

L2 Knowledge of the Intervention Effect in English-Speaking Learners of Korean¹

Hyang Suk Song
University of Hawai'i at Manoa

1. Introduction

The question of whether adult second language (L2) acquisition is constrained by the same innate language mechanism as first language (L1) acquisition, i.e. Universal Grammar (UG), has been the focus of much research during the past twenty years within the generative paradigm. Schwartz and Sprouse (2000) argue that in order to address the question of whether UG should be implicated in L2 acquisition, it is necessary to determine whether L2 learners (L2ers) are able to acquire properties of the target language which can be attributed to neither the L2 input, the L1 grammar, nor the effects of instruction. Likewise, many recent studies approach the issue of whether such poverty-of-the-stimulus effects are found in L2 acquisition by examining certain subtle and complex properties of language (e.g. Dekydtspotter et al., 1997; Dekydtspotter et al., 1999/2000; Hopp, 2005; Marsden, 2002; Unsworth, 2005).

This study seeks to contribute to this body of research by investigating L2 acquisition of the intervention effect in English-speaking learners of Korean. Specifically, it considers restriction on negative *wh*-questions with negative polarity items (e.g. *anyone*, *anything*, and so on) and claims that English-speaking learners of Korean can come to know that scrambling is obligatory to obviate the intervention effect, despite being confronted with an L2 poverty-of-the-stimulus problem.

The paper is organized as follows. The following section briefly presents the property of Korean in question. Section 3 explains why the acquisition of this property presents a poverty-of-the-stimulus problem for the L2ers under consideration here. Section 4 reports the results from experiments. Section 5 discusses the implications from these results for the acquisition of the intervention effect. Section 6 concludes the paper.

2. The Intervention Effect

Korean is a head-final language, and its canonical word order is Subject-Object-Verb (SOV). Unlike English, Korean does not have obligatory *wh*-movement at S-structure. In Korean, *wh*-phrases can optionally be scrambled in positive and negative contexts, as shown in (1) and (2). (1a) and (2a) are *wh*-questions in the canonical word order (SOV) with the subject preceding the direct object. In (1b) and (2b), the *wh*-phrases are scrambled, showing Object-Subject-Verb (OSV) word order. Both options are acceptable as presented in (1) and (2).

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|-----|----|---------------------------|-----------------------|--------------------------|---------------------------|
| (1) | a. | Swuna-ka
Swuna-Nom | mwues-ul
what-Acc | sa-ass-ni?
buy-Past-Q | |
| | b. | Mwues-ul
What-ACC | Swuna-ka
Swuna-Nom | sa-ass-ni?
buy-Past-Q | |
| | | 'What did Swuna buy?' | | | |
| (2) | a. | Swuna-ka
Swuna-Nom | mwues-ul
what-Acc | sa-ci
buy-ci | anh-ass-ni?
Neg-Past-Q |
| | b. | Mwues-ul
What-ACC | Swuna-ka
Swuna-Nom | sa-ci
buy-ci | anh-ass-ni?
Neg-Past-Q |
| | | 'What did Swuna not buy?' | | | |

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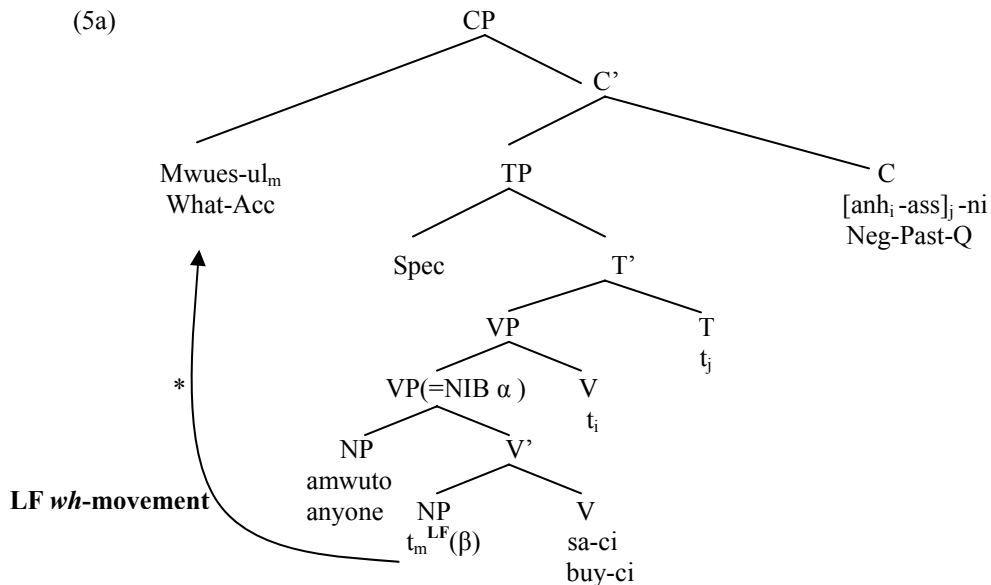
However, for negative questions, scrambling² of the object *wh*-phrase is obligatory when a negative polarity item (NPI) is present in sentence (3b).

- (3) a. * Amwuto mwues-ul sa-ci anh-ass-ni?
 Anyone what-ACC buy-ci Neg-Past-Q
- b. Mwues-ul amwuto sa-ci anh-ass-ni?
 What-ACC anyone buy-ci Neg-Past-Q
 'What did no one buy?'

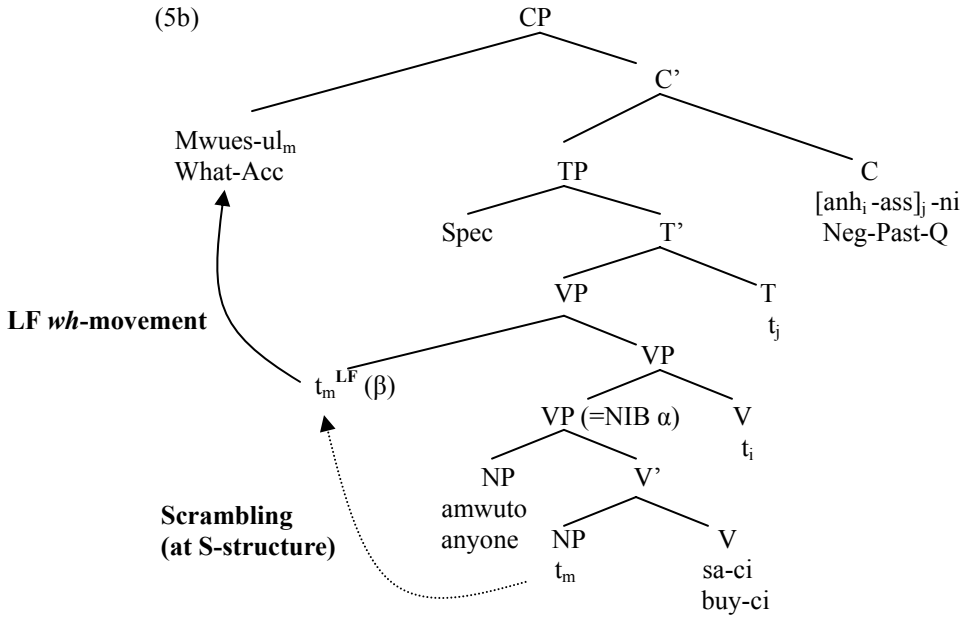
Note that the *wh*-phrase, *mwues-ul* 'what-Acc' has to be scrambled across the NPI, *amwuto* 'anyone' in order for the negative question in (3b) to be acceptable. In (3a), by contrast, *amwuto* 'anyone' is an NPI that serves as the intervenor for the *wh-in-situ* *mwues-ul* 'what-Acc'. In short, scrambling the *wh*-phrase obviates the "intervention effect" (Beck & Kim 1997). Assuming that *wh-in-situ* has to be moved from its S-structure position to a Logical Form (LF) landing site outside of the scope of negation, Beck and Kim (1997) generalized the phenomenon as follows: an intervening negative quantifier block LF movement. Observing that Korean exhibits the intervention effect where an NPI c-commands an *in-situ wh*-phrase, Beck and Kim (1997) adopt the Minimal Negative Structure Constraint (hereafter, MNSC) of Beck (1996).

- (4) Minimal Negative Structure Constraint (MNSC)
 If a Logical Form (LF) trace β is dominated by an NIB α , then the binder of β must also be dominated by α .
 (NIB: The first node that dominates a negative quantifier, its restriction, and its nuclear scope is a Negative Induced Barrier.) (p.18)

To illustrate the difference between (3a) and (3b), two tree diagrams (5a) and (5b) at LF are represented, respectively.



² In linguistics literature, the term *scrambling* is used in various ways, often referring to any kind of word order permutation. In this study, however, scrambling is a cover term used for the reordering of sentential constituents (usually object noun phrases) in languages such as Korean and Japanese. There seems to be little consensus as to what the precise analysis of scrambling should be. A detailed explanation of all of these different analyses and the issues will not be provided in this study.



Beck and Kim (1997) make the following general assumptions: a subject stays in its base position, Spec of VP, and is assigned nominative case by the predicate V'; scrambling is adjunction to VP; *wh*-phrases should be moved at LF to Spec of CP or a related position above C. In (5a), the NIB that dominates an LF trace t_m^{LF} does not dominate the *wh*-phrase, violating the MNSC. Thus, the negative question in (3a) is unacceptable. As shown in (5b), the object *wh*-phrase is first scrambled across the NPI in subject position at S-structure and subsequently LF moved to Spec of CP, which derives an acceptable negative question. This shows that the NIB does not block overt movement (scrambling) of *wh*-phrases, and that the NIB that does not dominate the trace of a *wh*-phrase after scrambling does not have to dominate the *wh*-phrase, showing no violation of MNSC.

Even though the intervention effect has been formulated in various syntactic, semantic, and pragmatic guises in the literature (e.g. Beck, 1996; Beck & Kim, 1997; Lee, 2001; Pesetsky, 2000; Tanaka, 2003), there does not seem to be any experimental work on this phenomenon to my knowledge. Therefore, this study examines whether native speakers of Korean really know the restriction on negative *wh*-questions with NPIs, i.e. the intervention effect.

Beck and Kim (1997) note that Korean allows scrambling to remove a *wh*-phrase from the scope of a negative quantifier, namely NIB, and suggest that if a language has a scrambling process that can obviate the intervention effect, it must use it. In addition, Beck and Kim (1997) speculate that the absence of scrambling correlates with the absence of the intervention effect. German, Hindi, Urdu, and Turkish, like Korean, do not have obligatory *wh*-movement but do have scrambling, thus these languages exhibit the intervention effect. In contrast, English, the first language of the L2 learners in this study, does not have the intervention effect, and both (6a) and (6b) are supposed to be fairly good (Beck & Kim, 1997).³

- (6) a. Which children didn't want to show which pictures to anybody?
b. Which children didn't want to show anybody which pictures?

Therefore, English-speaking learners of Korean might have difficulties acquiring the intervention effect (at least) in negative *wh*-questions with NPIs. In the following section, the learnability problem that these L2ers might have will be discussed.

³ In contrast to Beck and Kim (1997), Pesetsky (2000) argues that English does have the intervention effect in limited contexts - i.e. D-linking *wh*-expressions (Discourse linking *wh*-expressions) as shown in (6). I will not provide details about Pesetsky's (2000) argument on the intervention effect.

3. An L2 Poverty-of-the-Stimulus Problem

The present study investigates L2 knowledge of the intervention effect in English-speaking learners of Korean. In order to successfully acquire the intervention effect of Korean, the L2ers need to come to know that: (i) Korean has the syntactic option of scrambling, i.e. scrambled and non-scrambled variants are acceptable in positive and negative contexts; (ii) object *wh*-phrases should be scrambled across subject NPIs in negative *wh*-questions with NPIs to obviate the intervention effect. It is not possible for these L2ers to acquire the property of Korean on the basis of their L1 (English) because English does not have scrambling and the intervention effect in negative *wh*-questions with NPIs in this study.

Given the extremely limited data in the input and the absence of negative evidence, the acquisition of the intervention effect in English-speaking learners of Korean constitutes a poverty-of-the-stimulus problem. This is thus an interesting focus for L2 acquisition research, since, if learners can acquire native-like knowledge of the relevant properties, despite the poverty-of-the-stimulus problem, this would indicate that whatever UG mechanism (or combination of mechanisms) constrains L1 acquisition of the intervention effect in *wh*-constructions with NPIs also constrains L2 acquisition (Schwartz & Sprouse, 2000).

In order to address this issue, this study first examines whether, as proposed by Beck and Kim (1997), native speakers of Korean scramble object *wh*-phrases across NPIs in subject position to obviate the intervention effect in negative NPI-context *wh*-questions, which could be experimental evidence for the intervention effect in Korean. Next, the present study investigates whether English-speaking learners of Korean show native-like performance despite the L2 poverty-of-the-stimulus problem.

4. The Study

4.1. Participants

Fifteen native speakers of Korean and eight English-speaking learners of Korean participated in the study. At the time of testing, all participants were students at the University of Hawai‘i at Manoa. All L2ers had received some form of instruction and were taking Korean class at the time of the experiment.

4.2. Method

An elicited-production task and an acceptability judgment task were administered in this study. The elicited-production task was conducted to investigate whether participants scramble object *wh*-phrases across subject NPIs in negative NPI-context *wh*-questions. The elicited-production task involves four different stories such as a picnic story, a birthday party story, and so on. Only one type of Korean NPI, *amwuto* ‘anyone’ is used, and all the test items in this study are simple object *wh*-questions with or without the NPI, *amwuto* ‘anyone’ in subject position. For participants to make a question with word/phrase cards, there are three cards for one target sentence, which consist of one noun phrase (for Subject), one *wh*-word (for Object), and one predicate part with or without negation (for Verb), as presented in (7).

(7) Example for three word/phrase cards necessary for making a question

appa-ka father-Nom	mwues-ul what-Acc	sa-ass-ni? buy-Past-Q
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‘What did father buy?’

In the elicited-production task, there are three experimental conditions: positive non-NPI-context *wh*-questions (as in (1)), negative non-NPI-context *wh*-questions (as in (2)), and negative NPI-context *wh*-questions (as in (3b)). Each story has the three experimental conditions and three fillers. Thus, there are 12 experimental items and 12 fillers in the elicited production task. The experimental design is as follows.

Table 1. Experimental Design in the elicited-production task

	Story I	Story II	Story III	Story IV
1	Filler	Filler	Filler	Filler
2	NQ	NNQ	NNQ	PQ
3	Filler	Filler	Filler	NNQ
4	NNQ	PQ	NQ	Filler
5	Filler	Filler	Filler	Filler
6	PQ	NQ	PQ	NQ

- Three conditions in the elicited-production task
 - PQ (Positive non-NPI-context *wh*-Question)
 - NQ (Negative non-NPI-context *wh*-Question)
 - NNQ (Negative NPI-context *wh*-Question (Target: scrambled *wh*-questions))

Each item was embedded in an appropriate context, and there were no scrambled orders in the contexts. With respect to the PQ and NQ conditions, both scrambled answers (OSV responses) and non-scrambled answers (SOV responses) are acceptable. In the NNQ condition, a scrambled response is acceptable but a non-scrambled response unacceptable, as illustrated in (8).

(8) Example for the NNQ condition in the elicited-production task



Context: When the family arrived, they were very hungry, so they wanted to have lunch. They brought sausage, chicken, bread, and something else.

Experimenter <In Korean and Subject-Object-Verb order>
 Father ate sausage. Cheolsoo ate bread. Younghee ate chicken.

Amwuto ikes-ul mek-ci anh-ass-e-yo.
 Anyone this-Acc eat-ci Neg-Past-Decl
 ‘Nobody ate this.’

BBUNG BBUNG (puppet) knows what it is. Ask him about it.
 You can use these three cards to ask him.

(i) Scrambled answer (acceptable) → Targetlike (OSV response)

Object	Subject	Verb
mwues-ul what-Acc	amwuto anyone	mek-ci anh-ass-ni? eat-ci Neg-Past-Q

‘What did nobody eat?’

(ii) Non-scrambled answer (unacceptable) → Non-targetlike (SOV response)

Subject	Object	Verb
amwuto anyone	mwues-ul what-Acc	mek-ci anh-ass-ni? eat-ci Neg-Past-Q

The purpose of the acceptability judgment task was to examine whether participants accept scrambled and non-scrambled variants in positive and negative non-NPI-context *wh*-questions, and whether they accept scrambled sentences (OSV) and reject non-scrambled (SOV) in negative NPI-context *wh*-questions. The acceptability judgment task used the same test items and fillers from the elicited production task. Participants were given three choices (Yes, No, and Don't know) after listening to picture-based stories. With respect to L2ers, it seems difficult to determine whether they move *wh*-phrases across NPIs due to the L2 knowledge of scrambling or L1 influence (*wh*-movement in English) because all the test items are object *wh*-questions. Thus, questions without *wh*-phrases (yes/no questions) were used as fillers in order to see whether there is L1 influence or not. An example for the acceptability judgment task is presented in (9).

(9) Example for the PQ condition in the acceptability judgment task



Context: The family bought snacks in the store.
All of them bought different things.

Experimenter <in Korean and SOV order>
Mother bought cookies. Cheolsoo bought candy.
Younghee bought ice cream. Father bought this.

BBUNG BBUNG knows what father bought.
Using three cards, I will ask BBUNG BBUNG about it.
Please tell me, based on your intuition, whether it is acceptable
to use this question or not in the context.

Question: <Non-scrambled answer>

appa-ka father-Nom	mwues-ul what-Acc	sa-ci anh-ass-ni? buy-ci Neg-Past-Q
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'What did father bought?'

Answer: Yes No Don't know

As scrambled answers as well as non-scrambled ones are acceptable in the PQ and NQ conditions, the targetlike response in both scrambled and non-scrambled conditions is Yes. However, in the NNQ condition, the targetlike response in the scrambled condition is Yes and that in the non-scrambled condition is No.

The two experiments were conducted as follows. Participants were tested individually. All pictures were shown to each participant on a computer screen. A story accompanied by pictures was told to the subject in the presence of a puppet, BBUNG BBUNG. The experiment started with a short training session to familiarize subjects with the task. During the training session, the participants were tested to check whether they knew the relevant words in the experiment. When each participant was presented with pictures for the three conditions (PQ, NQ, and NNQ) via Microsoft Office PowerPoint slides, the experimenter told him/her a story relevant to each picture. After that, the participant was asked to make a question with the handed three word/phrase cards. All three cards together were handed to the subjects so that the way they were distributed could not affect the performance. After the elicited

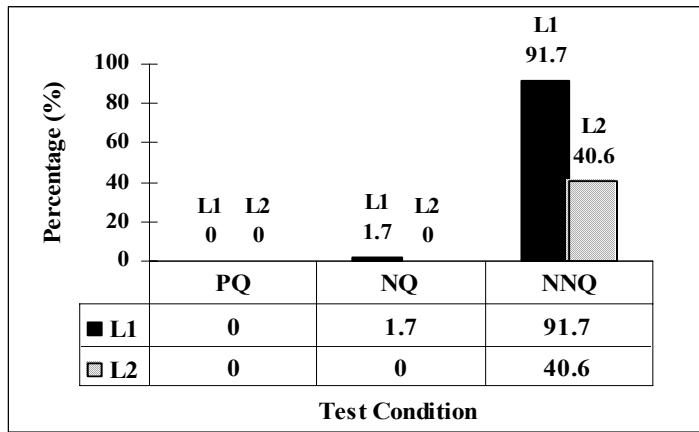
production task, the participants were asked to judge the acceptability of scrambled and non-scrambled sentences in fillers and the three experimental conditions (PQ, NQ, and NNQ).

4.3. Results

4.3.1. Elicited-Production Task

Let's first look at the results from the elicited-production task. All subjects produced only SOV and OSV responses on all test items and fillers although they had more options of word order with three word/phrase cards than the two responses. As the most important thing in this study is whether participants produce OSV response (scrambled answers) on the NNQ condition to obviate the intervention effect, the percentages of OSV responses from L1 and L2 groups are presented in Figure 1.

Figure 1. Total OSV production on three conditions by L1 and L2 groups



In the PQ and NQ conditions, the native speaker controls and non-native speakers never scrambled object *wh*-phrases, except one item in the NQ condition. The native speakers of Korean produced OSV responses in 91.7 % of all responses on the NNQ condition, confirming that scrambling is indeed obligatory to obviate the intervention effect in negative NPI-context *wh*-questions. The L2ers produced OSV responses in 40.6 % of all responses on the NNQ condition. A two-way ANOVA and Tukey HSD post hoc tests show that the rate of OSV response on the NNQ condition was significantly different from the PQ condition in the L1 and L2 groups (L1 group: $t=17.8$, $p<.0001$; L2 group: $t=5.7$, $p<.0001$) and from the NQ condition in the two groups (L1 group: $t=17.4$, $p<.0001$; L2 group: $t=5.7$, $p<.0001$). This means that all Korean natives and some L2ers know that they should scramble object *wh*-phrases across subject NPIs to obviate the intervention effect only in the NNQ condition, whereas they do not have to in the PQ and NQ conditions.

Let us consider the individual results from the L1 and L2 groups. The individual performance of the L1 and L2 group is shown in Figure 2 and 3, respectively.

Figure 2. OSV production on three conditions by each L1 participant

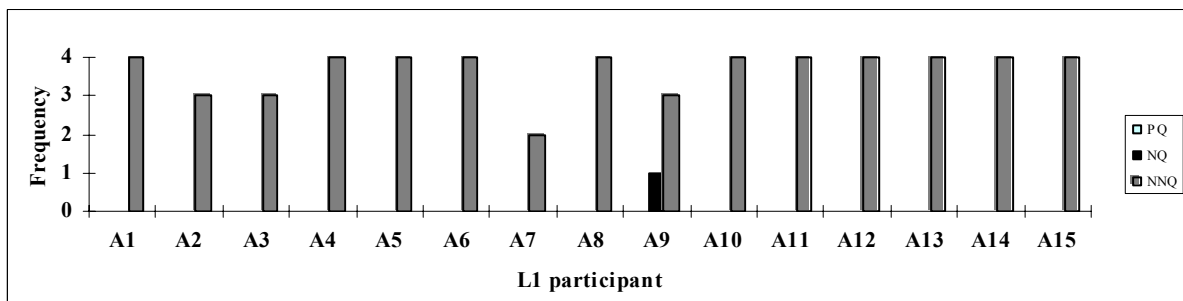
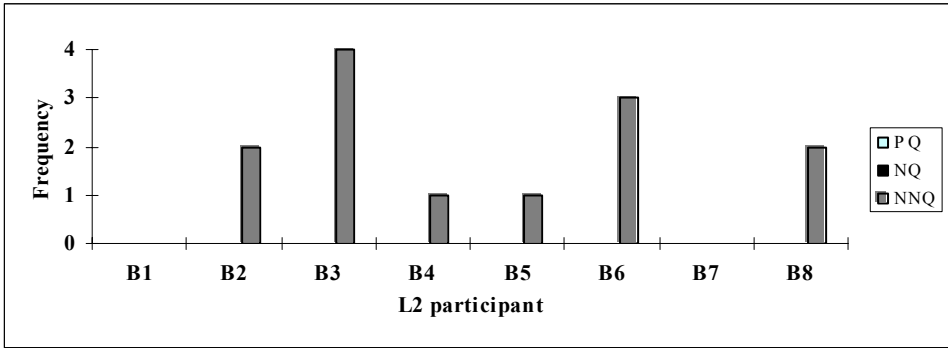


Figure 3. OSV production on three conditions by each L2 participant



Almost all participants in the L1 and L2 groups produced SOV responses (non-scrambled answers) on the PQ and NQ conditions. Native speakers of Korean almost always produced OSV responses on the NNQ condition, where object *wh*-phrases should be scrambled across subject NPIs to obviate the intervention effect in negative NPI-context *wh*-questions. Some L2ers produced OSV responses on the NNQ condition, showing nativelike performance.

4.3.2. Acceptability Judgment Task

Nobody provided Don't Know response in the acceptability judgment task, and the results shown in Table 2 are based on Yes/No responses. As shown in Table 2, all participants in the L1 and L2 groups accepted scrambled and non-scrambled *wh*-questions in PQ and NQ conditions at 100%, confirming that they know that both answers are acceptable in positive and negative non-NPI-context *wh*-questions.

Table 2. Acceptance rate in all conditions by L1 and L2 groups

Participants	Acceptance rate of scrambled <i>wh</i> -questions (%) (OSV response)			Acceptance rate of non-scrambled <i>wh</i> -questions (%) (SOV response)		
	PQ	NQ	NNQ	PQ	NQ	NNQ
L1 Group (n=15)	100	100	93.3	100	100	6.7
L2 Group (n=8)	100	100	46.8	100	100	53.2

With respect to the NNQ condition, Korean natives' acceptance rate for OSV response is 93.3% of all responses; L2ers' acceptance rate for OSV response is lower, at 46.8%. The Korean natives who produced OSV response on the NNQ condition accepted scrambled answers and rejected non-scrambled answers correctly. In addition, some L2ers who produced nativelike responses in the elicited-production task also behaved similarly to Korean natives in the acceptability judgment task.

5. Discussion

The results presented above suggest that, as Beck and Kim (1997) propose, Korean natives scrambled object *wh*-phrases across NPIs in negative NPI-context *wh*-questions but did not in non-NPI-context *wh*-questions, providing experimental evidence for the intervention effect in Korean (at least) with respect to object *wh*-questions with the NPI, *amwuto* 'anyone' in this study. In addition, some English-speaking learners of Korean showed nativelike performance on all test items despite the L2 poverty-of-the-stimulus problem. This presents evidence that (adult) L2 acquisition is constrained by UG.

As for L1 acquisition, there was one interesting finding in this study. In the acceptability judgment task, even though almost all native speakers of Korean rejected non-scrambled answers in the NNQ condition, some suggested that it is possible to assign them *wh*-indefinite reading, i.e. non-targetlike interpretation for the NNQ condition. I now consider why native speakers of Korean gave two different interpretations of scrambled and non-scrambled *wh*-phrases in negative NPI-context *wh*-questions.

- (6) a. Amwuto mwues-ul sa-ci anh-ass-ni?
 Anyone what-ACC buy-ci Neg-Past-Q
 'Did no one buy a thing?'(yes/no question)
- b. Mwues-ul amwuto sa-ci anh-ass-ni?
 What-ACC anyone buy-ci Neg-Past-Q
 'What did no one buy?' (*wh*-question)

Beck and Kim (1997) noticed that the non-scrambled *wh*-phrase in (6a) can have narrow scope interpretation and the scrambled *wh*-phrase in (6b) wide scope interpretation. In other words, (6a) is acceptable as a *wh*-indefinite reading, and (6b) is acceptable as a *wh*-interrogative reading. Even though Beck and Kim (1997) did not account for why (6a) and (6b) could have different meanings precisely, they suggest a transparency requirement for S-structure: scope relations⁴ should be made clear at S-structure as soon as possible. As the MNSC is expected to hold in languages that have syntactic freedom to do so like Korean, this presupposes a view of scrambling in which scrambling cannot be irrelevant to the interpretation procedure. Rather, scrambling is a means by which transparency can be achieved in Korean. Thus, it is possible to identify intended relative scope orderings to a large extent by S-structural linear order. According to Beck and Kim (1997), since it is possible to make the intended scope relations transparent in Korean, it is obligatory to do so. However, English, as opposed to Korean, should be able to compensate for possible interpretation at LF because it does not have scrambling, and has a fairly strict word order.

In addition, these two different interpretations can be attributed to the fact that cross-linguistically *wh*-words are not identical in nature. Indeed, a number of researches (Aoun & Li, 1993; Cheng, 1991; Nishigauchi, 1990 among others) argue that *wh*-expressions in natural languages differ as far as their morphological and syntactic properties are concerned. The claim is that *wh*-words in, e.g., Korean, Japanese, and Chinese do not have quantificational force of their own. The argument is based on the fact that, in these languages, *wh*-words that function as interrogatives can also act as universal and existential quantifiers. Hence the interpretation of a *wh*-word must be determined in the sentential context depending on an element that binds *wh*-expressions and assigns its quantificational force. In contrast, in English, *wh*-expressions are argued to be 'true' *wh*-phrases in that they are unambiguously *wh*-interrogatives.

Following those arguments, the two *wh*-phrases in (6a) and (6b) are interpreted as *wh*-indefinite and *wh*-interrogative, respectively. The sentence (6b) is scrambled and thus can undergo LF *wh*-movement without violation of MNSC, as sketched in (5b). This shows that the *wh*-phrase in (6b) has quantificational force, allowing the *wh*-word wide scope interpretation through scrambling. On the other hand, the *wh*-phrase in (6a) is *wh*-in-situ and cannot undergo LF *wh*-movement because it would violate MNSC, as presented in (5a). It reflects that the *wh*-word does not have quantificational force, forcing the NPI to have wide scope interpretation. As illustrated above, Beck and Kim's idea is that in Korean, the intended scope relations can be made visible at S-structure via scrambling. Since they can be made visible, they have to be as soon as possible.

Given these facts illustrated above, it seems possible that the nature of the intervention effect (in this study) might be interpretation-driven. More specifically, the intervention effect can occur when *wh*-phrases in question fail to get interpreted during derivation. The parametric setting on how *wh*-phrases get interpreted seems to play a crucial role in the cross-linguistic variation of the intervention effect. In order to make a stronger claim on this matter, it is necessary to investigate whether participants scramble *wh*-phrases in *wh*-interrogative-reading context and do not in *wh*-indefinite-reading context. If it is true, this fact can make it more difficult for English-speaking learners of Korean to acquire the intervention effect because, in English, only one interpretation of *wh*-words (*wh*-interrogatives) is possible, and there is no scrambling and the intervention effect in their L1 (English).

With respect to L2 acquisition, it is possible that, despite the L2 poverty-of-the-stimulus problem, some L2ers came to know the restriction on negative NPI-context *wh*-questions in Korean: object *wh*-phrases should be scrambled across subject NPIs to obviate the intervention effect. I will consider how some L2ers show nativelike performance on all three test conditions.

I examined L2ers' demographic information to know how some L2ers overcame learnability problem and came to know the intervention effect. There was no correlation between OSV responses on the NNQ condition and their Korean class levels at University of Hawai'i at Manoa and no correlation between OSV responses on the NNQ condition and total amount of instruction. However, length of stay in Korea and OSV response on the NNQ

⁴ I assume that scope is defined in terms of c-command, which is formulated in the following way (Chomsky, 1981):
 x c-commands y iff (a) the first branching node dominating x also dominates y; (b) x does not dominate y; (c) x≠y.

condition are significantly correlated ($r=0.90$, $p=0.0002$). One could argue that some L2ers could come to know that object *wh*-phrases should be scrambled across NPIs to obviate the intervention effect because they have been more exposed to OSV sentences (scrambled utterances) of negative NPI-context *wh*-questions in the L2 input.

With respect to this issue, I investigated Korean corpus to determine whether L2ers could have sufficient input of *wh*-constructions with NPIs. The *Sejong* Corpus of the 21st Century *Sejong* Project Organization was searched in order to investigate the frequency of *amwuto* (anyone), *mwues-ul* ('what'-Acc), and *nwukwu-lul* ('who'-Acc). The corpus includes a total of 124,372,711 tokens, 90% of which come from a written corpus and 10 % from a spoken corpus. The corpus frequency of NPI and *wh*-phrases used in the experiment are presented in Table 3.

Table 3. Frequency of the used *wh*-words and NPI in the present study

	<i>Amwuto</i> (anyone)	<i>Mwues+ul</i> (‘what’-Acc)	<i>Nwukwu+lul</i> (‘who’-Acc)	<i>Amwuto</i> + either of the two <i>wh</i> -phrases
Frequency	1121	1340	334	0

As shown in Table 3, despite the fact that there are many tokens of each of these three phrases in question, there is not a single utterance of *amwuto* (anyone) with *Mwues-ul* ('what'-Acc) or *Nwukwu-lul* ('who'-Acc), namely negative *wh*-questions with the NPI.⁵ Although it cannot be assumed that there is no positive evidence at all about *wh*-constructions with NPIs in Korean, it is definitely true that it is very rare in the input. Thus, L1 acquirers of Korean face exactly learnability challenge in the face of input that underdetermines the unacceptability of non-scrambled answers in the NNQ condition. Assuming the poverty-of-the-stimulus problem, domain-specific knowledge of the kind envisaged by UG is arguably essential to ensure that Korean speakers converge on a grammar bearing the restriction on negative NPI-context *wh*-questions, i.e. the intervention effect. As argued in section 2.2, given the fact that some L2 acquirers showed nativelike performance on the intervention effect, adult L2 acquisition is constrained by UG.

6. Conclusion

This study investigated the L2 acquisition of the intervention effect in English-speaking learners of Korean. The results suggest that some L2ers were able to come to know the restriction on negative NPI-context *wh*-questions: object *wh*-phrases should be scrambled across subject NPIs to obviate the intervention effect, providing evidence that adult L2 acquisition must be constrained in the same way as L1 acquisition is, namely, UG. For future research, it is worth investigating why scrambling is obligatory to obviate the intervention effect in Korean or whether the parametric setting on how *wh*-phrases get interpreted have an effect on the cross-linguistic variation of the intervention effect.

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⁵ In Korean, there are colloquial words for the two *wh*-phrases used in this study: *mwue-lul* and *mwue-l* for *mwues-ul* ('what'-Acc); *nwukwu-l* for *nwukwu-lul* ('who'-Acc). Even though I did not include the colloquial words in this study, those were examined in the corpus study because there was no token of *amwuto* (anyone) and either of *mwues-ul* ('what'-Acc) and *nwukwu-lul* ('who'-Acc) in the present study. However, I could not find any utterance containing *amwuto* (anyone) and one of the three forms for *mwues-ul* ('what'-Acc) or a sentence that has *amwuto* (anyone) and one of the two forms for *nwukwu-lul* ('who'-Acc).

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