[+Topic]-driven EPP Satisfaction in the Acquisition of English by Korean Speakers

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1. Introduction

The EPP (Extended Projection Principle) states that the "[Spec, IP] is obligatory, perhaps as a morphological property of I or by virtue of the predicational character of VP" (Chomsky, 1995, p. 55). One main avenue of L2 acquisition research has been whether the EPP is related to the acquisition of L2 morphological properties of I, such as agreement morphemes. In the present study, however, I adopt a different approach. I argue that [+topic] is one option of the EPP, attributable to the predicational nature of the interlanguage grammar in the acquisition of English by Korean speakers. Depending on whether [+topic] is operative, the EPP can be satisfied with either a topic or a subject. One assumption underlying this approach is that learners' language is an interlanguage, which falls between the initial state of L2 acquisition and the target state, where the initial L2 state is understood to be the steady state of L1. Thus, this study is based on the core L1 linguistic structure of the topic construction, which influences how the interlanguage is shaped in response to the L2 EPP. The resulting interlanguage EPP involves complex interactions between the L1 and L2.

This paper consists of five main sections. The next section reviews the L2 acquisition research on the EPP. To date, the research has mainly concerned whether the EPP is related to the acquisition of inflections, yet has not paid full attention to how the L1 knowledge influences the acquisition of the L2 EPP. Section 3 explicates the main construction in the L1 Korean: the topic construction. This construction contains a topic in a predication relation with the rest of the sentence, and the topic receives topic interpretation from the [+topic] in the head of Top(ic)P. Section 4 explores the present empirical study to test the research hypothesis that L1 topics enter the EPP configuration. Section 5 explores the interlanguage phrase structure regulating the EPP, where the interlanguage EPP is satisfied with either an L1-like topic or an L2-like subject.

2. L2 acquisition studies of the EPP

The acquisition of the overt subject requirement, the EPP, is one of the most extensively studied phenomena in generative L2 acquisition research. One main approach to the acquisition of the EPP has concerned whether there is a clustering effect between null subjects and inflectional morphemes in the acquisition of the EPP as there is in L1 acquisition. In one such study, Hilles (1986) studied a 12-year-old Spanish child learning English in the U.S. She reports that there was a negative relationship between null subjects and auxiliaries, and claims that the acquisition of auxiliaries triggered the overt subject requirement. Vainikka and Young-Scholten (1994), in their study of L2 German acquisition by Korean speakers and Turkish speakers, argue that the acquisition of the EPP is related to the acquisition of agreement morphemes, which in turn project functional categories.

In other L2 acquisition studies, however, the existence of a negative correlation between null subjects and agreement morphemes is controversial. Unlike Hilles (1986) and Vainikka and Young-Scholten (1994, 1997), Lakshamanan (1994) presents data that do not clearly support the relationship. Lakshamanan studied spontaneous production data in L2 English by four children from three different L1s: two Spanish children, one French child, and one Japanese child. She examined whether the acquisition of the EPP is correlated with the acquisition of inflectional elements such as agreement morphemes, auxiliaries, and modals. She reports that, except for one Spanish child's data, there was

not any significant correlation between null subjects and inflectional elements. Similarly, Clahsen and Hong (1994) claim that in L2 German acquisition by Korean speakers, EPP acquisition was not correlated with the acquisition of agreement morphemes. Instead, they argue that the two linguistic properties are acquired separately.

In sum, one main approach to the acquisition of the L2 EPP in the previous studies has concerned whether the acquisition of the EPP was negatively correlated with the development of inflectional morphemes. The empirical data were not consistent on this question, in that Hilles (1986) and Vainikka and Young-Scholten (1994, 1997) supported the correlation, whereas Lakshamanan (1994) and Clahsen and Hong (1994) did not. This approach did not pay full attention to how the L1 knowledge influences the acquisition of the L2 EPP. My study deviates from this research trend in that I believe the L1 linguistic structure influences the shape of the interlanguage grammar in response to the L2 EPP. In the next section, I explicate topic constructions, the core L1 linguistic structure, and the defining properties of topics in Korean.

3. Topic constructions in the L1 Korean
3.1. Predicational nature of the L1 topic construction

According to Chomsky (1977), topic constructions involve "rule of predication" (p. 81).

(1) a) As for this book, I think you should read it. (Chomsky, 1977, p.91)
     b) As for the circus, elephants are funny. (Chomsky, 1977, p. 81)

In (1a), the topic phrase provides an anaphoric interpretation for the pronominal *it*. According to Chomsky (1977), the predicate *I think you should read it* is "taken as an open sentence satisfied by the entity [in the left-dislocated part]" (p.81). The predication in this sentence is understood as the closing of an open sentence containing a gap. In (1b), on the other hand, the topic, *circus*, does not provide any anaphoricity to the argument in the comment. Chomsky (1977) identifies the predication in (1b) as "aboutness," by which "the proposition must be 'about' the [left-dislocated] item" (Chomsky, 1977, p. 81). (1b) shows that predication does not necessarily involve theta-dependency between the topic and the verbal predicate. Later, Chomsky (1986, p. 116), following Rothstein (1983), suggests that predication is a kind of "saturation," meaning that "'a syntactic function' …is unsaturated if not provided with a subject [=a topic in a topic construction] of which it is predicated" (p. 116). In other words, a topic is required to saturate a predicate, and a topic is not necessarily theta-dependent on the verb, but licensed by the 'aboutness' relation with the remainder of the sentence.

Like English topic constructions, Korean topic constructions involve predication (Fukui, 1993; Heycock, 1993; Zushi, 2003). Unlike English topic sentences, as in (1a) and (1b), which are considered marked, however, Korean topic constructions are unmarked, and are extensively adopted. This is evidenced by Choi, S. Y.'s (1986) text analysis, in which 79% of the Korean sentences she examined had the topic construction, schematized in (2):

(2) The topic construction in Korean:
     [NP1/PP + nun/un   [NP2 + ka/i + VP]]
     NP1/PP + TOP   NP2 + NOM + VP[1]

(2) shows that Korean topic constructions consist of two consecutive NPs or a PP followed by an NP.[2] The first outer NP or PP is attached by the Topic maker *nun/un,* while the second inner NP is followed by the Nominative case marker *ka/i.* While the inner NP is theta-marked by the VP, the outer NP, that is, a topic phrase, is outside of the domain of theta-assignment of the verbal predicate. Instead of being licensed by theta-assignment, a topic is licensed by entering a predication relation to the rest of the

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[1] The markers *nun* and *un*, and *ka* and *i* are allomorphs, determined by the phonological environment: *nun* and *ka* are attached to NPs ending in vowels, such as *Mary-nun* and *Mary-ka,* while *un* and *i* are attached to NPs ending in consonants, such as, *John-un* and *John-i.*
[2] More than two NPs are available in the Korean/Japanese predication structure (Fukui, 1993; Heycock, 1993; Kang, 1986).

sentence. Even though the predication relation means that a verbal predicate is interpreted as being properly ascribed to its topic, it is, in principle, independent of the verb's thematic marking. The following are some examples adopting the topic construction.

(3) a) Madison-un| pi-ka onta.
    Madison- TOP rain- NOM is coming
    'As for Madison, it is raining.'

    b) kkoc-un| cangmi-ka yepputa
    flower- TOP rose- NOM be beautiful
    'As for flowers, roses are beautiful.'

In (3a), a spatiotemporal topic serves as a 'scene-setting' element (Lambrecht, 1994, p. 118). (3b) is a generic topic construction, in which the topic refers to the natural class of items that the speaker and hearer both know because of a shared cultural background. The topics in (3a) and (3b) are not theta-marked by the verbal predicate, but are, instead, licensed by a predication relation based on 'aboutness' with the rest of the sentence.

3.2. Topic interpretations and topic structure in the L1 Korean

In addition to being licensed by 'aboutness'-based predication, topics in Korean have particular interpretations.

(4) a) Mother-Child interaction: They were talking about food which could cause cavities
    cereal-un | [e=ippal-i] an-sseke
    cereal-TOP | [e= teeth-NOM] not-rotten
    'As for cereal, my teeth don't get rotten.'/'Cereal doesn't rot my teeth.'

    b) A lunch table women's conversation about children's potty training
    ai-nun | cungmal ppali kheyo
    child(ren)- TOP so fast grow up
    'As for children, they grow up so fast.'

    c) ai-ka | cungmal ppali kheyo
    child(ren)- NOM so fast grow up
    '(The) children grow up so fast.'

(4a) contains a topic phrase, 'cereal,' and a null argument, 'teeth.' Both of the topic and the null argument carry old information, overtly given or covertly inferred in the context when the interlocutors were talking about food which could cause cavities. While the two are considered old information, the two differ from each other in discourse effects. The topic, 'cereal,' carries discourse-prominence, in that it is singled out from a set of alternative food items. The null argument, on the other hand, refers to 'teeth,' lacks discourse prominence, and is fully recoverable from context. In this situation, the [+discourse-oriented] parameter (Huang, 1984) allows the recoverable element to be null to avoid discourse redundancy. In (4b), the topic-marked phrase carries the same theta-role as the Nom-case marked phrase in (4c). However, a topic serves as the speaker's center of attention, by which the speaker recognizes the entity before connecting it to its predicate, and then makes a statement about the topic. This topic property can be identified as 'categorical subjecthood,' following Heycock & Doron (2003) who adopt Kuroda (1972).[3] On the other hand, the Nom-case marked NP in (4d) lacks this property, serving as part of a simple statement. Following Choe (1994), I argue that these topic

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[3] Postulating a null argument in (4b) is controversial. Researchers, like Suh (1992), argue that an argument topic phrase, as in (4b), occupies the spec of IP, just like a subject in English. In this paper, I adopt the position that topic-marked phrase and Nom-case marked phrases are different, given that only topic-marked phrases carry topichood. This paper assumes that a topic phrase occurs in the highest functional category, Top(ic)P (see the discussion in 3.2.

interpretations result from the [+topic] feature residing in the head of TopP. Adopting Cho (1995, 1997), TopP is assumed to be the highest functional projection, where a topic is outside the domain of the theta-assignment of the verbal predicate, meaning that a topic is independent of the verb's theta marking.[4]

(5) *Figure 1*. Modified Cho (1995, 1997) model of Korean topic constructions
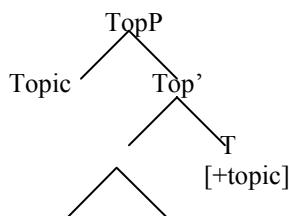
(Cho, 1995, p. 122)

Discussions on topic constructions in Korean can be summarized as follows. First, topics are extensively adopted in Korean. Second, whereas a grammatical subject is theta-assigned by the verb, a topic is independent of verbal theta-marking. This means that a topic is not necessarily theta-marked. Instead, topics are licensed by a predication relation with the remainder of the sentence, which can be thematically saturated. Third, a topic carries particular topic properties, such as discourse-prominence and categorical subjecthood. Fourth, a topic often coincides with a grammatical subject and shares the same thematic role, even though the two differ from each other in discourse, as described in terms of categorical subjecthood (topic) and thetic subjecthood (subject). These L1 topic properties are assumed to influence the shape of the interlanguage grammar in response to the L2 EPP. The next section empirically tests the hypothesis that L1 topics are utilized as subjects in learners' language.

4. Empirical study

4.1. Hypothesis

The present study tests the hypothesis that, in the acquisition of English by Korean speakers, L1-based topics are used as subjects in the interlanguage grammar. This hypothesis has been established based on observations of the L1 topic constructions. Given the pervasive use of topics in the L1 Korean, it was predicted that 'topics' would constitute a core linguistic constituent in the initial state of the L2 English acquisition. Since topics are not necessarily theta-marked by the verb, but are, instead, licensed by 'aboutness'-based predication relation, it was predicted that Korean learners would utilize this aboutness-based predication in their interlanguage. Additionally, given that the theta role of a topic and grammatical subject often coincide, it was predicted that the frequency of co-occurrence would lead learners to use L1 topics and L2 subjects interchangeably. Based on these observations, it has been hypothesized that L1-oriented topics, with the [+topic] feature, syntactically saturate their predicates, and that this syntactic saturation would lead learners to analyze the L1-oriented topics as subjects in their interlanguage grammar.

4.2. Participants

This study included a total of 175 participants, consisting of 155 Korean speakers learning English as a foreign language in Korea and 20 native English speakers in the U.S. The Korean EFL learners came from three educational levels: middle school, high school, and college. There were 49 3rd year middle school students (equivalent to 9th grade in the American school system), 43 2nd year high school students (11th grade), and 63 college students. Depending on their majors, the college students displayed very different performances in the grammaticality tasks in the present study, and, thus, were divided into two groups: 40 non-English majors and 23 English majors, in the data analysis. The

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[4] See Cho (1995, 1997) for a detailed discussion with empirical evidence for TopP. Also see Kim, S.-Y. (2006) for a summary and review.

middle school, high school, non-English major, and English major students were assigned to four proficiency levels: low, low-intermediate, intermediate, and advanced.[5] For convenience, non-English majors were referred to as the 'College' group. In addition to the EFL Korean learners, twenty native speakers of English participated as a control group. They were randomly selected from the University of Wisconsin-Madison. This group reported diverse majors. They consisted of some undergraduate students, some graduate students, and some who did not report their year in school.

(6)   Table 1
      Distribution of Participants

Group	Subtotal	Subgroup	Proficiency	Number
Learners	155	Middle school students	low	49
		High school students	low-intermediate	43
		College (Non-English majors)	intermediate	40
		English-majors	advanced	23
Native speakers	20			
Total	175			

4.3. Test materials
4.3.1. Test sentences (see Appendix for the test sentences in the questionnaire)

As discussed in 4.1, the present study was designed to test the hypothesis that learners would use L1-based topics as subjects in the interlanguage grammar. Test items were carefully constructed to test this hypothesis. In order to explore whether the presence of a topic influenced the learners' judgments, test items were designed to contain either an NS (null subject) with a topic or an NS without a topic. NS test sentences that start with a topic are termed 'Topic-with-NS.' Additionally, to examine whether the learners were more accurate in detecting the ungrammaticality of referential NSs or expletive NSs, the test NSs were either referential or expletive. Each Topic-with-NS test item had a 'Nontopic-with-NS' counterpart, in which a nontopical element initiated the sentence. These items were designed to determine whether there would be any difference between topical and non-topical elements (nontopic, hereafter) in the sentence initial position. In the surface forms of the test sentences, a topic or a nontopic was followed by a finite verb. In addition to the sentences with targeted features, 12 distractors containing irrelevant features, such as incorrect word order, were added to draw the participants' attention from the targeted constructions. The distracters were excluded from the analyses.

(7)   Table 2
      Distribution of Test sentences[6]

			Ungram[i]	Gram[ii]	Subtotal
Target items:	Subject	Expletive *it*	3	4	
		Referential sub.	2	2	
	Subject subtotal				11
	Topic	Topic-with-NS	5		
		Nontopic-with-NS	4		
	Topic subtotal				9
	Subtotal		14	6	20

Note. Ungram[i] = ungrammatical sentence, Gram[ii] = grammatical sentence

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[5] The participants were asked to fill out a background survey, which asked several questions about their English education background, including the age when they started learning English and their TOEFL scores. However, since only a few students reported TOEFL scores, the scores were not used. The placement method in this study is based on the participants' education level. Even though this method may have some limitations, it is considered standard procedure.

[6] The questionnaire is part of the author's dissertation research. See Kim, S.-Y. (2006) for the complete questionnaire.

4.3.2. Procedures and analytic techniques

A questionnaire was administered to the Korean EFL learners in a classroom setting by the classroom instructor. Native speakers were chosen randomly on campus and were administered the questionnaire on the spot. The response choice was a 4-point rank scale of *yes, probably yes, probably no,* and *no.* Given that the rank scale is ordinal, a statistical treatment adopted in this study was a non-parametric Kruskal-Wallis test, following the suggestion of Siegel and Castellan (1988). Kruskal-Wallis test was followed by Scheffé post hoc tests. All statistical analyses were conducted on SPSS 12.0 (Statistical Package for the Social Sciences, 2003).

4.4. Results
4.4.1.   Overall results

The results of the Kruskal-Wallis test reveal that the learners showed significant group differences on most of the test sentences, indicating that their accuracy of grammatical evaluation increased across proficiency levels. However, the learners failed to show any group difference on q5, q15, q17, or q34 (q = question number in the questionnaire).

(8)   Test sentences which did not show statistical significance
     a) q5: *Tom had lots of fun yesterday. *Today is busy with many things to do.*
     b) q15: *This year seems that Mary is getting married.*
     c) q17: *Has been getting warmer recently*
     d) q34: *The principle sent a letter to me. *The letter has not received yet.*

(9) Table 3
   Kruskal-Wallis Test Statistics of Sentences with Non-Significance

	q5	q15	q17	q34
χ^2	5.29	2.32	2.22	7.30
Asymp. sig.	NS	NS	NS	NS

   Note. all *df* = 3, NS = non-significant at *p* < .05

The sentences not showing any group difference were three out of five Topic-with-NS items (q5, q15, and q34) and one expletive NS sentence (q17). No group difference means that the learners' judgments on these sentences underwent little change, meaning that the learners' accuracy did not change across proficiency level. This can be interpreted to mean that the learners had difficulties in detecting the grammaticality of these items, regardless of proficiency levels. Except for q17, this interpretation is correct, as will be discussed in 4.3.2.1. This will be also attributed to the learners' analysis of the L1 topics as the subjects in their interlanguage grammar.

4.4.2.   Results by sentence types

Scheffé post hoc tests were conducted on the test sentences which yielded significant group differences in the Kruskal-Wallis test. In order to compare the learners' judgments with the native speakers', the post hoc tests were run on all five groups, including the native speakers, at *df* =4.

4.4.2.1. Null subjects

(10) Example test items containing null and overt subjects in the sentence initial position
     a) q14: *I saw Sandy at a school party. *Was a beautiful girl.*
     b) q21: *It seems that Peter was sick.*

The learners were in general accurate in identifying the ungrammaticality of a null subject, and the grammaticality of an over subject in the sentence initial position. Table 4 in (11) reports the results of Scheffé post hoc test on q14 with a referential NS and q21 with an overt expletive *it*. According to

Table 4, q14 and q21 did not yield significant differences between the native speakers and the learners, aside from the middle school group. It is striking that even the lowest, middle school learners were quite accurate, in that 73.5% of the group judged q14 to be either a 1 (*no, not grammatical)* or a 2 (*probably not grammatical)* and that 61.2% of the group judged q21 to be either a 3 (*probably grammatical)* or a 4 (*yes, grammatical).* The learners were also quite accurate in detecting the ungrammaticality of null expletive subjects. For instance, the percentages based on the raw frequencies on q17 reveal that q17 was judged to be a 1 (*no)* or a 2 (*probably no)* by 75.5% of the lowest level, the middle school learners (*N = 37/49).* [7] These performances illustrate that, like the L2 target, the interlanguage grammar has the EPP as a grammar requirement, and that this is not influenced by whether a subject is referential or expletive.

(11) Table 4
    Scheffé Post Hoc Tests on q14 and q21
    a) q14 (Referential null subject (NS))

	MS	HS	C	EN	N
MS		.33	.51	.70*	.86*
HS			.18	.37	.53
C				.19	.35
EN					.16
N					

b) q21 (Overt *it* in a raising construction)

	MS	HS	C	EN	N
MS		-.33	-.26	-.77	-1.06*
HS			.06	-.45	-.74
C				-.51	-.80
EN					-.29
N					

Note. numbers = Mean Difference, all df = 4, *p<.05*
    MS = Middle school group, HS = High school group,
    C = College group, EN = English majors group, N = Native speakers

4.4.2.2. Nontopic-with-NS sentences

(12) Example test sentences with Nontopic-with-NS
    a) q33: *Tom lives with his grandmother. *Always prepares delicious meals.*
    b) q30: **Although seems that Tom is stupid, he is good at math*.

Nontopic-with-NS test items, q33 and q 30, had their sentence initial positions filled with an element which was neither a topic nor a subject. Table 5 in (13) reports the results of Scheffé post hoc tests for these items. The learners from the low and the low-intermediate levels, that is, the middle and the high school groups, were significantly different from the native speakers, but the college and English major groups were not. The percentages based on raw frequencies show that q30 was inaccurately judged to be a 3 (*yes)* or a 4 (*probably yes)* by 59.2% and 53.5% of the middle and high school groups, respectively, but was only judged inaccurately by 22.5% and 4.3% of the college and English major groups, respectively. The results of the Nontopic-with-NS sentences can be interpreted to mean that the low and low-intermediate learners appeared to utilize a sequence-based cue, with which they

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[7] In q17, the English major group, who showed native-like judgment patterns in q14, showed a marginal acceptance tendency. One explanation may be that the learners overgeneralized the subject deletion in certain register variation in English, as found in informal colloquial forms, such as "Doesn't look too well," and "Wonder what they're doing" (Quirk et al. 1985, cited in Haegeman, 2000, p. 132-133). The learners appeared to overextend the null subject rule allowed in register variation in the target L2 into the general expletive *it* construction in their interlanguage.

tended to accept a sentence with its sentence-initial position filled.[8] However, once the learners became intermediate or advanced, they no longer adopted sequence-based cues. The learners' judgments on the Nontopic-with-NS test items were different from those of the Topic-with-NS test items, in that the former underwent significant accuracy increase, whereas the latter tended to stay inaccurate.

(13) Table 5
Scheffé post hoc tests on q33 and q30 (Nontopic-with-NS sentences)

a) q33 (Nontopic-with-NS)

	MS	HS	C	EN	N
MS		.78*	1.01**	1.43**	1.69**
HS			.28	.65	.90*
C				.37	.63
EN					.25
N					

b) q30 (Nontopic-with-NS)

	MS	HS	C	EN	N
MS		.37	1.15**	1.44**	1.78**
HS			.79*	1.08*	1.41**
C				.29	.63
EN					.34
N					

Note. numbers = Mean Difference, all df = 4, ***p<.001, *p<.05*
    MS = Middle school group, HS = High school group,
    C = College group, EN = English majors group, N = Native speakers

4.4.2.3. Topic-with-NS

(14) Topic-with-NS test items (exhaustive list)
    a) q5: *Tom had lots of fun yesterday. *Today is busy with many things to do*.
    b) q4: **Yesterday rained a lot in this city.*
    c) q40: **During the entrance exam was very cold.*
    d) q15: **This year seems that Mary is getting married.*
    e) q34: *The principal sent a letter to me. *The letter has not received yet.*

These sentences all reflect the L1 topic sentences. For instance, in q5, *Tom had lots of fun yesterday. *Today [ø= he] is busy with many things to do,* the second sentence starts with *today,* which is a contrastive spatiotemporal topic. It contrasts with *yesterday* in the previous sentence, while performing a scene-setting role. At the same time, the subject, *he,* is null, since it lacks discourse-prominence. As discussed in 5.5.1, the Kruskal-Wallis test did not yield any group difference on three (q5, q15, and q34) out of the five Topic-with-NS test items in (14), indicating that the learners' judgments on these sentence underwent little change. Table 6 in (15) reports the percentages of the correct ranks assigned to these three Topic-with-NS sentences, which are in turn compared to those of q14 and q27 which started respectively with a null subject and an overt subject, and q33 and q19 which started with a nontopic element.

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[8] This acceptance tendency to fill the subject position with any constituent echoes the findings of Vainikka and Young-Scholten (1994, 1997).

(15) Table 6

Percentages of correct ranks assigned to q14, q27, q33, q19, q5, q15, and q34

	q14	q27	q33	q19	q5	q15	q34
Middle S	73.5	67.3	40.8	32.7	32.7	49.0	51.0
High S	86.0	74.4	74.5	62.8	51.1	67.5	34.9
College	92.5	82.5	87.5	80.0	62.5	55.0	52.5
English Major	95.7	95.7	95.6	91.3	56.5	65.2	78.2

Note 1. correct ranks count a 3 (probably yes) and a 4 (yes) for q27 which is grammatical, whereas a 1 (no) and a 2 (probably no) are counted for correct ranks for other sentences which are ungrammatical.

Note 2. q27 (overt subject): *Mary looked at the map, but she could not find the street.*
q19 (Nontopic-with-NS): **Whenever was very hot, we went swimming.*
For q14 see (10a); for q33 see (12a); for q5, q15, and q34 see sentences in (15)

In Table 6, the learners' judgment patterns present the following three characteristics. First, q14 and q27 were the most accurately judged by the learners, including the low-level, middle school group. This suggests that the learners were aware that well-formed English sentences have the subject position filled, indicating that the EPP was operative almost from the beginning of the English acquisition. Second, even though the EPP was operative, the low-level, middle school group, appeared to rely on sequence-based cues. This was evident because their accuracy decreased in q33 and q19, where the sentence initial position was filled with any constituent. Learners no longer relied on these sequence-based cues once they became intermediate or advanced, as shown by their drastically increased accuracy. Third, q5, q15, and q34, with a Topic-with-NS, underwent little change regardless of proficiency levels.[9] For instance, the ungrammatical q5 was rejected only by 56.5% of the English major group, who showed solid knowledge of the EPP in other sentences. I argue that the learners' difficulties in detecting the ungrammaticality of the Topic-with-NS sentences stem from their analysis of the L1-oriented topics as subjects in their interlanguage. I will return to this point in Section 5.

In sum, the learners appeared to be aware of the EPP almost from the beginning of their L2 English acquisition. The low-level learners tended to utilize a sequence-based cue, with which they tended to accept sentences with the sentence-initial position filled with any constituent. This sequence-based cue was not adopted, once the learners entered the intermediate level. The learners, however, tended to analyze L1-based topics as subjects in their interlanguage, suggesting their interlanguage EPP is satisfied with either a topic or a subject. The following section is a discussion on the linguistic structure regulating the EPP in the learners' grammar.

5. The linguistic structure of the learners' grammar
5.1. Interlanguage as predication structure

I argue that the learners' judgment patterns can be accounted for in terms of predication structure. In the learners' language, a predicate must be saturated by taking either a topic or a subject. A topic is identified based on the L1, in that it is not necessarily theta-marked, and that it carries L1 topic properties, such as discourse-prominence. For instance, as discussed in the previous section, the topic in q5 serves as a spatiotemporal contrastive topic. In q34, the topic is a logical object, but, due to its discourse-prominence, is singled out as the topic from alternatives. The learners' language also allows the expletive *it,* which does not exist in the L1. This suggests that either an L1-based topic or an L2-based subject can saturate a predicate to satisfy the well-formedness condition of the predication structure. The predicational nature of the interlanguage has the following characteristics. First, it has a bipartite structure partitioned into a topic/subject and a predicate. Second, the predication involves syntactic saturation, rather than thematic saturation. Third, predication can be divided into thetic and

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[9] The English major group showed accuracy increase on q34, but the Kruskal-Wallis test did not detect any significant group difference among the four learner groups.

categorical predication, following Raposo and Uriagereka (1995). Thus, a grammatical subject can saturate a thetic predicate, and a categorical predicate is predicated of a topic. I argue that the predication structure in the learners' language stems from their use of the L1 concept of "topic," while still being sensitive to the L2 target EPP. In the next section, I propose a phrase structure regulating the EPP of the interlanguage.

5.2. Interlanguage syntactic structure regulating the EPP

I propose that the interlanguage grammar of the present study has an independent syntactic projection FP, where F can stand for "force" (Chomsky, 2000, p.108), or "functional" (Raposo & Uriagereka, 1995, p. 186). Following Rizzi (1997) who claims that higher clauses above IP is to link a sentential proposition expressed by IP and superordinate structure, such as the architecture of discourse, FP is understood as one of the higher clauses than IP. Again using Rizzi's analysis (1997), the FP performs a role of formal projection which serves as interface between propositional content and discourse. It is not part of the Verb system, and thus is not constrained by verbal selectional restrictions. Instead, the head F^o defines "predication," meaning that the spec must be filled to saturate the predicate in the complement position. The spec position is occupied by either a topic or a subject, which saturates a categorical or a thetic predicate, respectively. The spec requirement is realized as the EPP, given Chomsky (2000) who defines the EPP as "a property of allowing an extra Spec," "beyond its s-selection" (p. 102). The EPP requirement in FP is coupled with "*P-features* of the peripheral system (force, topic, focus, etc.)" (Chomsky, 2000, p. 108, italics and parentheses original), by which FP spec with the P-feature is interpreted as a topic. The operation of the p-feature is selective, meaning that FP spec can be either a topic or a subject.

(16) *Figure 2.* FP as the interlanguage phrase structure for a topic and a subject
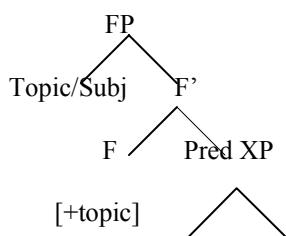
In Figure 2, the head F is occupied by the P(eripehral)-feature [+topic], which is one optional choice for satisfying the EPP. If the [+topic] applies, the EPP configuration yields a topic interpretation of the Spec-FP. The resulting Spec of FP bears the properties of a categorical subject, by which the categorical subject is singled out from the remainder of a sentence, and it does not necessarily show a theta-dependency. If the [+topic] does not apply, the EPP is satisfied in the same way as in the L2 IP. The EPP is satisfied by either a topic or a subject. This structure accounts for the learners' tendency to accept a topic sentence where a topic is followed by a verb, as well as their accuracy in identifying the (un)grammaticality of null and overt subjects in the matrix clause.

In this scenario, the FP is understood as a transitional structure between the L1 TopP and the L2 IP. The Spec-FP hosts constituents along the continuum ranging from an L1-topic to an L2-subject. As the learners' proficiency increases, a Spec-FP constituent bears more L2-like properties. Moving toward the L2 target is made possible by learning and practicing the L2 subject properties, such as theta-assigned subjects, and unlearning the L1 topic properties, such as spatiotemporal PP topics. The interlanguage EPP, satisfied with either a topic or a subject, is attested in Finnish (Holmberg and Nikanne, 2002). Holmberg and Nikanne (2002) convincingly present data showing that the EPP in Finnish can be satisfied by "filling the Spec of FP," where the possible Spec constituents are a nominative subject, a topic, and an expletive. The data in Finnish suggest that the EPP's allowing either a topic or a subject in the interlanguage is a natural language rule.

5.3 Conclusion

In this paper, I have argued that the EPP is satisfied by either a topic or a subject in the interlanguage grammar of Korean speakers acquiring English. I suggest that the satisfaction of the EPP is attributable to the predicational nature of the interlanguage, meaning that either a topic or a subject is required to saturate a predicate. This interlanguage EPP explains the learners' judgment patterns in the experimental study, in that the learners accurately identified the (un)grammaticality of null and overt subjects in the sentence initial position, but also tended to accept sentences in which a topic was followed by a finite verb. In order to account for the predicational nature of the interlanguage grammar, I proposed an independent syntactic category, FP, which is a transitional structure between the L1 TopP and the L2 IP. FP defines "predication," where the spec of FP is in a predication relation with the XP Predicate, which is the complement of the head F. The head F is occupied by a peripheral feature [+topic], as an option of the EPP. If the [+topic] is operative, the spec of FP is occupied by an L1-oriented topic, such as a spatiotemporal topic. If not, the EPP is satisfied by filling the spec of FP with an L2-oriented subject, such as the expletive *it*. The EPP in the interlanguage grammar is a condition of [Spec, FP], which is independent of the V-system, but licensed by predication. It thus allows either a topic or a subject to fill the Spec FP. Further evidence of the EPP being satisfied by either a topic or a subject comes from Finnish, which shows the same phenomenon (Holmberg & Nikanne, 2002). Based on empirical data, the interlanguage EPP condition is argued to be a natural language rule.

Appendix: Test items in the questionnaire

(1) Null/Overt subject
- i) Referential null and overt subject
  - a) q14: *I saw Sandy at a school party. *Was a beautiful girl.*
  - b) q50: **Knew that there was nothing to do in this situation.*
  - c) q27: *Mary looked at the map, but she could not find the street.*
  - d) q39: *Mary thinks that her teacher is as old as her father.*
- ii) Weather *it*
  - a) q25: **Rained very hard when Peter came home.*
  - b) q22: *It snowed so much that we could not go to school.*
- iii) Temperature *it*
  - a) q17: **Has been getting warmer recently.*
  - b) q36: *It was the coldest day of the year.*
- iv) Raising construction
  - a) q8: **Seems that the boy is too energetic.*
  - b) q21: *It seems that Peter was sick.*
  - c) q3: *Sandy seemed to be happy with her test scores.*

(2) Nontopic-with-NS test items
- a) q33: *Tom lives with his grandmother. *Always prepares delicious meals.*
- b) q43: **When rains a little, they walk without an umbrella.*
- c) q19: **Whenever was very hot, we went swimming.*
- d) q30: **Although seems that Tom is stupid, he is good at math.*

(3) Topic-with-NS test items: provided in the main text.

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