The Contraction Phenomenon and L2 Acquisition: An Experimental Study by Korean Learners of English*

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1. Introduction

In English, as is well known, *want to* can be contracted to *wanna,* but not invariably. The following examples illustrate the contrast of contraction possibility. Contraction of *want to* to *wanna* is permitted in (1b), Object Extraction Question (OEQ), but not in (2b), Subject Extraction Question (SEQ).

(1) Object Extraction Question (OEQ)
    a. Who do you want PRO to kiss *t*?
    b. Who do you wanna kiss *t*?

(2) Subject Extraction Question (SEQ)
    a. Who do you want *t* to kiss Bill?
    b. *Who do you wanna kiss Bill?

(3) Declaratives
    a. I want to kiss Bill.
    b. I *wanna* kiss Bill.

There are numerous proposals for resolving this question. Traditionally, the trace theory of movement rules has been the dominant account

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(Chomsky 1976, 1977; Lightfoot 1976, 1977, 1980; Chomsky and Lasnik 1977, 1978; Rotenberg 1978; Chomsky 1980; Fiengo 1980; Jaeggli 1980, Aoun and Lightfoot 1984; Barss 1995; Uriagereka 1998). Although detailed accounts are slightly different among the authors, they substantially share the assumption that the intervening trace blocks contraction and that structural adjacency is sufficient to trigger contraction. Jaeggli (1980) proposed, perhaps in the most well-known analysis, that only PRO intervenes in (1a) and that since PRO is not Case-marked it does not interfere with the application of the rule. In (2a), on the other hand, the presence of the Case-marked trace of *who* means that the verb and *to* are not adjacent, so contraction is blocked. In declaratives like (3), there are no traces of *wh*-movement. The constraint is therefore irrelevant and contraction is not inhibited.

This trace theoretic account assumes that the constraint on *wanna* contraction can be explained by the innate linguistic knowledge derived from UG, not from input alone, or from any general non-linguistic cognitive principles. For example, Crain and Thornton (1998) investigated *wanna* contraction constraint in English-speaking children. They showed that 82% of object extraction questions exhibited contraction and 92% of subject extraction questions did not exhibit contraction among their 14 children (aged 3;6 to 5;5, mean age 4;5). They argued that the findings from the experiment on *wanna* contraction support the claim that the prohibition against contraction across a *wh*-trace is an innate, universal constraint.

This study investigates the acquisition of the constraint on *wanna* contraction in second language acquisition (SLA) and in adult native speakers. The question of whether the constraint is also available to adult learners has implications for the debate about the role of UG in SLA. The nature of interlanguage (IL) grammar by high-proficiency Korean learners of English will be examined in terms of the contraction pattern in both possible and impossible situations.

The contracted form *wanna* from *want* and *to* is a colloquial and casual expression, therefore, it is conceivable that L2 learners who are living in the United States will be exposed to that particular expression more often than those who are living in their home country. If this is the case, the more often exposed group (L2 learners in the United States) will exhibit *wanna* more frequently in their production.

Bearing this in mind, two groups of L2 learners (one group was Korean speakers who were living in Korea and the other was Korean speakers who were residing in the United States) were tested on the linguistic phenom-

enon under investigation. A group of native speakers of English served as a comparison group. An elicited production test was conducted to test the empirical questions about the constraint (see Crain and Thornton 1991).

Hypothesis

The presumption of the present experimental study is that all the Korean advanced adult learners are aware from the positive evidence of native speakers that *wanna* is a contracted form of *want to* in colloquial speech.

In the present experiment, the contracted form (*wanna*) that is ruled out by the constraint in the subject extraction position is permitted in the object extraction position. The non-contracted form (*want to*) is permissible in both situations. Because contraction is optional, if a subject consistently does not contract in an environment for whatever reason, it is perfectly all right. However, it is conceivable that these speakers would not contract in SEQ even if this were possible in their grammars. Therefore, it is important that *wanna* should occur in every possible situation (e.g., OEQ) and be avoided in the impossible situation (e.g., SEQ) in order to be convinced of the functioning of the constraint.

Regarding the contraction possibility in both the possible and impossible environments, the following research questions are formulated.

1. Do the L2 learners in Korea prefer *wanna* in OEQ and *want to* in SEQ?
2. Do the L2 learners in the United States prefer *wanna* in OEQ and *want to* in SEQ?
3. Do the native speakers of English prefer *wanna* in OEQ and *want to* in SEQ?

2. The Study

The study consisted of three experiments: two with groups of Korean learners of English and one with a group of native English speakers. In each experiment, an elicited production test was used as the methodology to test the phenomenon in question. In elicited production, in general, partic-ipants are given contexts intended to elicit the construction being inves-tigated (this may be a tape-recorded situation, role play, a read script, or

picture identification) and then the participant produces a response, which is then recorded and analyzed. A tape-recorded situation was used in the experiments.

2.1. Experiment 1

Subjects

The subjects were 70 Korean native speakers who enrolled in the advanced English conversation classes at the language institute of a university in Korea. They met the qualification of the advertisement posted on the campus (TOEFL 550 or higher, or TOEIC 750 or higher, or TEPS[1] 600 or higher). Although there is not a reliable measurement scale available to compare the three test scores, a preliminary survey suggested that the cutoff point used in the study would not make much difference. None of the subjects had a linguistics background. Therefore, the instructional effect on the structures tested could be controlled. The average age of the subjects was 26.

Material

The elicited production test in this study was similar to that used in Crain and Thornton (1998), where children were asked to use *wanna* contraction questions within the context of a game. In the current study for adult learners, a doll named Emily was used. For the elicitation protocol the context was tape-recorded by a male native speaker of English. The voice from the tape recorder was supposed to be a mutual friend of Emily and the subject. The voice was named Robert, who elicited questions in the *wanna* contraction paradigm based on the given context. All the contexts were designed to elicit either OEQ or SEQ from a subject. Each subject was asked to question his/her friend Emily for their mutual friend Robert.

In experiment 1, the target structure was elicited as part of the related continuous events between Emily, Robert and a subject, rather than following separate stories. For example, there were contexts related to Emily's birthday: Robert and the participant wanted to throw a birthday party for Emily. After Emily had been asked who she wanted to cook *pulkoki* for her party, she was then asked who she wanted to help with cooking, and what she wanted to make herself, and so on. Examples are given in the following:

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[1] Test of English Proficiency Developed by Seoul National University.

(3) *Protocol for eliciting object extraction questions (OEQ)*
    Robert: We are cooking in the kitchen now. I am making *pulkoki*, my
    sister is making pizza, and my brother is making *capchae*.
    [I bet Emily wants to help someone. Can you ask Emily who?]

    Subject: Who do you want to/*wanna* help?
    Emily: You!

(4) *Protocol for eliciting subject extraction questions (SEQ)*
    Robert: I am thinking about cooking *pulkoki* for Emily's birthday and
    my sister is, too. I think I am a better cook than my sister.
    [I think Emily wants one of us to cook. Can you ask Emily who?]

    Subject: Who do you want to/*wanna* cook?
    Emily: You!

While a subject could use *want to* and *wanna* optionally in object
extraction questions like (3), he/she should use *want to* in subject extraction
questions like (4). It is necessary to exclude some possible factors which
can cause differences in contraction preference between the two structures.
For instance, sentence length, familiarity of the verbs, number of argument
structures of the verbs, and ease of the eliciting context can be a bias in
contraction preference. Especially, among these, sentence length of SEQ
structure was controlled, considering the length of OEQ structure. The
direct object position in OEQ is empty, because the direct object position is
left with a trace after the *wh*-movement (e.g., *Who do you want to kiss t*?).
To balance the OEQ structure, verbs used in SEQ were either intransitive
verbs (e.g., *Who do you want t to come*?) or transitive verbs, which take
an optional direct object (e.g., *Who do you want t to start*?). The
experiment consisted of 12 stimuli, six OEQ and six SEQ, respectively.

Procedure
    The experimenter met the subjects individually on an appointment basis.
A subject listened to instructions first in Korean, next in English. Before
the real test, they had a practice session to become familiar with the test
format. In addition, to maximize the opportunity to elicit the *wanna* form,
they were asked to feel comfortable and to imagine they were with Robert
and Emily in a very informal situation, such as in a bar drinking beer

together. The total duration of the whole experiment was 40 minutes for each subject. All the subjects were paid after they completed the experiment [2].

Results

The number of 'want to', 'wanna', and 'others' [3] were counted in OEQ and SEQ for each subject. Table 1 shows the total number, mean, and percentage of tokens produced in each structure.

Table 1. The total number, mean and percentage of production in experiment 1 (N=70).

	OEQ	(n =6)		SEQ	(n=6)	
	want to	*wanna*	others	want to	*wanna*	others
Total (=420)	250	137	33	289	64	67
mean	3.57	1.94	0.49	4.13	0.91	0.96
percentage	59.52%	32.62%	7.86%	68.81%	15.24%	15.95%

As shown in table 1, in OEQ, *wanna* was produced in 137 cases (32.62%) out of 420 (6 stimuli×70 subjects). *Want to* was used in 250 cases, which means 59.52% of the subjects did not contract in the contraction-possible situation. 'Others' was produced in 33 cases (7.86%). In SEQ, *want to*, which is the obligatory form, was used in 289 cases out of 420 (6 stimuli×70 subjects), which means 68.81% of the subjects did not contract in contraction-impossible situation. *Wanna*, which is impossible form in SEQ, was produced in 64 cases (15.24%), and 'others' was produced in 67 cases (15.95%).

Analysis

The research question in experiment 1 was to see whether the subjects contract in OEQ, even though they do not in SEQ. We need to remember

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[3] The contexts used in the experiment were designed to elicit a particular verb by the subjects (e.g., *want*, rather than *would like to, like, prefer or favor*, etc.) to ask Emily's intention on the situation that was going on. In spite of this, 'other' expressions off the target were produced. This is attributable to the test methodology, where relative creativity and resulting variants and errors are possibly expected. Among 'others' are *What would you like to drink?* (variant) and *What do you want to make something?* (error).

that contraction should occur in the possible situation to check the possibility of its incorrect occurrence in the impossible situation. If a subject contracts neither in OEQ nor in SEQ, then, we would not be sure whether that subject does so under the guidance of UG, or just due to the mere general preference of non-contraction. Figure 1 shows the percentages of contraction in each situation.
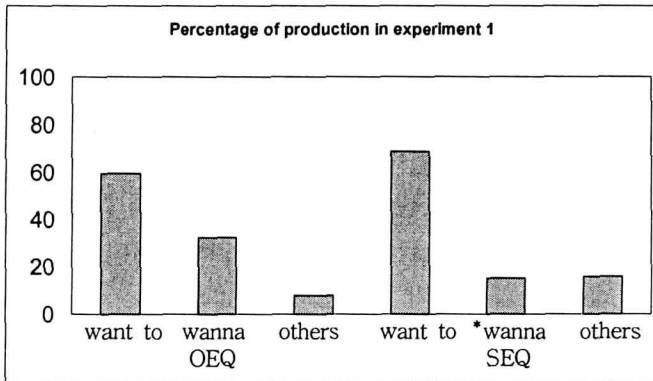

Figure 1. Percentage of production in OEQ and SEQ in experiment 1.

As shown in figure 1, in OEQ, subjects preferred *want to* to *wanna*. Similarly, in SEQ, subjects also preferred *want to* to *wanna*. This means that subjects in experiment 1 preferred *want to* to *wanna* in both situations, but more so in SEQ. It is possible to think that subjects distinguish the difference between OEQ and SEQ in *wanna* contraction. But, notice the high percentage of *want to* in OEQ (more than half). Thus, it is also conceivable that a strong preference for non-contraction is simply extended to SEQ. In short, there is a strong tendency for the subjects not to contract in experiment 1.

2.2. Experiment 2

Subjects

Subjects were 20 Korean speakers who were living in Honolulu, Hawaii. 17 of them were graduate students and the remaining three were undergraduate students at the University of Hawaii at Manoa. All of them had been in Honolulu more than three years when the experiment was conducted and were successfully surviving with their academic lives. The

range of TOEFL score was between 600 and 650 for ten subjects and 550 and 600 for the remaining ten subjects. This indicates that they were high-proficiency learners. They also should have been exposed to more colloquial English input. It was also assumed that the subjects in the English-speaking country were more advanced learners than those who were living in Korea. None of them were studying linguistics or ESL at the time of the test. Those majors were ruled out to eliminate possible instructional effect and make sure of the knowledge on the constraint. All subjects were given two movie tickets as a reward after the test.

Material

The same material as in the experiment 1 was used. The number of test stimuli in experiment 2 contains 8 OEQ sentences and 8 SEQ sentences, respectively.

Results

The number of 'want to', 'wanna', and 'others' were counted in OEQ and SEQ for each subject. Table 2 shows the total number, mean, and percentage of each token.

Table 2. The total number, mean and percentage of production in experiment 2 (N=20).

	OEQ	(n=8)		SEQ	(n=8)	
	want to	*wanna*	others	want to	*wanna*	Others
total (=160)	62	80	18	76	46	38
mean	3.10	4.00	0.90	3.80	2.30	1.90
percentage	38.75%	50.00%	11.25%	47.50%	28.75%	23.75%

As shown in table 2, in OEQ, *wanna* was produced in 80 cases out of 160 (50%) (8 stimuli×20 subjects). *Want to* was preferred in 62 cases, which means 38.75% of the subjects optionally did not contract in this structure. 'Others' was produced in 18 cases (11.25%). In SEQ, *want to* was used in 76 cases, which means 47.50% of subjects used the correct form in this structure. The incorrect form *wanna* was used in 46 cases (28.75%), and 'others' in 38 cases (23.75%).

Analysis

The research question in experiment 2 was to see whether the subjects who were living in an English-speaking country contracted in OEQ but do not contract in SEQ. In other words, if they are aware of the contraction constraint, they will not contract in SEQ, though they do so in OEQ.

In brief, subjects in experiment 2 prefer *wanna* in OEQ and prefer *want to* in SEQ. Interestingly, however, the preference degree is only about 50%. The ideal picture will be that the preference for *wanna* in OEQ and the preference for *want to* in SEQ should be higher. Figure 2 indicates the percentage of contraction in each situation of experiments 1 and 2.
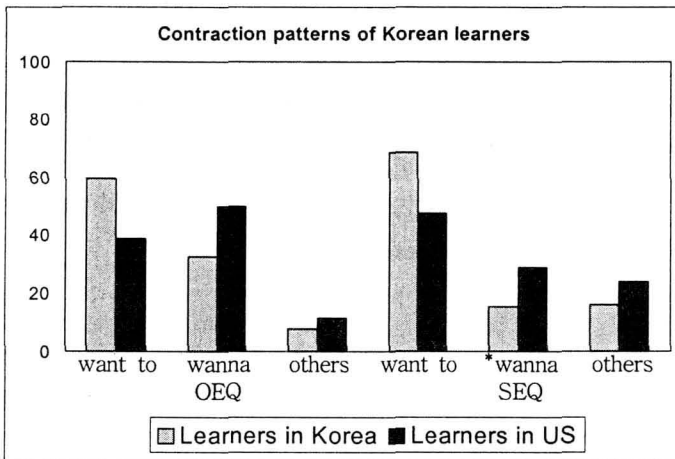

Figure 2. Percentage of production in OEQ and SEQ in experiment 1 and 2.

As shown in figure 2, one of the differences between experiment 2 and experiment 1 is that, in experiment 2, more people prefer *wanna* in OEQ, but fewer people use *want to* in SEQ. It seems that a stronger preference for *wanna* in OEQ is extended to SEQ, resulting in a lower preference for *want to* in SEQ[4]. The fact that subjects who are living in America show higher

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[4] I thank an anonymous reviewer for pointing out different *wanna* preference in SEQ between learners in Korea and learners in the US. As the reviewer correctly mentioned, we can assume that the preference for contraction by learners in Korea is due to avoidance (notice *wanna* is avoided or less prefened in OEQ to *want to*), and the preference for contraction by learners in the US is due to overgeneralization (notice that *wanna* is prefened in OEQ to *want to*), based on the learners' contraction patterns in OEQ.

preference for *wanna* in OEQ than those who are in Korea suggests that the former group might have been exposed to the colloquial expressions of English, such as *wanna* and *gonna,* more often than the latter group and stored them in their interlanguage system. The test result in experiment 2 suggests that more advanced learners also do not show clear evidence of control by the contraction constraint. In this respect, we seem to need more advanced learners than in experiment 2.

2.3. Experiment 3

Subjects

Eight native speaker subjects served as a comparison group. A small number of native speakers are enough to show the expected behavior pattern as will become clear below. All the subjects were graduate students at the University of Hawaii at Manoa and were from the U.S. mainland[5]. After completing the experiment, two movie tickets were given as a reward.

Material

The same material as in the experiment 2 was used.

Results

The number of 'want to', 'wanna', and 'others' were counted in OEQ and SEQ for each subject. Table 3 shows the total number, mean, and percentage of tokens produced in each structure.

Table 3. The total number, mean and percentage of production in experiment 3 (N=8).

	OEQ	(n=8)		SEQ	(n=8)	
	want to	*wanna*	others	want to	*wanna*	Others
total (=64)	10	54	0	60	4	0
mean	1.25	6.75	0.00	7.50	0.50	0.00
percentage	15.63%	84.37%	0.00%	93.75%	6.25%	0.00%

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[5] The native speaker comparison group was restricted to those who were born and raised on the U.S. mainland. The reason for not including people from Hawaii is that they might show some effects of Hawaiian Creole English (HCE), which is a variant of so called the Standard English. One aspect of HCE is that *wh*-question can be formed without *wh*-movement (e.g., *You wanna* [wʌnnə] *drink what?* with a falling tone).

As shown in table 4, in OEQ, *wanna* was produced in 54 cases out of 64 (84.37%) (8 stimuli×8 subjects). *Want to* was used in 10 cases, which means 15.63% of the subjects optionally did not contract in this structure. 'Others' was produced in no case. In SEQ, *want to* was used in 60 cases out of 64, which means 93.75% of subjects used the correct form in this structure. The incorrect form *wanna* was used in 4 cases (6.25%), and 'others' was not observed at all (0%).

Analysis

The research question in experiment 3 was to see whether the native speakers contracted in OEQ but did not in SEQ. Native speakers showed the expected patterns, preferring *wanna* in OEQ and using *want to* predominatly in SEQ. The behavior patterns of adult native speakers in experiment 3 support the results of previous studies (Crain and Thornton 1998 for children). Figure 3 shows the percentage of production in each situation by native speakers.
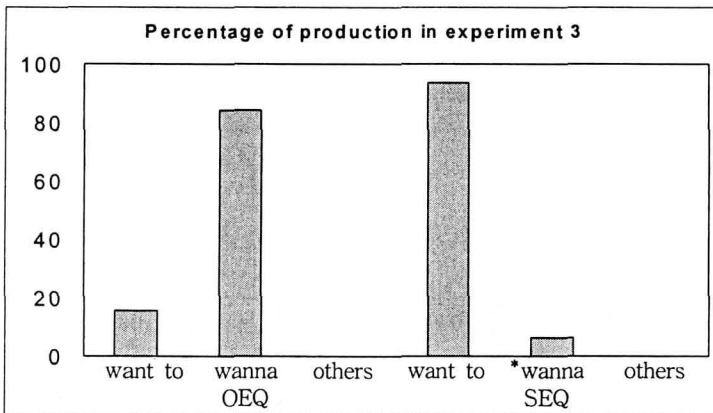

Figure 3. Percentage of production in OEQ and SEQ in experiment 3.

As figure 3 shows, although there is a strong preference for contraction in OEQ and a majority of non-contraction in SEQ, there are 6.25% of responses by native speakers who contracted in the impossible situation. I do not have any clear explanation in hand about the presence of the speakers of "liberal dialects".[6] Nonetheless, considering the extremely low

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[6] This can be the evidence for the "liberal dialects," pointed out by Postal and

percentage, it is not implausible to suspect some experimental noise (e.g., lack of attention and misinterpretation of the contexts, etc.), which is not unimaginable altogether even for native speakers.

2.4. Discussion

In this section, the three groups of subjects will be compared based on their behavior patterns in the contraction possible and impossible environments. As stated above, it is necessary to consider the number of *wanna* used in OEQ to make sure contraction is present in the L2 learner's interlanguage grammar. The next step is to see what they do in SEQ. If only *want to* is used all the way through the two structures (OEQ and SEQ), we cannot be sure about the constraint availability. Thus, first, we need to check whether *wanna* is used in the possible situation (OEQ) in order to check whether it is also used (i.e. overgeneralized) in the impossible situation. The only way to indicate that a subject is obeying the constraint is the presence of *wanna* in OEQ, and its avoidance in SEQ. Figure 4 shows the contraction patterns in three experiments.
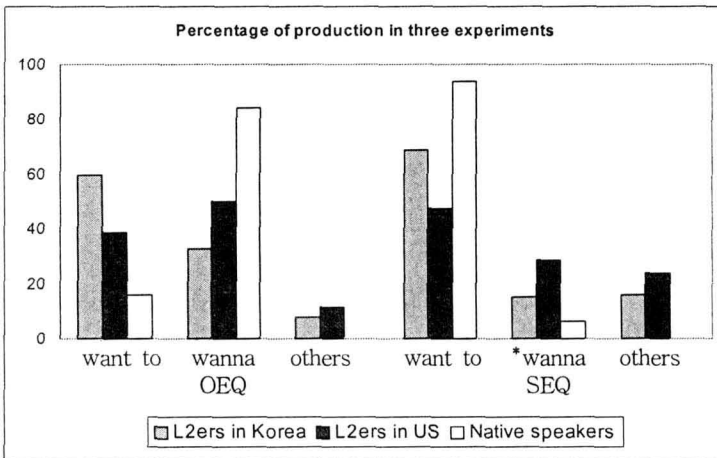

Figure 4. Percentage of contraction in OEQ and SEQ in three groups of subjects.

Pullum (1982) and Pullum (1997), among others. They argue that the existence of such speakers blocks universality of the trace theory. Unfortunately, however, they do not provide any clear explanation of why "liberal dialects" exist.

In the two experiments with the Korean L2 learners of English, the contraction rule availability was not clearly shown. As shown in figure 4, the learners who are living in Korea showed a low preference for contraction in OEQ (32.62%) and very high percentage of non-contraction (68.81%) in SEQ. To put another way, these subjects preferred *want to* in both situations. Since the preference of *wanna* is not as high as it should be in OEQ (i.e. *want to* is preferred in contraction possible situation), the high usage of *want to* in SEQ does not seem to be evidence that these subjects avoid contraction in SEQ because they think *wanna* is not a possible form.

Though the learners who are living in America showed somewhat different patterns from the learners in Korea, it is not evident that they behave under the guidance of the contraction constraint, either. The learners in America (high-proficiency learners) preferred contraction 50% in OEQ and used the correct form *want to* 47.50% in SEQ. While they showed higher preference for *wanna* in OEQ than the learners in Korea, they show lower percentage of *want to* in SEQ. It seems, for these learners in America, that *wanna* is equally preferred throughout both structures. This gives a dubious picture of which form they prefer.

Compare the two groups of learners with native speakers. Learners in both groups did not show similar distributions to the native speakers in OEQ and SEQ. Interestingly, learners who were living in the English speaking country preferred *wanna* in both environments. This may be explained by the assumption that they might have been exposed to *wanna* more frequently and this could raise the use of this expression.

However, this does not necessarily mean that positive evidence for L2 learners plays the same role as it does for children. The production patterns of the learners in America shows that while half of the subjects preferred *wanna* in OEQ, only 30% of subjects used *wanna* in SEQ. In this case, we can expect that the remaining percentage in SEQ would go to *want to* as is true for native speakers (both children and adults). But this is not true: The avoidance of contraction in SEQ does not increase the percentage of *want to* in the structure. On the contrary, it increased instead the percentage of 'others' (in OEQ 'others' is 11.5%, but in SEQ, it is 23.75%). That is, learners made more errors in SEQ than in OEQ, Suggesting that SEQ is harder than OEQ.

Different proposals have been made by different researhers for the relative difficulty between SEQ and OEQ. It is reported that in second

language learning, SEQ is harder to parse for L2 learners (e.g., see Schachter and Yip 1990; Juffs and Harrington 1995). In contrast, it is reported that in first language acquisition, children do SEQ better than OEQ (e.g., see Crain and Thornton 1991; Yoshinaga 1996). The results of the present study seem to support the proposal in SLA, showing L2 learners did OEQ better than SEQ, though the experiment had not been originally designed, as the other studies were, to test the asymmetry between subject and object in *wh*-questions[7].

3. Conclusion

This study has focused on the availiability of contraction constraint by L2 learners. Two groups of Korean learners of English show somewhat different patterns for contraction between OEQ and SEQ. Learners in Korea preferred non-contraction in both environments. On the other hand, learners in America preferred contraction in both environments. It is possible to imagine that the learners in Korea may have heard fewer instances of contraction compared to the learners in America (note that *wanna* is used in a rather informal situation). Thus, they used the more formal and learned form (i.e. *want to*), probably because they did not feel comfortable enough to say *wanna*, even though they know it is a contracted form of *want to*. Therefore, it is uncertain, for the learners in Korea, whether it is insufficient exposure to *wanna* or some other factor that blocks the use of the constraint. Because of the strong preference for non-contraction in both structures, we are not sure whether or not the subjects in the experiment 1 are guided by UG in the acquisition of contraction constraint. A strong preference for non-contraction in both structures does not conflict with the UG hypothesis, because, in this case, there is no violation of UG principle.

In contrast, learners in America used more *wanna* than learners in Korea. However, they preferred contraction even in the impossible environment as well as in the possible environment. This gives us an important implication about the role of input in the learning processes. It is doubtless that the learners in America will hear more instances of contraction in their input and, accordingly, will use it more often as shown in the results. Moreover,

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[7] For the purpose of this paper, I assume no overt *wh*-movement in Korean. Therefore, an L1 transfer effect is ruled out.

if UG guides the acquisition process of the learners in America, regardless of input frequency, contraction in the impossible situation would not be observed. Notice that they used even more *wanna* in SEQ than learners in Korea did. This is not what is expected by UG hypothesis. The ideal would be that they would not use *wanna* in SEQ, where it is prohibited even though they use it in OEQ. Clearly, our native speakers showed satisfactory results that fall within the boundary countenanced by UG.

Based on the results in the present study, we are hesitant to say that Korean learners of English (regardless of their proficiency level and exposure to the target language) distinguish *wanna* contraction between OEQ and SEQ with the significant difference shown by native speakers. That is, we are suspicious about the role of UG in the second language acquisition process of constraint on contraction.

Further research is necessary with more advanced learners than the learners in America used in this study. The higher proficiency level of learners and the more use of contraction will provide clearer evidence for the constraint availability. One thing that should be checked out in advance is a specific instructional effect on the contraction constraint (e.g., a clear demonstration of the contrasting structures and explanation of why some allow contraction and why some do not in a specific linguistic framework, as in an introduction to a linguistics class). It is conceivable that UG might not play a major role in the acquisition of contraction constraint for at least adult L2 learners, if these more advanced learners also show a preference for overgeneralization of *wanna* in SEQ.

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ABSTRACT

The Contraction Phenomenon and L2 Acquisition: An Experimental Study by Korean Learners of English

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This study investigates whether L2 learners are guided by UG in the acquisition of a particular linguistic phenomenon, *wanna* contraction in

English. Contraction of *want* and *to* to *wanna* is constrained by a UG principle, based in the trace theory of movement rules (Chomsky 1980b; Jaeggli 1980). *Want to* can be contracted to *wanna* in object extraction question ((1) *Who do you want to kiss_t?* (1) *Who do you wanna kiss?*). However, *want to* cannot be contracted to *wanna* in subject extraction question ((2) *Who do you want t to kiss Bill?* *(2) *Who do you wanna kiss Bill?*). There is no trace between *want* and *to* in (1), while *wh*-trace intervenes between *want* and *to* in (2), blocking the contraction.

  Two groups of Korean learners of English were tested on contraction in possible and impossible situations with an elicited production test. The results suggest that L2 learners do not show the UG-compatible contraction pattern as native speakers do. This calls into question the general availability of UG.

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