

CHAPTER FIFTEEN

INTERVENTION MEETS TRANSFER IN RAISING CONSTRUCTIONS¹

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This study explores whether Japanese-speaking learners of English show intervention effects coupled with transfer effects when they comprehend English raising constructions with an experiencer. A questionnaire with a truth value judgment task was given to 67 participants on the comprehension of four raising sentence types with a lexical experiencer, fronted and in-situ, and with a pronominal experiencer, fronted and in-situ. The results revealed that intervention effects were the strongest with the lexical experiencer in-situ, but the intervention by the pronominal experiencer in-situ was not divergent from that by the fronted lexical experiencer. Furthermore, the raising structure with a fronted pronominal experiencer remained difficult to comprehend even as their English proficiency improved. We attribute this unexpected difficulty to the absence of overt pronouns like English *he* in Japanese. We conclude that this is indeed a case in which Japanese L2 English learners encounter L1 transfer effects as well as intervention effects.

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1. Introduction

This study investigates whether Japanese EFL (JEFL) learners experience intervention effects coupled with transfer effects when they comprehend raising constructions with an experiencer in English. Recent L1 acquisition studies have reported that English-speaking children experience strong intervention effects in understanding raising constructions (Hirsch, Orfitelli, and Wexler 2007, 2008; Choe, Deen, and O’Grady 2014). Hirsch and Wexler (2007) found that young children had great difficulty with a raised pattern in (1a) around the age of 7 relative to an unraised pattern in (1b).

- (1) a. John appears to Mary to be happy.
 b. It seems to Mary that John is happy.

One traditional view is that their difficulty lies in the presence of an experiencer phrase *to Mary* in (1a). In other words, an intervention effect occurs as *John* moves from the infinitive subject position to the matrix subject position across the experiencer phrase. Such an intervention effect does not occur in the unraised structure (1b) because nothing moves across the phrase in question.

Furthermore, L2 acquisition studies conducted within the Principle and Parameter framework have demonstrated that research on L2 acquisition cannot be completed without paying careful attention to L1 transfer. Although several different theories have been proposed as an account for L1 transfer, one key issue relevant to L2 learners’ insufficient acquisition concerns how they can reset a parametric value from L1 to L2 properly when they differ from each other (White 1986; Schwartz and Sprouse 1996; Hawkins 2001; Lardiere 2007). Relevant to this problem is the claim that Japanese does not have a syntactic operation parallel to English raising.

- (2) a. John-ga Mary-ni shiawaseni omoeru/mieru
 John-NOM Mary-DAT happy seem/appear
 ‘Mary seems/appears to John to be happy.’
 b. [_{TP}John-ga_i [_{TP}Mary-ni_j [_{VP} t_j [_{TP} t_i shiawaseni] omoeru/mieru]]]

(2a) is a literal translation of (1a)/(1b). According to Takezawa’s (1993) analysis, however, the dative *ni* marked experiencer *Mary* moves to [Spec, TP], not base-generated there, whereas the nominative *ga*-marked *John* is scrambled clause-initially, as shown in (2b). In short, the *omoeru/mieru*

‘seem/appear’ construction does not involve A-movement for a Case checking reason, unlike the *seem/appear* construction.

It is therefore interesting to see how JEFL learners perform in comprehending raising constructions when intervention meets transfer during the acquisition procedure. We will pursue the issue in this paper.

2. Background

2.1 Theoretical assumptions

A Minimalist analysis of raising assumes the surface subject of the sentence to start out in the infinitive subject position and move to [Spec, TP] of the matrix clause, checking the EPP feature (Chomsky 1995). For example, (3) is a structural representation of (1a), with t_i being the trace of A-movement of *John*.

(3) [_{TP} John_i [_{T'} appears to Mary [_{TP} t_i to be happy]]].

As shown in (3), *John* moves across the experiencer argument *Mary*, but remains as the semantic subject of the embedded predicate *to be happy*. To be more specific, although *Mary* intervenes between *John* and its trace, the sentence is grammatical on the intended reading. A long-debated issue in language acquisition research is how language learners learn to avoid such intervention effects in raising constructions.

Several hypotheses have been proposed in order to explain the nature of intervention effects in language acquisition. One view is to claim that child grammar has a syntactic deficit (Borer and Wexler 1987). More particularly, Hirsh and Wexler (2007) found that young children had great difficulty with raising constructions like (1a) till around the age of 7 relative to unraised sentences like (1b), thereby arguing that they treat the raising structure as if it were the *think* construction like *John thinks Mary is happy* (see also Hirsch, Orfitelli, and Wexler 2007). Another explanation is that child grammar has not acquired Collins’s (2005) smuggling approach in which the entire infinitive clause (YP) smuggles over an intervener (W) to a position adjacent to the matrix subject (Z), as schematically illustrated in (4).

(4) YP smuggles XP past W (Collins 2005, 292)

Z [_{YP} XP] W <[_{YP} XP]>

OK	NOT OK
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With the smuggling operation, the relationship between Z and XP is local, as in “OK”, whereas without it, the anaphoric relation is not local, as in “NOT OK”, thereby violating Rizzi’s (1990) Relativized Minimality (RM), as stated in (5).

(5) Relativized Minimality (RM)

In the following configuration: X ... Z ... Y, a local relation between X and Y cannot hold if Z intervenes, and Z is a position of the same type Y.

A recent extension of the RM account appeals to the idea of ‘lexical restriction’ on the relation between the intervener and the target. Consider, for example, multiple *wh*-questions in (6) (Friedmann, Belletti, and Rizzi 2009).

- (6) a. *How do you wonder [who behaved ~~how~~]?
 b. ?Which problem do you wonder how to solve ~~which problem~~?

The crucial distinction responsible for the contrast in grammaticality in (6) concerns the presence vs. absence of a pied-piped *wh*-movement, namely, the movement of *which problem* improves the acceptability of the sentence (6b), unlike that of *how* in (6a). Given such improvement, the RM is reinterpreted to distinguish ‘identity’ from ‘inclusion’ in the configuration (7).

- | | | | | |
|-----|-----------|---|------|----------------------------|
| (7) | X | Z | Y | |
| a. | [+Q] | | [+Q] | [+Q] (identity) (6a) |
| b. | [+Q, +NP] | | [+Q] | [+Q, +NP] (inclusion) (6b) |
- (where +Q designates an interrogative operator, and +NP designates a full lexical noun phrase.)

Belletti and Rizzi (2013) note that children show a much weaker intervention effect in the comprehension of (7b) than that of (7a).

Note that these approaches deal with the syntactic characteristics of intervention effects children show on the comprehension of structural dependency between the anaphor and its antecedent in their native language.

2.2 Previous findings and recent proposals

Few studies to date have been conducted on the acquisition of Raising in L2 English. Choe (2015) is the first study on the comprehension of raised

(1a) versus unraised (1b) constructions with an experiencer phrase by non-native speakers of English. The results from the Truth-Value Judgment task (TVJ) (Crain and McKee 1985) by 30 Korean college students indicated that overall, the raised construction was much more difficult (correct response rate 41.7%) than the unraised construction (83.3%). In other words, a severe intervention effect, i.e., a severe RM violation, was observed. Furthermore, given that Korean prohibits raising over an experiencer phrase in the raising construction, she also concluded that the Full Transfer/ Full Access Hypothesis (Schwartz and Sprouse 1996) is supported.

Yoshimura et al. (2016) investigated the acquisition of subject control (*John promised Mary to study hard*), object control (*John persuaded Mary to study hard*), and raising constructions (1a) among 30 Japanese high school students by asking them to answer the story-based question-answer pairs using the YES or NO forced-choice question. The results demonstrated that their mean correct response rate was only 41.7% for raising constructions, compared to 70.8% for subject control constructions and 85.8% for object control constructions. Of note is that not even a single participant correctly answered all raising questions. These results led to the conclusion that the raising construction is far more difficult for JEFLL learners than subject control even though both structures involve an intervening argument blocking the anaphor-antecedent relation. The analysis attributed this asymmetry in difficulty to the presence of subject control vs. the absence of raising in Japanese, i.e. L1 negative transfer.

Yoshimura et al. (2017) further investigated how an intervening argument affects JEFLL learners' comprehension. Eighty Japanese college students were divided into three groups according to their TOEIC scores and the Middle Group was excluded from the analysis: Low Group (n=28, mean TOEIC=443.4) and High Group (n=25, mean TOEIC=732.9). This was to have a clear proficiency difference between the two groups. The questionnaire employed in the survey consisted of five test sentences for each of subject control (8a), raising (8b), and *tough* (8c) constructions.

- (8) a. Hanako promised Susan to join the school tennis team.
- b. Jake appeared to Steve to have fun on his business trip.
- c. Elizabeth is always difficult for Betty to please on her birthday.

Overall, the participants improved their comprehension across the board, regardless of the structural condition, from 74% to 92% for subject control, from 38% to 67% for raising, and 73% to 92% for *tough* constructions. However, we should note that unlike the two other constructions, the low

proficiency JEFL learners had a mean correct response rate at 38%, and the high proficiency JEFL learners had a mean correctness rate at 67% for raising constructions. In other words, like Korean L2 English learners, JEFL learners experience strong intervention effects and it is quite gradual for them to acquire the raising construction. Such delayed acquisition occurs due to JEFL learners' unfamiliarity with the syntactic nature of raising verbs in English.

To sum up thus far, the previous experimental results showed that raising constructions are difficult for JEFL learners to acquire, and we have assumed that their difficulty comes from intervention effects triggered by the experiencer phrase in the sentence together with their insufficient knowledge of raising constructions. Our analyses have thus suggested a structural account for their difficulty based on, for example, the RM theory. In recent literature, however, a question is raised regarding whether an intervention effect occurring from the experiencer phrase is indeed a syntactic phenomenon. Should it be a performance-based effect? Relevant to this question are two L1 studies investigating whether the referential accessibility of an intervening DP affects the comprehension of raising constructions. Choe, Deen, and O'Grady (2014) found that young English-speaking children aged 3;6 to 6;8 showed a much better performance with a pronominal intervener (9a) than with a lexical DP intervener (9b) in the comprehension task (their correctness rates of 66.7% vs. 38.1%).

- (9) a. Donald seems to him to be short.
 b. He seems to Mickey to be short.

Based on these results, it was concluded that children's difficulty cannot be attributed to their grammatical deficit, but it must occur due to their processing limitation. To be more precise, they claim that L1 children's difficulty with the raising construction should be accounted for within the framework of the Dependency Locality Theory (DLT, Gibson 2000) rather than by appealing to the RM syntactic locality.

Choe and Deen (2015) conducted a follow-up experiment to examine L1 children's comprehension of three raising patterns in (10).

- (10) a. Donald seems to Mickey to be short.
 b. To Mickey, Donald seems to be short.
 c. Bart seems to him to be studying.

The results revealed a significant asymmetry between (10c) with a pronominal intervener (correct response rate 81.5%) and (10a) with a

referential intervener (40.9%). Interestingly, the pronominal intervener in (10c) did not induce a crucial intervention effect, like the raising pattern (10b) without an intervener (correct response rate 87.5%). According to their analysis, these results can thus provide evidence in support of Choe, Deen, and O’Gady’s (2014) argument for the processing-based, DLT explanation of children’s difficulty on the comprehension of the raising construction.

2.3 Predictions

As such, issues involved in JEFL learners’ acquisition of the raising constructions include (i) L1 transfer, (ii) syntactic locality or the RM account with lexical restriction, and (iii) the DLT processing account. The L1 transfer hypothesis predicts that JEFL learners should find both raising patterns with a pronominal intervener (10c) and a lexical intervener difficult (10a) because Japanese does not have a construction parallel to the raising construction in English. That is, no pronoun advantage is predicted. The RM hypothesis predicts that JEFL learners should find the raising patterns (10a) and (10c) with an intervener, lexical or pronominal, more difficult than the raising pattern (10b) without an intervening phrase. A lexical restriction is irrelevant because both intervening phrases are the same category. No pronoun advantage is available in this case, either. The DLT hypothesis predicts that JEFL learners should perform better on the comprehension of (10c) with a pronominal intervener than (10a) with a referential intervener because being lexical, the latter intervener is more costly than the former one in processing. A pronoun advantage is available in this case.

3. Present study

To consider these issues in L2 acquisition, we conducted a TVJ task on JEFL learners’ comprehension of the English *seem/appear* construction with an experimenter phrase.

3.1 Participants

A total of 87 Japanese college students, who were learning English in Japan at the time of the experiment, participated in the experiment with the TVJ task. The data from 36 participants were excluded from the analysis, as they failed to complete the questionnaire or to answer correctly 75% or more of 16 filler sentences, or performed poorly on TOEIC L&R tests (score

below 600). The results from the remaining 51 participants, whose mean TOEIC L&R score was 697 (CERF=B1 equivalent), were analyzed and will be discussed below. Seven native speakers of English (NS), all English instructors teaching at universities in Japan, served as the Control group.

3.2 Materials

Each participant was asked to judge 40 sentences in total, of which 24 were test items, and 16 were fillers. The test sentences were equally divided into raising constructions with lexical and pronominal interveners. Each condition thus contained 12 raising sentences with a lexical intervener and 12 raising constructions with a pronominal intervener. Of the 12 raising sentences in each condition, 6 had a fronted experiencer, and 6 had an in-situ experiencer, a half of which were YES answers and the rest NO answers. Table 15-1 is a summary of the experimental design.

Table 15-1. Experimental design: Numbers of YES-NO sentences with lexical and pronominal experiencers

Lexical DP experiencer		Pronominal experiencer					
fronted (n=6)		in-situ (n=6)		fronted (n=6)		in-situ (n=6)	
YES	NO	YES	NO	YES	NO	YES	NO
3	3	3	3	3	3	3	3

The questionnaire consisted of the four types of raising constructions, as exemplified in (11)-(14). Type I involves a lexical experiencer fronted to the sentence-initial position; Type II contains a lexical experiencer in-situ with the subject being raised over it; Type III involves a pronominal experiencer moved to the sentence-initial position; and Type IV contains a pronominal experiencer in-situ with the subject being raised over it. In other words, intervention effects should appear in Types II and IV because the subject DPs were raised over the experiencer phrase. However, such effects are not expected in Types I and III because nothing intervenes for the raised subject at hand.

The issue we pursued in the experiment was to see whether the nature and the position of an intervening DP affect L2 learners' comprehension of the raising construction in the way that they did for L1 children's comprehension in the previous research. More specifically, is a similar pronoun advantage available for JEFLL learners?

Type I

- (11) a. Martha thinks that Kenny learns Japanese well.
To Martha, Kenny appears to learn Japanese well. (YES)
- b. Takashi thinks that Aki looks happier than Rui.
To Ai, Takashi seems to be happier than Rui. (NO)

Type II

- (12) a. Jennifer thinks that Hanako is smarter than Ai.
Hanako seems to Jennifer to be smarter than Ai. (YES)
- b. Mickey Mouse saw Minnie run faster than Goofy.
Mickey appears to Minnie to be running faster than Goofy. (NO)

Type III

- (13) a. John was a reporter and he thought that Virginia had a lot of money.
To him, Virginia seemed to be rich. (YES)
- b. Saki is the trainer for two brothers, Hisashi and Kento.
 She thinks that Hisashi works out harder than Kento.
To her, Kento appears to work out harder than Hisashi. (NO)

Type IV

- (14) a. Amy is Robert's guest. He thought she ate well, and looked full.
Amy appeared to him to be full. (YES)
- b. Masaru is Yui's friend, and he thinks that Yui looks unhappy.
Yui seems to him to be happy. (NO)

If JFEL learners behave like L1 children, as reported in Choe and Deen (2015), we would assume that Type II is the most difficult, Type IV is the second most difficult, and Types I and III are equally easy.

3.3 Results

Table 15-2 is a summary of the mean correct response rate for each condition.

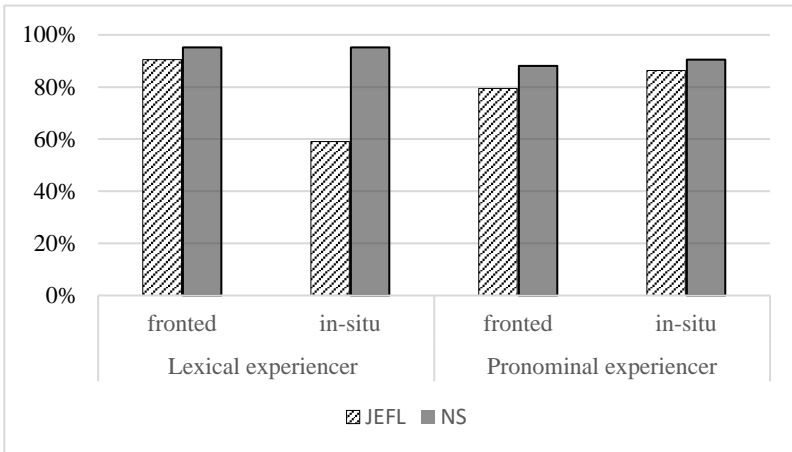
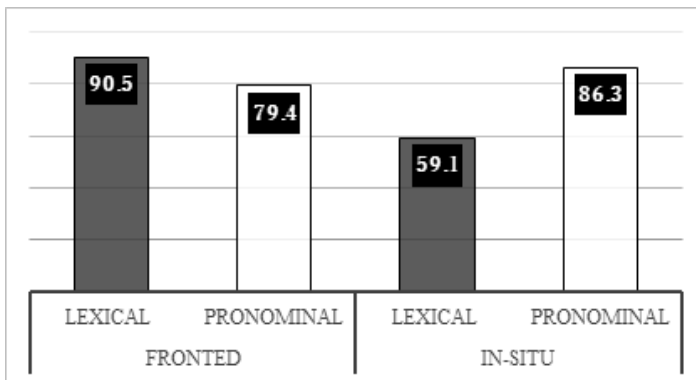
Table 15-2. Mean YES/NO accuracy rates in each condition by group (%)

	Lexical experiencer		Pronominal experiencer	
	fronted	in-situ	fronted	in-situ
	YES NO	YES NO	YES NO	YES NO
JEFL (<i>n</i> =51)	94.1 92.8	53.3 73.9	90.8 68.6	85 92.8
NS (<i>n</i> =7)	100 90.5	95 95	95 81	90 90

As seen in Table 15-2, JEFL learners did not answer well on the YES sentences with the intervening lexical experiencer phrase (53.3% correct). As a matter of fact, 11 out of 12 learners who produced all incorrect responses for a particular sentence type answered all incorrect for this sentence type. Another person answered all incorrect for the NO sentences with the fronted pronominal phrase. However, note that all the learners scored some or all correct for the YES sentences with the intervening pronominal experiencer phrase.

Figure 15-1 shows the mean accuracy rates (YES/NO together) for the type of the experiencer, lexical or pronominal, by the group, according to a summary of the mean correctness percentage for each condition given in Table 15-2. With the lexical experiencer, the accuracy rate is relatively similar between the JEFL learners and the NS participants when it is fronted (Type I) whereas it diverges significantly between the two groups when it remains in situ (Type II) (59.1% vs. 95.2%). With the pronominal experiencer, the JEFL learners show a poorer performance compared to the NS participants when it is fronted (Type III), inducing a weak difference between the two groups (79.4% vs. 88.1%), but not in the in-situ case (Type IV).

Figure 15-2 restates JEFL learners' mean accuracy percentage for each condition concerning the type of experiencer. It is worth noting that they perform better with a lexical experiencer than with a pronominal experiencer when it moves to the sentence-initial position (90.5% vs. 79.4%). This asymmetry is not expected as far as intervention is concerned because nothing intervenes in the sentence. Note in passing that JEFL learners show a better performance with a pronominal experiencer than a lexical experiencer when the phrase at hand does not undergo any movement (86.3% vs. 59.1%).

Figure 15-1. Mean accuracy rates for the type of experienter by group**Figure 15-2. Mean accuracy rates for the position of experienter by JEFL learners**

3.4 Analysis

A regression analysis was further conducted to assess the association between the positions (fronted vs. in-situ) and conditions (lexical vs. pronominal experienter) as predictors for comprehension with JEFL learners. Significant interactions emerged between the positions and the conditions, as shown in Figure 15-3 (in=in situ, sent=sentence initial), and significant main effects obtained between the position and the condition, as

shown in Table 15-3. We emphasize that JEFL learners show a better performance with a lexical experiencer than a pronominal experiencer when the experiencer phrase is fronted in the sentence.

Figure 15-3: Interactions between positions and conditions

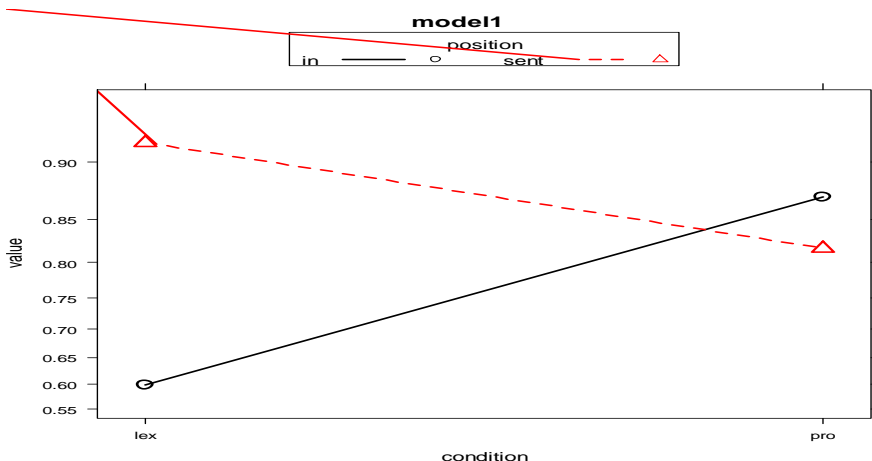


Table 15-3. Main effects between position and condition: JEFL learners

position	condition	p value	condition	position	p value
in-situ	lexical vs. pronominal	<.0001 (z.ratio -8.054)	lexical	in-situ vs. fronted	<.0001 (z.ratio -9.176)
fronted	lexical vs. pronominal	=.0002 (z.ratio 3.673)	pronominal	in-situ vs. fronted	=.0472 (z.ratio 1.985)

4. Discussion and concluding remarks

The present study investigated whether JEFL learners show intervention effects together with transfer effects on the comprehension of raising constructions in English. More specifically, we examined the issue of how an experiencer phrase affects L2 learners' comprehension of the construction depending on the nature of the phrase, lexical or pronominal, and the structural position, in-situ or fronted. The results point to the following findings. First, there is a significant difference between lexical

and pronominal interveners ($p < .0001$) when the phrase stays in-situ in the sentence; second, a statistical difference emerges between remaining in-situ and being fronted in the case of a lexical DP ($p < .0001$), but such a strong divergence was not observed in the case of a pronominal DP, though the difference was still significant ($p = .0472$); third, the pronominal experiencer becomes more difficult than the lexical experiencer when it is fronted sentence initially (79.4% vs. 86.3%), a reversed phenomenon.

These results suggest that for JEFL learners, intervention effects do not seem to be merely a syntactic phenomenon when they comprehend the raising construction in English, as argued for in our previous studies. The data show that the pronominal nature of an intervener reduces their difficulty on the comprehension of the construction. A consequent question we then need to explore concerns whether intervention effects can entirely be accounted for under a processing-based approach within the DLT framework, as argued for in Choe, Deen, and O'Grady (2014) and Choe and Deen (2015) for L1 children. It seems likely that we still have one possibility left for further research. In other words, can we revise the RM hypothesis for the anaphoric dependence between X and Y by excluding Z as an antecedent for Y in (7)? A crucial distinction is that Y has the [+referential] feature whereas Z has the [+pronominal] feature. This revision would be similar to what Belletti and Rizzi (2013) suggested to accommodate the improved acceptability of (6b) compared to the ungrammaticality of (6a). Another possibility is that JEFL learners tend to take *seem* as *think*, as claimed in Hirsch and Wexler (2007) for L1 children's poor understanding of raising, because their syntactic knowledge is not fully developed yet, and their L1 does not have raising constructions on par with (1a), cf. (2).

Relevant to JEFL learners' difficulty with fronted pronominal experiencers is the linguistic fact that Japanese does not have any overt pronoun parallel to *he* in English (Hoji 1991).

- (15) a. Dare_i-mo-ga [pro_i/*kare_i-ga kurasu-de itiban kashikoi to]
 everyone-NOM he-NOM class in first smart that
 omotte-iru.
 think-is
- b. Everyone_i thinks that he_i is the smartest in his class.

Unlike *he* in (15b), *kare* cannot be interpreted as a variable being bound to *dare mo* 'everyone' in (15b), and *kare* often implies 'a boyfriend' (Clancy 1980) or 'a male friend' in the language. L1 lexical transfer can therefore be expected. Furthermore, the phrase fronted to the sentence-initial position carries a focus interpretation in Japanese, and consequently, L1 knowledge

tells JEFL learners not to ignore a pronominal experiencer in the initial position in the way that they tend to do so in the in-situ position. Its discourse antecedent becomes prominent. In other words, a plausible reason for JEFL learners' difficulty with the fronted pronominal experiencer could be that they need more time to understand who *him* or *her* should be in Type III than a name like *Martha* or *Ai* in Type I. This is L1 syntactic-pragmatic transfer. If this analysis is on the right track, JEFL learners' difficulty with the fronted pronominal experiencer in the raising construction can be attributed to the mixture of L1 lexical, syntactic, and pragmatic influences.

Finally, we acknowledge that one important issue remains for further research. More experimental data from L1 and L2 learners should be collected to facilitate our discussion as to whether intervention effects must be furnished with a syntactic locality account or a referential accessibility account.

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