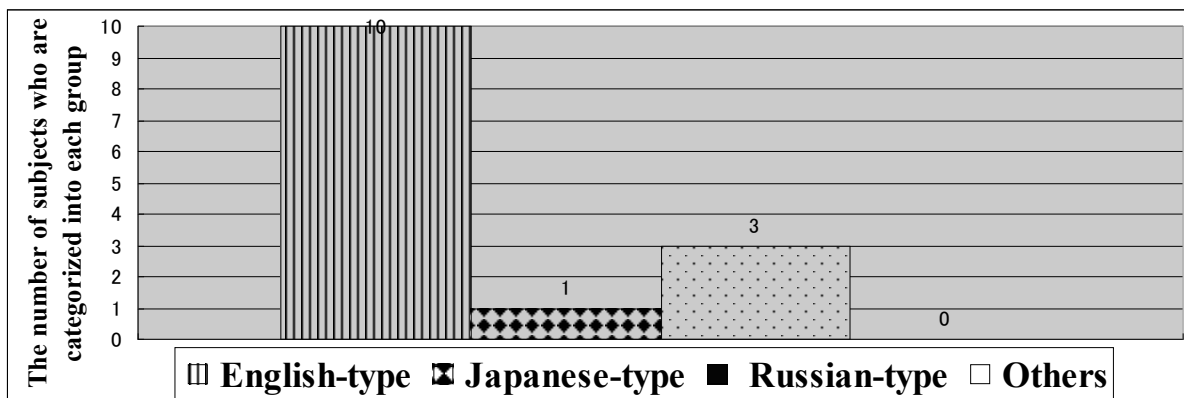
Table 12: Prediction based on Yuan’s (1994) Transfer Hypothesis

The value of the GCP	The translation of the English reflexives
English-type	<i>-zisin</i> ‘-self’
Japanese-type	<i>zibun</i> ‘self’

If the subjects used the English-type of the GCP to interpret the English reflexives, they would translate the English reflexives into the Japanese phrasal reflexives. On the other hand, if the subjects applied the Japanese-type of the GCP to interpret the English reflexives, they would translate the English reflexives into the Japanese bare reflexive.

Figure 2 shows the results of the Session 1.

Figure 2: The results of the Session 1



As we find in Figure 2, 10 out of 14 subjects used the English value of the GCP, only 1 out of 14 subjects applied the Japanese value of the GCP, and 3 out of 14 subjects used the Russian value of the GCP.

Next, we compare these results with those of Session 2. Table 13 shows the translations of the English reflexives by one of the L2 learners. This subject used the English-type GCP to interpret the English reflexives in Session 1. Therefore, according to Yuan’s (1994) transfer Hypothesis, we predicted that this subject would translate the English reflexives as Japanese phrasal reflexives, whose GCP value is the same with that of the English reflexives.

Table 13: The translations of the English reflexives by one of the L2 learners who used the English value of the GCP (23a) to interpret the English reflexives

The test sentences	Finite embedded clauses	Infinitival embedded clauses
Mary thinks that Lisa is proud of herself.	<i>zibun-zisin</i> 'myself'	
Ann remembers that Mary introduced herself.	<i>zibun</i> 'self'	
Bob knows that Ken blames himself.	<i>kare-zisin</i> 'himself'	
Bob wants Peter to be proud of himself.		This subject did not answer this question.
Lisa asked Alice to introduce herself.		<i>zibun-zisin</i> 'myself'
Mary asks Alice to blame herself.		<i>zibun</i> 'self'

Contrary to our prediction, this subject did not always translate the English reflexives into Japanese as *-zisin*, or the Japanese phrasal reflexives.⁹ Table 13 shows the actual data.

Table 14 is the responses by a subject who set the Japanese-type GCP in Session 1.

Table 14: The translations of the English reflexives by one of the L2 learners who set the Japanese value of the GCP (23e) to interpret the English reflexives

The test sentences	Finite embedded clauses	Infinitival embedded clauses
Mary thinks that Lisa is proud of herself.	<i>zibun-zisin</i> 'myself'	
Ann remembers that Mary introduced herself.	<i>zibun-zisin</i> 'myself'	
Bob knows that Ken blames himself.	<i>Ken-zisin</i> (the local subject)	
Bob wants Peter to be proud of himself.		<i>Peter-zisin</i> (the local subject)
Lisa asked Alice to introduce herself.		<i>Alice-zisin</i> (the local subject)
Mary asks Alice to blame herself.		<i>zibun-zisin</i> 'myself'

⁹ See Appendix B for more responses by the subjects who set the English-type GCP.

This subject did not always translate the English reflexives as the Japanese bare reflexives *zibun*. These responses are also contrary to what the Yuan's (1994) Transfer Hypothesis predicts.

The results indicate that the subjects who apply the English value of the GCP do not transfer their Japanese value of the GCP. They reset their L1 parametric value to that of the target language, or English. Thus, our results of the main test (Section 3) that 27 subjects exhibit the English binding system provide a piece of supportive evidence for the Parameter Resetting Hypothesis.

4. Conclusion

In this paper, we examined the availability of UG for L2 learners. Based on the experimental study on the interpretation of English reflexives *-self* (e.g., *himself*) by the native speakers of Japanese, we found that there is an intermediate acquisition stage where some L2 learners reset the Governing Category Parameter (GC) from the value of Japanese to the non-Japanese (i.e., Russian), as MacLaughlin (1998) finds. The L2 learners select the value of the GCP that is neither the one for their NL (i.e., Japanese) nor the one for the L2 (i.e., English). They sometimes select the value for a language that they have never been exposed to (i.e., Russian). Thus, our study provides a piece of supportive evidence for proposal that the grammar of L2 learners is constrained by UG (the Full UG Access Hypothesis), and for the Parameter Resetting Hypothesis.

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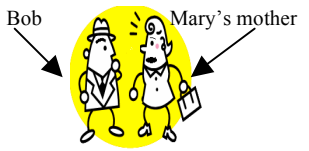
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Appendix A: The Contents of the Preliminary Tests

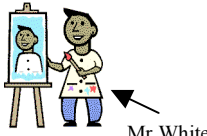
The preliminary tests consist of Lexical Test, Governing Category Test, Syntax Test 1, and Syntax Test 2. The Lexical test assesses the knowledge of the lexical meaning of the English reflexives *-self*. The test sentences are shown in (i). The subjects are asked to choose one of the choices to best indicate the picture.

- (i) a. Mary's mother asked Bob about

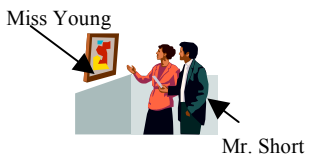
a. myself.
b. yourself
c. themselves
d. himself


- b. Mr. White drew

a. him
b. himself
c. me
d. myself

 on a piece of paper. 
- c. Mr. Short found

a. Miss Young
b. Mr. Short
c. him
d. himself

 in the picture. 

The Governing Category Test is designed to assess the subjects' knowledge of the binding domain. The test sentences contain a pronoun in an embedded clause, as in (ii).

- (ii) a. Barbara thought that Lisa hit her brother. (a finite embedded clause)
 b. Michael forced John to give him the key. (an infinite embedded clause)

The Syntax Test 1 assesses the linear order effects. The examples have a relative clause as in (iii).

- (iii) a. Miss Old who is a sister of June is looking at herself in a mirror.

- b. The man who John met wrote a story about himself.

The Syntax Test 2 assesses the knowledge of the structure of embedded clauses. The sentences in (iv) are the test sentences.

- (iv) a. Phillip found that Ken passed the exam. (a finite embedded clause)
 b. Ken forced Sally to go to school. (an infinitive embedded clause)

Appendix B: The Translations of the English Reflexives by the L2 Learners

Table 15: The translations of the English reflexives by one of the L2 learners who used the English value of the GCP (1a) to interpret the English reflexives

The test sentences	Finite embedded clauses	Infinitival embedded clauses
Mary thinks that Lisa is proud of herself.	<i>zibun</i> 'self'	
Ann remembers that Mary introduced herself.	<i>zikosyokai</i> 'introducing myself'	
Bob knows that Ken blames himself.	<i>zibun</i> 'self'	
Bob wants Peter to be proud of himself.		<i>zibun</i> 'self'
Lisa asked Alice to introduce herself.		<i>zikosyokai</i> 'introducing myself'
Mary asks Alice to blame herself.		<i>zibun</i> 'self'

Table 16: The translations of the English reflexives by one of the L2 learners who used the English value of the GCP (1a) to interpret the English reflexives

The test sentences	Finite embedded clauses	Infinitival embedded clauses
Mary thinks that Lisa is proud of herself.	<i>zibun</i> 'self'	
Ann remembers that Mary introduced herself.	<i>zikosyokai</i> 'introducing myself'	
Bob knows that Ken blames himself.	<i>zibun</i> 'self'	
Bob wants Peter to be proud of himself.		<i>Peter</i> (local subject)
Lisa asked Alice to introduce herself.		<i>zikosyokai</i> 'introducing myself'
Mary asks Alice to blame herself.		<i>watasi</i> 'I'