

# The Acquisition of L2 Double *Wh*-questions

Jung-Tae Kim  
(University of Incheon)

Kim, Jung-Tae. 2005. The Acquisition of L2 Double *Wh*-questions. *The Linguistic Association of Korea Journal*, 13(4), 69-89. It is known that Korean and English are different in the range of acceptable double *wh*-questions. Korean allows wider range of double *wh*-questions including such questions as *who studied how?* and *who studied why?*, which are generally not allowed in English. This paper investigates the knowledge of English and Korean double *wh*-questions possessed by the native speakers of Korean learning English and the native speakers of English learning Korean, respectively. A Bidirectional acceptability judgement test was carried out to see the L2 learners' knowledge of double *wh*-questions. The results showed that native speakers of Korean learning English were not successful in acquiring the grammaticality of all English double *wh*-questions while native speakers of English learning Korean were relatively successful in acquiring the grammaticality of Korean double *wh*-questions. These results were interpreted as consistent with the predictions made on the basis of the Subset Principle.

**Key Words:** double *wh*-questions, universal grammar, subset principle, second language acquisition

## 1. Introduction

There is an asymmetry in the grammaticality of double *wh*-questions in English. Consider the following examples in (1).

- (1) a. Who studied what?
- b. \* Who studied how?
- c. \* Who studied why?

In English, double *wh*-questions involving two argument *wh*-phrases are acceptable, whereas those involving an adjunct *wh*-phrase are not. (1a) involves two argument *wh*-phrases *who* and *what*, and the sentence is acceptable to most of native speakers. In (1b) and (1c), on the other hand, *how* and *why* are adjuncts, and cannot constitute double *wh*-question constructions.

Adjuncts *where* and *when* act differently from adjuncts *how* and *why* in double *wh*-questions. Double *wh*-questions with an adjunct *when* or *where* are acceptable, as (2) illustrates (Huang, 1982; Kuno & Takami, 1993).

- (2) a. Who studied when?  
 b. Who studied where?

Although less acceptable than the sentence (1a), (2a) and (2b) are generally considered more acceptable than (1b) and (1c). Therefore, in English, double *wh*-questions with a subject *wh*-phrase differ in their acceptability depending on what type of *wh*-phrase comes in the post-verbal position.

In Korean, a wider range of double *wh*-questions is permitted. Unlike in English, all six *wh*-words can be used for non-subject in double *wh*-questions.

- (3) a. Nwu-ga   mue-lul   mandul-ess-ni?  
       *who-Nom what-Acc make-Past-Q*  
       'Who made what?' (complement 'what')
- b. Nwu-ga   edi-eyse   ja-ass-ni?  
       *who-Nom where-in sleep-Past-Q*  
       'Who slept where?' (adjunct 'where')
- c. Nwu-ga   woe   sul-ul   masi-ess-ni?  
       *who-Nom why alcohol-drink-Past-Q*  
       'Who drank why?' (adjunct 'why')

The above examples show that in Korean both argument and adjunct

*wh*-phrases can be used for double *wh*-question formation.

The difference between Korean and English in the range of acceptable double *wh*-questions suggests that native speakers of English and native speakers of Korean have set different parametric values with regard to the construction of double *wh*-questions. These different parametric values might pose a problem when a speaker of one language tries to learn the other's language. A Korean learner of English, if s/he is to be completely 'native-like' English speaker, must possess the knowledge that English allows a different range of double *wh*-questions from Korean, and vice versa.

The present study investigates the knowledge of the target language double *wh*-questions possessed by the native speakers of English learning Korean and the native speaker of Korean learning English, and considers which second language acquisition (SLA) model can provide the most appropriate account for the knowledge possessed by the learners. Three different hypotheses will be set up based on the current SLA theories, and then, the results of a bidirectional experiment, which is designed to test the hypotheses, will be reported.

## 2. Theoretical Backgrounds and Research Hypotheses

### 2.1. Linguistic Theories Explaining Double *Wh*-questions

In the principles and parameters framework, the account for the asymmetry in the acceptability of English double *wh*-questions shown in (1) relies on the ECP (Empty Category Principles). The ECP requires that an empty category, the trace of *wh*-phrase in this case, be properly governed either by its antecedent or by a lexicon. According to Haegeman (1994), in English double *wh*-questions such as (1a), the subject *wh*-word is raised to Spec of CP first, and at this time, its index percolates to Spec of CP, making the whole Spec of CP co-indexed with the subject trace. At LF where the other *wh*-phrase is moved to Spec of CP, the trace of the subject *wh*-phrase is antecedent-governed by the *wh*-complex in Spec of CP, and the trace of

the direct object *wh*-phrase is lexically governed by the verb. This process is shown in (4).

- (4) a. [<sub>CP</sub>[<sub>IP</sub> who studied what]]? (DS representation)  
 b. [<sub>CP</sub> who<sub>i</sub> [<sub>IP</sub> t<sub>i</sub> studied what]]? (SS representation)  
 c. [<sub>CP</sub>[what<sub>j</sub> who<sub>i</sub>]<sub>i</sub> [<sub>IP</sub> t<sub>i</sub> studied t<sub>j</sub> ]]? (LF representation)

(4) shows that, at LF, the empty category *t<sub>i</sub>* is antecedent governed by the *wh*-complex in Spec-CP and the empty category *t<sub>j</sub>* is lexically governed by the verb *study*.

On the other hand, for the sentences involving an adjunct *wh*-phrase as those in (1b) *who studied how?* and (1c) *who studied why?*, the trace of the adjunct *wh*-phrase cannot be lexically governed because the trace is located in a position where no government is allowed by a lexical category. Note that these adjunct traces cannot be antecedent-governed either, because the *wh*-complex in Spec-CP was already co-indexed with the subject *wh*-word and used up for the antecedent-government of the trace of the subject *wh*-word. Consequently, the adjunct *wh*-phrase trace is not properly governed, and the double *wh*-questions in (1b) and (1c) violate the ECP.

Still, the problem occurs with regard to the asymmetry between the sentences in (1b, c) and (2) since all four types of *wh*-phrases (*where*, *when*, *how*, *why*) are adjuncts. Several different attempts have been made to account for the difference among these adjunct *wh*-phrases in double *wh*-questions. Aoun *et al.* (1987), for instance, claim that locational and temporal adjuncts (including *where* and *when*) are more like referential pronouns in their nature as the existence of the referential pronouns like *there* and *then* suggests. On the other hand, manner and reason adverbs cannot be used as referential. Aoun *et al.* then explain the differences between the *where/when* and *how/why* in relation with the binding mechanism: in English, traces of subject *wh*-phrases must be bound, and *wh*-phrases other than a subject *wh*-phrase can appear with a subject *wh*-phrase only when the traces of these other *wh*-phrases need to be bound. Referential *wh*-phrases

such as *when* and *where* are those which need to be bound, and others are not. Consequently, non-referential *how* and *why*, which need not be bound, cannot appear with a subject *wh*-phrase in a double *wh*-question.

Although other proposals exist about the asymmetry among adjunct *wh*-phrases,<sup>1)</sup> the current study need not depend on a particular proposal, because, for the purpose of the present research, it is enough to show that English double *wh*-questions require more syntactic restrictions than Korean double *wh*-questions, which we will now turn to.

Acceptability of Korean double *wh*-questions may be explained by suggesting a mechanism of government different from that of English. Lasnik & Saito, (1992) claim that, for Japanese, the trace of a *wh*-word in subject position is lexically governed either by the Nominative Case marker or by INFL. A parallel explanation may be given to Korean as the two languages share the similar characteristics with regard to the acceptability of (double) *wh*-questions. That is, as in Japanese, it can be assumed that the trace of a subject *wh*-word is lexically governed in Korean (either by the Nominative Case marker *-ga/-i* or by INFL, depending on the analysis). Consequently, in double *wh*-questions, the *wh*-complex in Spec of CP at LF can antecedent-govern the trace of the adjunct *wh*-phrases. The LF representation of the Korean double *wh*-question including an adjunct *wh*-word would be, then, like (5).

- (5) [<sub>CP</sub>[Nw<sub>i</sub> woe<sub>j</sub>]<sub>i</sub> [<sub>IP</sub> t<sub>i</sub>-ga t<sub>j</sub> kongbuha-ess]-ni ]? (LF)  
       *who why -Nom study-.Past-Q*  
       'Who studied why?'

Recall that, in English, the *wh*-complex in Spec of CP is not available for the antecedent-government of the trace of the adjunct *wh*-phrase because it was already used up for the government of the trace of the

1) Huang (1982) argues that the trace of *where* and *when*, but not of *how* and *why*, can be lexically governed by a null preposition, so that multiple *wh*-questions in (2) satisfy the ECP. Kuno and Takami (1993) suggest that *why* and *how* are base-generated left-most in questions, thus ruling out the possibility of double questions like *who studied why?* and *who studied how?*

subject *wh*-word. To the contrary, in Korean, the *wh*-complex is available for the antecedent-government of the trace of adjunct *wh*-word as the subject trace can be properly governed by another element (Nominative Case marker or INFL).

## 2.2. Second Language Acquisition Theories and Hypotheses

### 2.2.1. Subset Principle and L2 Acquisition

The subset principle (Berwick, 1985) distinguishes a subset grammar from a superset grammar. A subset grammar is a grammar with more restrictions compared to a less restrictive grammar which may be called a 'superset'. The subset principle claims that language learning children initially assume the most restrictive grammar (a subset grammar) before they test whether the grammar of the language can be expanded to a less restrictive one. If learners begin with a superset grammar, they would need negative evidence to narrow its scope to the target grammar in case the target grammar is a subset. Considering that negative evidence is rare in the natural language learning environment, learners who initially assume the superset grammar will rarely hear anything that directly disconfirms the initial assumption. To the contrary, if learners initially assume the subset, the grammar can subsequently be expanded on the basis of positive evidence only to construct a target grammar. For example, if language learners assume an initial grammar that only allows NP + PP for dative verbs in English and construct sentences such as (6), then they will be able to avoid making errors such as (7).

(6) Jane explained the problem to Tom.

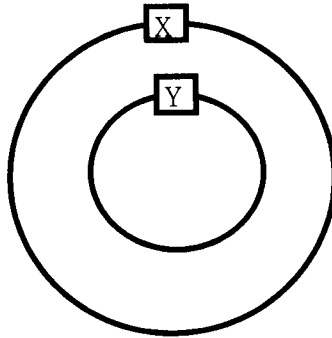
(7) \* Jane explained Tom the problem.

Learners will simply need positive evidence in order to determine that some English verbs such as 'give' allow NP + NP complements. Here, the grammar that allows only NP + PP for dative verbs may be

understood as constructing the subset, while the grammar that allows both NP + PP and NP + NP is a superset. By initially assuming the subset grammar, learners can avoid the need for negative evidence. The prediction of the subset principle, therefore, is that learners always adopt the subset until evidence shows them the other case.

This logic of the subset principle may apply for the double *wh*-questions. Children acquiring Korean as their native language must know that the language allows all the patterns of *wh*-questions including *how* and *why*. On the other hand, children acquiring English as their native language must know that English allows only certain patterns. When Korean and English grammars are compared with regard to double *wh*-question constructions, English setting should be a more restricted case, constituting a subset grammar of Korean setting. Figure 1 illustrates the superset-subset relation with regard to double *wh*-questions.

Figure 1. The Subset-Superset Relation with regard to Double *Wh*-questions



X: Superset: the grammar that allows all patterns of double *wh*-questions (e. g., Korean)

Y: Subset: the grammar that allows some patterns of double *wh*-questions, but not others. (e. g., English)

Let us now consider L2 acquisition of English and Korean double *wh*-questions by Korean and English native speakers in the light of the subset principle. English-speaking learners of Korean should acquire a grammar that allows all types of double *wh*-questions including adjunct *how* and *why*. For this case, resetting the parameter setting of the learners' native language would be made based on the positive input of the target language. On the other hand, Korean learners of English should acquire a grammar that allows only specific patterns of double *wh*-questions. The target grammar is a subset grammar, and thus, in order for a Korean learner of English to acquire English double *wh*-questions, information about the ungrammaticality of particular sentences is required.<sup>2)</sup> However, such information is unlikely to be provided either in the positive input nor in formal instruction as the classroom foreign language teachers rarely teach double *wh*-questions explicitly. Therefore, in the light of the subset principle, it is predicted that English-speaking learners of Korean can acquire the grammar system of Korean double *wh*-questions while Korean-speaking learners of English cannot acquire the system of English double *wh*-questions.

### 2.2.2. UG-involved Theories of SLA

From the Government and Binding theoretical view, it is assumed that the basic parametric difference between the two types of languages exists in the possibility of lexical government of the subject trace. That is, in Korean, the subject trace can be lexically governed, but, in English, the same trace is antecedent governed. In addition, English would need further restriction(s) in order to explain why adjuncts *where* and *when* act differently from adjuncts *how* and *why* in the formation of double *wh*-questions.

The knowledge of these parameters is highly abstract and if someone

---

2) A presupposition of this idea is that learners start L2 learning in the background of their L1 knowledge. This view is shared by the contrastive analysis hypothesis (CAH) and also by some generative grammar-based L2 initial state research (e.g. Schwartz and Sprouse, 1996, for initial transfer of L1 functional categories).



acquires the parametric value without explicit grammar instruction or enough positive input, it raises a learnability problem. For example, if Korean-speaking learners of English could somehow acquire the system of the English double *wh*-questions, this acquisition cannot be attributed to the positive input or explicit grammar instruction. In the generative grammar approach to the second language acquisition, the issue of the learnability problem is related to the Universal Grammar (UG) access to L2 acquisition. If UG is directly accessible to adult second language acquisition, adult second language learners would acquire the grammar system of the target language just as easily as the child first language learners do. The UG-full access hypothesis (e.g., Flynn, 1996) represents this view. It claims that L2 learners will utilize the inborn UG to construct the L2 grammar and thus that only a certain amount of exposure to the target language will be enough to trigger the development of correct parametric settings of the target language. Learners' L1 setting is overridden by direct access to the UG. Therefore, L2 learners would not have difficulty in setting the parameter values of the target language.

Another position involving UG is that L2 learners have access to UG, but only via their L1 (e.g., Schachter, 1990, 1996). L2 learners have already accessed the principles and parameters applied to their L1, and only these L1-instantiated principles and parametric values are available for L2 acquisition. This position is often called the UG-indirect hypothesis. It claims that only the parameters set for L1 values are available to L2 learners, and resetting of parametric value is not possible under the UG guidance. Therefore, L2 learners will keep applying their L1 parametric values to the L2 setting unless some other mechanisms are activated.<sup>3)</sup> This position, in this sense, effectively explains some persistent transfer phenomena shown in the L2 learning processes.

---

3) These 'other mechanisms' may include general problem solving ability (as Bley-Vroman (1989) suggests) and/or explicit grammar instruction.

### 2.2.3. Hypotheses

Based on the above discussion, different hypotheses may be set up with respect to how Korean and English native speakers learning English and Korean, respectively, acquire the target language double *wh*-questions. For the present study, the following three different working hypotheses were set up.

1) In the light of the Subset Principle, Korean-speaking learners of English will experience difficulty in acquiring English type double *wh*-questions as English holds the subset grammar to Korean. On the other hand, English-speaking learners of Korean will acquire Korean type double *wh*-questions without difficulty as the learners will be able to set up the new parameter value for Korean through positive input. (Subset Principle Hypothesis)

2) The UG is fully accessible to L2 acquisition, and L2 learners will experience little difficulty in developing L2 double *wh*-questions. Korean-speaking learners of English will acquire English double *wh*-question, as UG guides them to acquire English type ECP parameters (and other principles and parameters needed for the development of English double *wh*-questions). The acquisition in the opposite direction would also be accomplished as UG works in the same way. (UG full-access Hypothesis).

3) Korean-speaking learners of English will transfer their L1 parameter for English double *wh*-questions, assuming that all types of double *wh*-questions are possible in English. English-speaking learners of Korean will also transfer their L1 parametric value for Korean, assuming that *wh*-questions with *why* and *how* are not possible in Korean. Parameter resetting would not be possible because UG does not guide L2 parameter resetting and L2 learners are rarely exposed to multiple *wh*-questions in the target language. (Transfer Hypothesis)

Bley-Vroman & Yoshinaga (2000) investigated the knowledge of English double *wh*-questions possessed by Japanese learners of English. In their study, acceptability of six different types of English double *wh*-questions (including those with two argument *wh*-phrases and those with an argument and an adjunct *wh*-phrase) were judged by high-proficiency Japanese speakers of English. Two native groups also participated as control groups in this study: Japanese native speakers judged the six types of Japanese double *wh*-questions and English native speakers judged English double *wh*-questions. The results of the study were as follows: 1) the native groups judged their own language as expected in that Japanese native speakers accepted all types of Japanese double *wh*-questions while English native speakers showed lower acceptability for the double *wh*-questions involving adjuncts *how* and *why*; and 2) high-proficiency Japanese learners of English were different from the native speakers of English in their acceptability judgements as they judged all types of English double *wh*-questions as acceptable, although the levels of acceptability were not as high as their acceptability levels of Japanese equivalents.

Bley-Vroman & Yoshinaga's study seems to imply that the parameter resetting through the full UG access has not occurred for the double *wh*-questions. Transfer effect was not clear either, because, although Japanese learners accepted all types of English *wh*-questions, their acceptability levels were low when compared with the Japanese native speakers' rating of acceptability of Japanese double *wh*-questions. The other option, the subset principle hypothesis, could not be tested in this study because the study was unidirectional - testing only Japanese learners of English and not the other way.

The purpose of the present experiment is to investigate the L2 learners' knowledge of the target language double *wh*-questions and to determine what hypothesis among the three above can offer the most appropriate account for the knowledge possessed by the learners. For this purpose, a bidirectional design was adopted, investigating both the acquisition of English double *wh*-questions by Korean-speaking

learners and the acquisition of Korean double *wh*-questions by English-speaking learners. This design allows us to test the subset principle hypothesis, and, at the same time, to determine whether a transfer of the parameter value, if any, is an authentic transfer. If the transfer of a linguistic parameter is in one direction and not in the other, it might indicate that there is some mechanism other than a simple transfer of parameter value. On the other hand, if the transfer is bidirectional, then the effect of L1 transfer will be confirmed.

### 3. Methodology

#### 3.1. Subjects

A total of thirty-one subjects in South Korea and the United States participated in the study. Subjects consisted of two groups: twenty-one Korean-speaking learners of English (L2 English group) and eleven English-speaking learners of Korean (L2 Korean group).

The Korean-speaking learners of English were students enrolled in a course at a university in South Korea. They were all English majors, ranging in age from 20 to 27. It was assumed that their English proficiency is relatively high as their TOEIC scores were all over 700.<sup>4)</sup>

The English-speaking learners of Korean were students in the fourth and sixth semester Korean language courses at a university in the Midwest region in the United States, aged between 18 and 23. Six students were from the fourth semester course and five students from the sixth semester course.<sup>5)</sup> Although no standardized tests were taken, the students were generally considered to have an intermediate level

---

4) Sixty-eight students were initially screened for the participation of the study. Forty-seven students who replied either that they had not taken TOEIC or that they did not want to reveal their TOEIC scores were excluded from the participation.

5) A semester of Korean course in the university consisted of 15 weeks of instruction, each week offering five days of one-hour lesson. The Korean language instruction in the university tends to be more communicatively oriented than English instruction in Korea.

proficiency in Korean. They could construct sentences with complex structures including adverbial clauses, using all tenses in verbal and written forms. Their vocabulary proficiency was lower, however, compared to their Korean counterparts.<sup>6)</sup>

### 3.2. Materials

A grammaticality judgement test was used in the study, and two versions of a test sheet were prepared - one in English and the other in Korean. Except for the language used, two versions were identical in their contents, although the names of male and female figures who appeared in the test sentences varied so as to use popular names in each culture.

The test contained a total of 18 double *wh*-questions which the subjects were asked to rate for acceptability. Subject *who* was used for the first *wh*-word in every question, but the second *wh*-word varied so that all six types of the *wh*-word could be tested. Each question was preceded by a short description of a situation which is designed to help the subjects to understand the context where the double question may be made. Examples of the six types of double *wh*-questions used in the test are shown in (8)

(8) Six types of double *wh*-questions

a. *who-what* type

Situation: Jane made a car, and John made an airplane

"Who made what?"

b. *who-who* type

Situation: Jane met Gene, and John met Adam

---

6) Although no direct comparison was possible between the proficiency levels of the two groups, it might be assumed from the length of their L2 study that Korean-speaking learners of English were at a higher proficiency level in the target language than English-speaking learners of Korean. Section 5 provides a discussion that this direction of asymmetry, however, did not pose a problem in the interpretation of the results of the study.

"Who met who?"

c. *who-when* type

Situation: Jane slept at night, and John slept in the morning

"Who slept when?"

d. *who-where* type

Situation: Jane slept in the car, and John slept in the train

"Who slept where?"

e. *who-how* type

Situation: John slept well, and Jane slept uncomfortably

"Who slept how?"

f. *who-why* type

Situation: Jane drank because she was sad, and John drank because he was happy

"Who drank why?"

For each of six types of double *wh*-questions, three question sentences were made, totaling 18 question sentences. These 18 sentences were presented in a random order. Following each test sentence, a seven-point rating scale was provided on which the subjects were supposed to mark the acceptability of the sentence (from -3 for 'completely impossible' to +3 for 'completely possible').

### 3.3. Procedure and Analysis

The English version test was given to the Korean-speaking learners of English and the Korean version test was given to the English-speaking learners of Korean. Although there was no time limit, the subjects were instructed to rate the acceptability of the sentences as quickly as possible.

The collected test scores were entered into the SPSS for ANOVA analysis. One-way ANOVA was performed to determine whether or not the score differences among six sentence types (*who-what*, *who-who*, *who-when*, *who-where*, *who-how*, and *who-why*) were statistically significant.

## 4. Results

Table 1 shows the results of the acceptability judgments for English double *wh*-questions by Korean-speaking learners of English.

Table 1. Acceptability of English Double *Wh*-questions by Korean-speaking Learners of English

Sentence type	Mean	S.D
who-what	1.6990	1.2815
who-who	1.1910	1.8608
who-where	1.6986	1.1152
who-when	1.3181	1.3440
who-how	.9833	1.7908
who-why	1.4919	1.3068
Overall	1.3970	1.4698

If positive scores are taken to indicate that a sentence is acceptable, all six types of English double *wh*-questions were judged as acceptable by the Korean learners. The mean ratings were clustered between +1 and +2 for all sentence types except the *who-how* type which was rated below +1 (0.9833). ANOVA analysis showed that there was no statistically significant effect of sentence type ( $F(5, 20) = .792, p > .05$ ), suggesting that learners did not distinguish the acceptability of six different types of double *wh*-questions.

The result of the acceptability judgments for Korean double *wh*-questions by English-speaking learners of Korean was shown in Table 2.

Table 2. Acceptability of Korean Double *Wh*-questions by English-speaking Learners of Korean

Sentence type	Mean	S.D
who-what	1.5145	1.4101
who-who	1.5455	1.3446
who-where	1.3936	1.2798
who-when	1.1509	1.5519
who-how	.7582	2.0604
who-why	1.1527	1.6618
Overall	1.2526	1.5358

English-speaking learners of Korean rated all six types of Korean double *wh*-questions as being on the acceptable side. Although the *who-how* type was noticeably lower (0.7582) than the other types in its acceptability, ANOVA analysis revealed that there was no significant effect of sentence type ( $F(5, 10) = .390, p > .05$ ) among the six types. This result means that English-speaking learners did not differentiate the six types of Korean double *wh*-questions, and that they somehow correctly acknowledged that all six types of Korean double *wh*-questions are acceptable.

## 5. Discussion and Conclusion

The results of the study indicated that both English and Korean double *wh*-questions were rated as acceptable by Korean- and English-speaking learners, regardless of the type of sentence. If the data obtained in this study genuinely reflect the learners' L2 competence, the results may be interpreted as follows:

(1) The ratings of the English questions by Korean-speaking learners of English indicate that the Korean learners were not successful in acquiring the grammaticality of all English double *wh*-questions. The learners were unaware that the *who-why* and *who-how* type questions are not acceptable in English grammar.

(2) The ratings of the Korean questions by English-speaking learners



of Korean indicate that the English-speaking learners were relatively successful in acquiring the grammaticality of Korean double *wh*-questions. That is, the learners seem to know that all types of double *wh*-questions, including the *who-why* and *who-how* type questions, are acceptable in Korean grammar.

The English-speaking learners' mean ratings of Korean *wh*-questions were clustered between +0.7 and +1.6, which may be lower than the expected Korean native speakers' judgements of the same sentences. While this lower acceptability indicates that the learners did not possess completely native-like competence on the judgment of the acceptability of Korean double *wh*-questions, the direction of the judgment clearly suggests that they lean toward accepting all types of Korean double *wh*-questions. It can be assumed, then, that the learners in the current study are in the right process of building up grammar knowledge of Korean double *wh*-questions.

With respects to the three hypotheses we established earlier, the following interpretations of the results may be possible.

Firstly, the UG full-access hypothesis was not supported. The full access hypothesis claims that adult second language acquisition is guided by the same UG that guides the child first language acquisition, and that parameter values can be reset for the second language acquisition with minimal triggering signs from input. In the present study, although English-speaking learners of Korean seem successful in the parameter resetting, Korean learners of English do not show the successful parameter resetting. This result is not consistent with the prediction of the full-access hypothesis as the parameter resetting was taken place in one way, but not in the other way. One may doubt that this result is caused simply by the proficiency difference between the learners of Korean and the learners of English. That is, it might be claimed that the Korean learners of English were at an earlier stage of L2 development than the American learners of Korean, and that more advanced Korean learners of English would have been able to reset the parameter. This claim, however, is unlikely to be supported with the subjects in the present study. Compared with the learners of Korean

who have learned Korean for less than three years as a non-major subject, the learners of English have learned English for over 7 years, all majoring in English at the university, and have TOEIC scores over 700. Learners of English could hardly be at a lower proficiency level in the target language than learners of Korean. In addition, the UG full-access hypothesis predicts that parameter resetting can be achieved easily when a minimal triggering input is provided. The developmental stage of Korean learners of English is certainly beyond the earliest stage of acquisition, and it is reasonable to assume that they have received at least the minimum input required for the parameter resetting.<sup>7)</sup> In this sense, difference in proficiency level between the two subject groups does not provide a proper explanation for the results of the study.

The transfer hypothesis is also rejected. This hypothesis predicts that L1 parametric values will transfer to the L2 setting and that the resetting of the parametric values under the UG guidance will not be possible in the subsequent development. According to this hypothesis, Korean-speaking learners of English must assume that all types of double *wh*-questions are possible in English, while English-speaking learners of Korean must assume that *wh*-questions with *who-why* type and *who-how* type are not possible in Korean grammar. Results of the study showed that, although Korean-speaking learners of English accepted all types of English double *wh*-questions as this hypothesis predicts, English-speaking learners of Korean did not show transfer effect, accepting all types of Korean double *wh*-questions. Since the transfer was not bidirectional, the transfer hypothesis cannot be held.

The results of the study were most consistent with the predictions made by the subset principle hypothesis: Korean-speaking learners of English could not distinguish grammatical English double *wh*-questions from ungrammatical ones as English holds the subset grammar to their

---

7) it does not mean that the learners have been directly exposed to double *wh*-questions in the target language. Rather it means that learners have been exposed to the target language structures containing information implying its ECP parameter (and whatever information related to the constraints for the formation of double *wh*-questions).

native language; but, English-speaking learners of Korean were able to acquire the grammaticality of Korean double *wh*-questions as Korean holds the superset to English. The fact that the Japanese learners of English in Bley-Vroman & Yoshinaga's study (2000) were unsuccessful in judging the acceptability of English double *wh*-questions would equally be explained by the subset principle hypothesis as Japanese is also a superset language to English with respect to double *wh*-questions.

Another factor that could be considered is that structural differences of general *wh*-questions between Korean and English. That is, the results might reflect the possibility that learning the *wh*-word *in-situ* option (Korean) is easier than learning the *wh*-movement option (English). Platzack (1996) and Kim (2000, 2003) suggested that L2 learners initially assume the most economical form of syntax, in which no overt syntactic movement (such as *wh*-movement) is involved. If this is the case, it would be reasonable to think that acquiring the English type *wh*-question which requires overt movement of a *wh*-word would be more difficult to learn than acquiring the Korean type *wh*-question which does not involve such movement. Whether a parallel logic can apply to the acquisition of double *wh*-questions would need further consideration.<sup>8)</sup>

To conclude, the present study points to the possibility that acquiring an L2 grammar which is a subset to the native grammar is more difficult than acquiring a superset grammar to the native grammar. Precise interpretation of our results, however, is still open for future consideration as alternative explanations, such as the one mentioned in the previous paragraph, might exist. Further studies with learner groups of several different proficiency levels including the very early stage and near-native level stage would provide clearer picture of the developmental process of L2 double *wh*-questions, helping us elaborate

---

8) One way of testing this question may be to study the acquisition of English double *wh*-questions by the L2 learners whose native language is identical to English in terms of *wh*-word fronting and the set of permitted double *wh*-questions. If they experience the same difficulty as Korean learners of English in our study did, then it may be seen as suggesting that L2 learners initially assume the most economical syntax in which no overt syntactic movement is present.

the L2 knowledge acquisition mechanism. Also research including learner groups of different first languages as well as different target languages would allow us to see whether the results of the present study can be generalized for all second language acquisition cases.

### References

- Aoun, J., Hornstein, N., Lightfoot, D., & Weinberg, A. (1987). Two types of locality. *Linguistic Inquiry*, 18, 537-577.
- Berwick, R. (1985). *The acquisition of syntactic knowledge*. Cambridge, MA: MIT Press.
- Bley-Vroman, R. (1989). What is the logical problem of foreign language learning? In J. Schachter and S. Gass, (Eds.), *Linguistic perspective on second language acquisition* (pp. 41-68). Cambridge: Cambridge University Press.
- Bley-Vroman, R., & Yoshinaga, N. (2000). The acquisition of multiple *wh*-questions by high-proficiency non-native speakers of English. *Second Language Research*, 16(1), 3-26.
- Flynn, S. (1996). A parameter-setting approach to second language acquisition. In W. C. Ritchie, & T. K. Bhatia, (Eds.), *Handbook of second language acquisition* (pp. 121-158). New York: Academic Press.
- Haegeman, L. (1994). *Introduction to government and binding theory*. Oxford: Blackwell.
- Huang, J. (1982). *Logical relations in Chinese and the theory of grammar*. Unpublished doctoral dissertation, MIT.
- Kim, J.-T. (2000). *The initial state of second language syntax: An investigation of L2 wh-movement and null subjects from the minimalist perspective*. Unpublished doctoral dissertation. The University of Texas at Austin.
- Kim, J.-T. (2003). L2 initial syntax: *Wh*-movement and the most economical syntactic derivation. In B. Beachley, A. Brown, & F. Conlin (Eds.), *Proceedings of the BUCLD 27* (pp. 414-424).

- Somerville, MA: Cascadilla Press.
- Kuno, S., & Takami, K. (1993). *Grammar and discourse principles: Functional syntax and GB theory*. Chicago: University of Chicago Press.
- Lasnik, H., & Saito, M. (1984). On the nature of proper government. *Linguistic Inquiry*, 15, 235-289.
- Platzack, C. (1996). The initial hypothesis of syntax: A minimalist perspective on language acquisition and attrition. In H. Clahsen, (Ed.), *Generative perspective on language acquisition* (pp. 369-414). Philadelphia, PA: John Benjamins Publishing Co.
- Schachter, J. (1990). On the issue of completeness in second language acquisition. *Second Language Research*, 6, 93-104.
- Schachter, J. (1996). Maturation and the issue of Universal Grammar in second language acquisition. In W. Ritchie, & T. Bhatia, (Eds.), *Handbook of second language acquisition* (pp. 159-193). San Diego, CA: Academic Press.
- Schwartz, B., & Sprouse, R. (1996). L2 cognitive states and the full transfer/full access model. *Second Language Research* 12, 40-72.

Jung-Tae Kim  
Department of English Language and Literature  
University of Incheon  
177 Dohwa-dong, Nam-gu, Incheon  
Phone: 032-770-8109  
Email: jkimwustl@incheon.ac.kr

Received: 30 Sept, 2005

Revised: 3 Dec, 2005

Accepted: 10 Dec, 2005