

Children's Grammatical Sensitivity to the Uninterpretable Case Feature in Korean Long Form Negation: A Pilot Study

Choe, Mun-Hong¹⁾ (Chonnam National University, Associate Professor)

< ABSTRACT >

The purpose of this study was to investigate child language learners' sensitivity to grammatical constraints that are not sufficiently evident in the input that they receive. The uninterpretable feature involved in Korean long-form negation was taken into consideration, where the choice of the nominative -ka or the accusative -ul alternates in association with verb type. Five preschool children (ages between 4;8 and 5;6) were asked to perform an oral repetition task along with a judgment-and-correction task, through which an observation was made to determine if they are sensitive to the grammaticality in question. The results revealed that although there was a measurable degree of individual difference, all the children sensitively discerned grammatical and ungrammatical forms. In particular, they often dropped illegitimate case markers when repeating sentences containing them, implying that they have a firm internal representation of relevant syntactic well-formedness.

Key Words : Language acquisition, child learners, case features, long form negation, grammaticality judgment

1) Corresponding Author: Choe, Mun-Hong, Associate Professor, Chonnam National University, 77 Yongbong-Ro, Buk-Gu, Gwangju, 61186, Korea / E-mail: munhong@jnu.ac.kr

한국어 장형 부정문의 비해석성 격자질에 대한 아동 학습자의 문법적 민감성: 예비 실험

최문홍¹⁾ (전남대학교, 부교수)

< 요약 >

이 연구는 명시적 지도 없이 자연스런 환경에서 노출된 정보에 의지해서는 그 규칙성을 파악하기 어려운 문법적 제약에 대해 아동 학습자들이 민감하게 반응하는지 알아볼 목적으로 수행되었다. 이 목적에 적합한 문법 요소로 한국어 장형 부정문에 작용하는 비해석성 격자질을 선택하였고, 4~5세 취학 전 아동 5명을 대상으로 예비 실험을 실시하였다. 실험에 참여한 아동들에게 문장을 하나씩 들려주고 따라 말하게 한 뒤, 잘못된 부분이 있는지 판단하게 했다. 잘못된 부분이 있다고 대답한 경우에는 어느 곳을 고쳐야 하는지 물었다. 연구 결과, 개인차가 어느 정도 관찰되었으나 모든 아동들이 문법적 격 부가와 비문법적 격 부가를 민감하게 구분하고 있음을 발견했다. 특히 비문법적 격표지가 포함된 문장을 따라 말할 때 무의식중에 그 격표지를 빠뜨리고 발음하는 경우가 자주 목격되었는데, 이는 관련 통사적 정형성에 대한 안정된 내재적 표상이 존재함을 뒷받침한다.

주요어 : 언어습득, 한국어 장형 부정문, 아동 학습자, 비해석성 자질, 보편문법

1) 교신저자: 최문홍, 부교수, (61186) 광주광역시 북구 용봉로 77, 전남대학교 / E-mail: munhong@jnu.ac.kr
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I . Introduction

In behaviorism, language learning is utterly input-driven and constrained by experience. It is assumed that linguistic input displays regular usage patterns and children rely on them to discover the systems of a language using inductive reasoning, analogously to other domains of general learning. For example, frequency of linguistic elements is considered one of the prominent properties of the input. The more frequently a certain linguistic expression is available to children, the easier it is for them to learn it (e.g., Bates & MacWhinney, 1987; MacWhinney, Bates, & Kliegl, 1984). The revolutionary challenge to this view of language learning arose with Chomsky's (1959) proposal that children do cognize abstract properties of language for which there is no corresponding evidence in the input they are exposed to. He argues that the primary input children receive is far from being sufficient to explain the richness of the output grammar that they eventually attain. This 'learnability' problem has led to the claim that children are endowed with some a priori knowledge of language which enables them to achieve an adult grammar on the basis of limited evidence. The system of the innate knowledge that comprises the common properties and possible variations of language is referred to as Universal Grammar (UG).

The theory of UG has evolved into various forms, among which one widely accepted version posits Principles and Parameters as two axes that organize the grammar of language (Chomsky, 1981; Lasnik & Lohndal, 2010). In this programmatic model, UG is defined as a set of principles which are common to all natural languages and parameters which specify permissible options for cross-linguistic differences. It conceives language acquisition as a process of parameter setting, rather than constructing knowledge based on inductive reasoning, bringing in a new perspective on language acquisition and a conceptual framework within which scientific hypotheses are formulated and tested. Empirical support has been sought through demonstrating that children actually adhere to some abstract principles of language in the absence of relevant evidence.¹⁾

The UG-based approach has since been a dominant view in acquisition research for

¹⁾ See, for example, Wexler and Chien (1985) for the Binding Principle which determines the coreferential relation between anaphors and their antecedents. Other celebrated examples of this kind include *wanna*-contraction and the complementizer-trace effect (see Crain & Thornton (1999) for a thorough summary).

decades. More recently, however, input-driven learning theories have revived in the emerging schools of thought such as statistical learning models (Newport & Aslin, 2000; Saffran, Aslin, & Newport, 1996) and usage-based theory of language acquisition (Goldberg, 1995; Tomasello, 2003). They assume that input is a far richer source of information than was previously thought, and that children are fully capable of performing complex computations over statistical information integrated in the input and thereby identifying grammatical regularities. This working paper is couched in this ongoing controversy.

The purpose of this study is to test if child language learners are sensitive to grammatical rules that are not sufficiently evident in the input that they receive. The linguistic phenomenon of concern is case-marking alternations in Korean long form negation clauses where uninterpretable features are involved in the choice of either the nominative *-ka* or the accusative *-ul*. Combining oral repetition, grammaticality judgment, and correction tasks, an attempt is made to determine whether children are sensitive to the grammaticality associated with structural, as opposed to lexical, features and thus they possess the internal representation of syntactic well-formedness.

II. Theoretical Background

There are two different types of clausal negation in Korean. In short-form negation, the verb follows the negator (Neg) *an*, while in long form, the predicator, which is nominalized by the connective ending (CE) *-ci*, precedes Neg, and the light verb *h* is inserted, as illustrated in (1a) and (1b), respectively.

- (1) a. *Minho-ka hakkyo-ey an ka-ss-ta.*
Minho-NOM school-to not go-PAST-Declarative Ending (DE)
- b. *Minho-ka hakkyo-ey ga-ci an-h-ass-ta.*
Minho-NOM school-to go-CE not-do-PAST-DE

In the former, case marking is straightforward as in ordinary affirmative sentences. However, the latter exhibits some interesting grammatical phenomena. The nominalized predicator headed by the connective ending *-ci* optionally takes a case morpheme that

serves as an emphatic marker. It can take both accusative (ACC) and nominative (NOM) when the predicator is unaccusative or passivized, whereas it can hold only ACC when the predicator is unergative or transitive.

Consider the following data that manifest the interplay between verb types and the choice of an additive case morpheme adjoined to *-ci*.

(2) Unergative verb case marking after *-ci*

- | | | | |
|----|-----------|-----------------|-------------|
| a. | kicha-ka | tali-ess-ta | |
| | train-NOM | run-PAST-DE | |
| b. | kicha-ka | tali-ci | anh-ess-ta |
| | train-NOM | run-CE | not-PAST-DE |
| c. | kicha-ka | tali-ci-*ka/lul | anh-ess-ta |
| | train-NOM | run-CE-*NOM/ACC | not-PAST-DE |

(3) Unaccusative verb case marking after *-ci*

- | | | | |
|----|---------|-----------------|-------------|
| a. | elem-i | nok-ess-ta | |
| | ice-NOM | melt-PAST-DE | |
| b. | elem-i | nok-ci | anh-ess-ta |
| | ice-NOM | melt-CE | not-PAST-DE |
| c. | elem-i | nok-ci-ka/lul | anh-ess-ta |
| | ice-NOM | melt-CE-NOM/ACC | not-PAST-DE |

(4) Transitive verb case marking after *-ci*

- | | | | | |
|----|-----------|----------|-----------------|-------------|
| a. | Minho-ka | bob-ul | mek-ess-ta | |
| | Minho-NOM | rice-ACC | eat-PAST-DE | |
| b. | Minho-ka | bob-ul | mek-ci | anh-ess-ta |
| | Minho-NOM | rice-ACC | eat-CE | not-PAST-DE |
| c. | Minho-ka | bob-ul | mek-ci-*ka/lul | anh-ess-ta |
| | Minho-NOM | rice-ACC | eat-CE-*NOM/ACC | not-PAST-DE |

(5) Passive verb case marking after *-ci*

- | | | | |
|----|---------|-------------|-------------------|
| a. | bemin-i | kyungchal-e | bootjap-hi-ess-ta |
|----|---------|-------------|-------------------|

	suspect-NOM	police-by	capture-PASS-PAST-DE	
b.	bemin-i	kyungchal-e	bootjap-hi-ci	anh-ess-ta
	suspect-NOM	police-by	capture-PASS-CE	not-PAST-DE
c.	bemin-i	kyungchal-e	bootjap-hi-ci-ka/lul	anh-ess-ta
	suspect-NOM	police-by	capture-PASS-CE-NOM/ACC	not-PAST-DE

Correlatively, when the main predicate is an adjectival verb, only NOM can be attached, as shown in (6) below.

(6) Adjectival verb case marking after -ci

a.	hanel-i	palah-ci-ka/*lul	anh-ess-ta.
	sky-NOM	blue-CE-NOM/*ACC	not-PAST-DE
b.	hanel-i	alemdap-ci-ka/*lul	anh-ess-ta.
	sky-NOM	beautiful-CE-NOM/*ACC	not-PAST-DE

With regards to these intriguing facts, Kang (1988) proposes that the negative light verb inherits the syntactic properties of the thematic verb at Logical Form (LF). According to him, since the light verb is semantically void, it should be linked with the thematic verb at LF to meet the Principle of Full Interpretation. The light verb inherently has the property of assigning ACC to its complement, but it also inherits the case-related properties from the thematic verb. Thus, even if the thematic verb is of unaccusative type, it can ACC-mark the -ci clause, and NOM may be assigned when ACC is not licensed. However, it is not clear what LF mechanisms underlie the succession of case features to the light verb. More critically, the claim that NOM is assigned by default at LF implies that case-marking freely occurs in and out of narrow syntax, and does so sequentially. It also follows that NOM and ACC are spelt out at different phases, which is not desirable in the formulation of a coherent theory.

Similarly, Lee (1992) assumes that the light verb has a case grid either unspecified or ACC-specified [ACC], and that the negator engenders an empty grid for a structural case. This unspecified grid is registered with either NOM or ACC by means of Case Feature Percolation, if there is no barrier that blocks the operation. He suggests the following account of case feature mapping.

(7) Case Feature Percolation: Case features can percolate unless there is a minimal case domain, a barrier. γ is a minimal case domain if and only if

- (i) γ is a projection of a case-assigner
- (ii) $\delta = \text{INFL, COMP(+Case), V(+Case), N(+Gen), P}$
 - (a) If δ is a functional category, γ can at most be a single bar level,
 - (b) If δ has a lexical category, γ can be a maximal projection.
- (iii) (a) If δ has a complement that is a projection of a non-case-assigner, then γ is an immediate projection,
- (b) Otherwise, γ is a maximal projection.

Under the assumption that case-assigning (i.e., transitive) verbs constitute barriers, while unaccusative and passivized verbs do not, finiteness (INFL) can NOM-mark not only the subject NP but the CP headed by *-ci*. On the other hand, when the light verb is endowed with ACC, it immediately governs the CP and has it ACC-marked. These previous analyses cannot account for at least two facts regarding the phenomena at issue. Firstly, it is not clear why both NOM and ACC are allowed with unaccusative and passivized verbs if the ACC-licensing light verb constitutes an intervening minimal case-checking domain. Secondly, if the light verb, either inherently or inheritably attains the ability of giving ACC, why do adjectival verbs only take NOM?

Language is known to have a limited number of grammatical constraints. They act as filters, creating gaps in the paradigm on the surface (constraints on form) or blocking certain interpretations (constraints on meaning). The phenomena in question illustrate the first type. It is evident that the scope of generalization that children make goes far beyond what is available in the input. This implies that they have to make generalizations for which there is no corresponding evidence in the input. Many aspects of language require children to make generalizations in the absence of positive evidence. Fodor and Crowther (2002) call this situation a case of poverty of positive stimulus. Not only does language learning involve overgeneralization beyond what is given in the input, but also it requires the opposite situation, undergeneralization, such that it disallows the learner to make a generalization that might be reasonable on the face of the data provided.

Furthermore, it has been recognized that children rarely, if ever, receive negative evidence — the information on what is not possible in the target grammar — in any

systematic way (Brown, 1973; Marcus, 1993). There is in fact no resource available in the input that can lead children not to make other particular generalizations. Nevertheless, they somehow obtain the knowledge with little interpersonal variation, again suggesting that language learning requires certain non-empirical constraints operating on the generalization process in the absence of counterevidence, a situation called the poverty of negative stimulus. Therefore, the linguistic phenomena of the present concern are subject to the learnability problem, the lack of both positive and negative evidence regarding its grammaticality in the input. In short, it is unlikely that language learners' attainment of the knowledge can be determined by an analogy from the available data.

III. Method

1. Participants

The experiment consisted of two elicitation tasks (oral repetition followed by grammaticality judgment and correction), in which five Korean children participated. Three were male and two female, with ages ranging between 4;8 and 5;6. They were all recruited from a preschool located in an urban area. Their socioeconomic status and family background were largely equivalent. As a reference group, five Korean monolingual adults (ages from 22 to 23) were asked to judge the grammaticality of the sentences used in the experiment.

<Table 1> Participants

Child	Gender	Age (Year; Month)
A	male	5; 3
B	male	4; 11
C	female	5; 6
D	male	4; 8
E	female	5; 2

2. Materials

The grammaticality judgment task was designed in the format that McDaniel and Cairns (1996) proposed with slight modifications. It was originally composed of 48 items, 2 ACC-marked and 2 NOM-marked sentences of each verb type with 2 fillers inserted between critical items. A preliminary experiment was conducted with three children other than those participating in the main study, revealing that the number of items was too large to maintain children's attention and thus unreliable to elicit their genuine responses. Eliminating adjectival verbs from analysis (a detailed discussion will follow in Section IV), the final version contained four items of unergative and transitive verbs and two items of unaccusative and passive verbs with 10 fillers. An oral repetition task was added before the judgment-and-correction task.

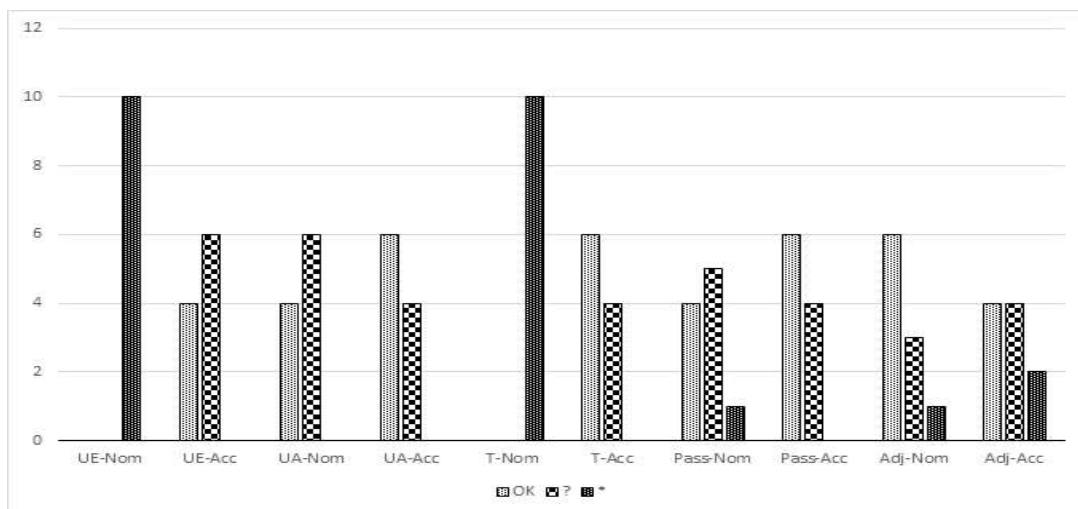
3. Procedure

Participants listened to a series of sentences with contextual information and were asked to determine for each test sentence whether or not it contains a grammatical error by marking one of three given choices: correct, little deviant but acceptable, and unacceptable. They were allowed to listen to each sentence as many times as needed to make a final decision. In the main experiment, children played a speech game with a puppet. They were told that the puppet came from a remote place, so she had to learn how to speak. First, a pre-recorded short story was presented, and then the puppet produced a sentence related to the story. Children were then asked to repeat what the puppet said as accurately as possible, and judge if she made a mistake. They were asked to correct her utterance once they judged it incorrect.

As mentioned before, the main session consisted of 12 critical items and 10 fillers. Five new items were added at the beginning so as to diagnose the participants' intuitive perceptions of the grammar in focus as well as to prepare them for the main study.

IV. Results

The results from Korean monolingual adults are shown in [Figure 1]. “UE” stands for unergative verbs, “UA” unaccusative verbs, “T” transitive verbs, “Pass” passivized verbs, and “Adj” adjectival verbs. It exhibits the sums of responses for each verb type occurring with either case marker. For each combination of the two, there were 2 items, amounting to 10 points in total.



OK: correct, ?: little deviant but acceptable, *: unacceptable

[Figure 1] Results of the Acceptability Judgment Task: Korean L1 Adults

The frequency data in Appendix 1 partly show the properties of the input related to the linguistic phenomena of interest. Even though it is not a comprehensive survey, its implications are clear. First, frequency varies across verbs to a large extent. Second, even acceptable case marking does not occur often in the input. Third, a number of predicators have homonyms that counteract with respect to case marking. That is, an identical phonetic form can be either grammatical or ungrammatical depending on which verb type its usage belongs to. Therefore, a construction-based explanation is not warranted. Fourth, there exist cases in which ungrammatical marking takes place for some performance reasons.

One may consider the possibility that child learners are so conservative that they restrict their hypotheses to positive data only. This may work for a few cases, but cannot account

for many others in which they have to make a generalization beyond what is available in the input. Language learning presents two situations with regards to inductive reasoning; it demands generalization to go beyond the information in the input, while at times the generalization must be made with a tight restriction on a particular subset of the input. Child learners appear to make discriminative generalizations. Therefore, any input-based theory has the burden to specify the conditions in which such differential inductive strategies apply, which would likely make the theory more complicated, hence less tenable.

Items (1)-(4) in the training session were intended to assess the participants' general sensitivity to case marking. (1) was a canonical SOV sentence; (2) was an object-shift OSV sentence; (3) and (4) were doubly nominative- or accusative-marked sentences, respectively. Item (5) examined their awareness of long form negation (see Appendix 2). It has been reported in the literature that Korean children learn short form negation earlier than long form. As will be discussed later, it was uncertain whether the children participating in this study were aware of the semantic properties of long form negation. All the children invariably judged the sentence 'not acceptable', although it was syntactically well-formed and semantically true. One possible explanation would be that they were not yet capable of judging a negated statement either true or false on a logical basis, of which an independent study is required. The question aimed to probe the children's ability to recognize the grammaticality of the sentence, irrespective of its semantic positivity or negativity. However, it turned out that they did not separate them in an adult-like way. This is in fact one of the most critical shortcomings inherent in data from grammaticality judgement tasks.

From the perspective of Generative Grammar, the phenomena in question are the outcome of the complex interactions among multiple linguistic features. The relevant adult grammar includes the following elements of knowledge: (a) the argument and thematic structures of the given predicator, (b) the grammatical constraint that NPs are case-marked to be expressed, (c) the morphophonological knowledge of case-markers, NOM -i/ka and ACC -ul/lul, (d) the semantic categories of NPs such as [+animate]/[-animate], or more precisely [+Endogenous Force (+EF)]/[-Endogenous Force (-EF)] for the present discussion, alongside the fact that predicators can also be categorized into [+EF]/[-EF], and correlatively [+ ACC case-marking]/[- ACC case-marking], in agree with the matching feature of an NP.

As for the cases of UE-NOM and T-NOM, adult speakers made a rigid distinction between acceptable and unacceptable case marking. On the other hand, there was no significant difference between the two adjectival verb-based sentences. This is not surprising given the thematic properties of adjectival verbs. It appears that case choice in long form negation is affected by the thematic features of the verb involved, particularly in terms of [+EF]/[-EF]. This is compatible with the claim of Levin and Hovav (1995) that unaccusativity (and possibly ergativity as its correlate) is semantically determined. It can be said that the thematic features of the predicator leads to the peculiar morphosyntactic behavior in opting for a case marker. When it comes to adjectival verbs, assuming that syntactic entities labelled ‘adjectival’ have a uniform set of (syntactically mapped) thematic features that are subject to uniform syntactic operations is rather misleading. It is more probable that adjectival verbs carry a varying degree of [EF] and are syntactically on the continuum of two poles, [+V] and [+N]. Thus, individual speakers’ judgement of their syntactic status can be considerably different. For this reason, adjectival verbs were excluded from the main study.

The results of the main study are presented below on a case-by-case basis, not just because it is inappropriate to reduce the observed data into a certain statistical tendency but because reporting their responses to each prompt sentence in detail is more informative for future directions.

Table 1 shows the responses that child A made to each critical item. When the given sentence was repeated without any modification, it was marked “○” or otherwise “×” . Similarly, “○” in the judgment column indicates that the child judged the sentence acceptable and “×” means s/he judged it unacceptable. Other important details are noted under the heading of response characteristics.

<Table 2> Responses of Child A (5; 3 male)

Item	Repetition	Judgment	Response Characteristics
Items for Training and Assessing the Target Knowledge			
1	○	○	
2	○	○	
*3	×	×	not repeated at first
*4	×	×	first ACC converted into NOM when repeated
5	×	×	

Main Items			
*UE-NOM	×	○	not repeated
*UE-NOM	×	○	case dropped when repeated
*Tr-NOM	×	○	case dropped when repeated
*Tr-NOM	×	○	case dropped when repeated
UE-ACC	×	○	case dropped when repeated
UE-ACC	○	○	
UA-NOM	×	○	case dropped when repeated
UA-ACC	○	○	
Tr-ACC	○	○	
Tr-ACC	×	○	case dropped when repeated
Ps-NOM	×	○	case dropped when repeated
Ps-ACC	○	○	

The data from five training items indicate that this child is able to distinguish grammatical and ungrammatical case marking. However, he could not repeat the sentence in item 5 and judged it unacceptable, suggesting that his perception of long form negation and its acceptability differs from that of adult speakers. It seems to have more to do with factors other than syntactic grammaticality, such as extralinguistic attitudes to negation and logical judgment on a negated proposition. Nonetheless, this observation extends the current issue by addressing whether the child would recognize syntactic well-formedness of an expression without comprehending its semantic import. In the main study, the child did not repeat all the ill-formed sentences (4 out of 4) accurately, while he successfully repeated 4 out of 8 grammatical sentences. This implies that the child can reliably distinguish grammatical from ungrammatical sentences.

This child judged every sentence 'acceptable', which is apparently in contrast with the conclusion drawn above. Importantly, however, he tended to drop illegitimate case markers when asked to repeat the sentences containing them. Since the judgment was made immediately after repetition, it was not determined whether his judgement was made on the original sentence or on his own repeated sentence, leaving the discrepancy questionable. Instead, the child's strong tendency to drop the ungrammatical case marker supports that he has a robust mental representation of the well-formed version of the sentence to the extent that he may disregard the erratic element as a trivial performance slip.

<Table 3> shows the response characteristics of child B.

<Table 3> Responses of Child B (4; 11 male)

Item	Repetition	Judgment	Response Characteristics
1	○	○	
2	○	○	
*3	×	×	second NOM converted into ACC
*4	○	○→×	answer changed, incapable of correction
5	×	×	
*UE-NOM	×	×	judgment spoken out first, case dropped
*UE-NOM	×	○	case dropped when repeated
*Tr-NOM	○	○	repetition after judgement with case being dropped
*Tr-NOM	×	○	case dropped when repeated
UE-ACC	×	○	case dropped when repeated
UE-ACC	○	○	
UA-NOM	○	×→○	answer changed
UA-ACC	×	×	case dropped when repeated
Tr-ACC	×	○	case dropped when repeated
Tr-ACC	×	○	case dropped when repeated
Ps-NOM	×	○	case dropped when repeated
Ps-ACC	×	○	case dropped when repeated

This child was also aware of the functions of case morphemes. His responses to the main items did not manifest any significant difference between grammatical and ungrammatical sentences. Although he did not discern them in terms of overt case marking, he also regularly dropped the case marker in most of the trials. This again suggests that he possessed a mental representation for grammatical well-formedness.

Consider the following table for the responses of child C.

<Table 4> Responses of Child C (5; 6 female)

Item	Repetition	Judgment	Response Characteristics
1	○	×	non-syntactic judgment, proposition correction
2	○	×	correct semantic judgment
*3	○	○	
*4	○	○	
5	○	×	
*UE-NOM	○	×	NOM into ACC corrected
*UE-NOM	×	○	not repeated at first
*Tr-NOM	○	×	
*Tr-NOM	○	○	
UE-ACC	○	○	
UE-ACC	○	○	

UA-NOM	○	○	
UA-ACC	○	×	ACC into NOM corrected
Tr-ACC	×	○	ACC into NOM corrected
Tr-ACC	○	○	
Ps-NOM	○	○	
Ps-ACC	○	×→○	answer changed

Child C was an excellent imitator. Unlike the preceding two children, she did repeat the additive case marker in the majority of the trials. Her attention span was much shorter than the other children. She was distracted several times during the experiment and often answered carelessly. In the training session, she corrected the puppet not in terms of grammar but of her preferences in wording. She was reinstructed to focus on whether the puppet's utterance was intelligible and contained no deviant form, irrespective of its speech style and other characteristics. Despite this guidance, she often lost track of the procedure and made unfocused responses. It is, however, worth noting that she judged 2 out of 4 ungrammatical sentences and only 1 out of 8 grammatical sentences as unacceptable, which is suggestive enough to assume a substantial degree of grammatical sensitivity.

The following table summarizes the responses of child D.

<Table 5> Responses of Child D (4; 8 male)

Item	Repetition	Judgment	Response Characteristics
1	○	no answer	
2	×	no answer	first ACC into NOM, second NOM into ACC
*3	not repeated	×	
*4	×	no answer	second ACC converted into NOM
5	not repeated	no answer	
*UE-NOM	×	no answer	case converted into ACC when repeated
*UE-NOM	×	no answer	case marker dropped
*Tr-NOM	×	no answer	not repeated
*Tr-NOM	×	○	not repeated, murmuring
UE-ACC	○	×	no correction
UE-ACC	×	no answer	case converted into NOM when repeated
UA-NOM	×	no answer	case marker dropped
UA-ACC	○	○	
Tr-ACC	×	×	LFN converted into SFN when repeated
Tr-ACC	×	no answer	case marker dropped
Ps-NOM	○	×	no correction
Ps-ACC	○	○	

The results from the training session reveal that child D was conscious of the grammatical forms and functions of case marking. Interestingly, when asked to repeat the object-shift OSV sentence in the second item, he switched the case markers of the two noun phrases, converting the original word order into the canonical SOV. As seen in item 4, he altered the ungrammatical case into the correct form. These make it reasonable to suppose that his schema for grammatical case marking has been established. In the main session, the child did not repeat none of the ungrammatical sentences, while repeating 4 out of 8 grammatical sentences accurately. This fact further lends support to the claim that he is sensitive to the grammaticality associated with the structural features. The judgement task did not entail any significant implication, since in most cases the child did not provide answers. All in all, however, it was again observed that the child used a rule-based representation when processing linguistic expressions.

Finally, the responses of child E are presented below:

<Table 6> Responses of Child E (5; 2 female)

Item	Repetition	Judgment	Response Characteristics
1	○	○	
2	○	○	
*3	not repeated	○	
*4	not repeated	×	ACC corrected into NOM
5	not repeated	×	
*UE-NOM	not repeated	×	correction irrelevant with case markers
*UE-ACC	not repeated	×	correction irrelevant with case markers
*Tr-NOM	not repeated	×	correction irrelevant with case markers
*Tr-ACC	not repeated	×	correction irrelevant with case markers
UE-ACC	○	○	
UE-ACC	○	○	
UA-NOM	○	○	
UA-ACC	○	○	
Tr-ACC	○	○	
Tr-ACC	○	○	
Ps-NOM	○	○	
Ps-ACC	○	○	

Except for the logical interpretation of long form negation in item 5, this child, as early as at 5;2, showed adult-like linguistic knowledge of and sensitivity to the grammaticality of interest. When compared to the other children above, her responses were strikingly

consistent with (and even more clearly delineated than) adult speakers' judgement patterns. Instead of repeating the ungrammatical sentences, she mentioned that they were wrong immediately after hearing them. When asked to correct them, she did not revise or eliminate the additive case marker but rather talked about the discourse context preceding each prompting sentence. Even though she could intuitively tell grammatical expressions from ungrammatical ones, she was not able to locate where exactly the grammatical error took place.

V. Discussion and Conclusion

The contemporary research of child language acquisition is mainly concerned with inflectional morphology. It has demonstrated that inflectional forms and features present a complexity for learners and that their grammatical intuitions may not be fully attained despite several years of learning (Haznedar & Gavruseva, 2008). In this respect, child acquisition of uninterpretable structural features has been a central issue in the debate over the role and representation of an innate language faculty.

For example, Ionin and Wexler (2002) investigated child learners' omission of verbal inflection in English. The analysis of the learners' spontaneous production data revealed that they almost never made morphological errors and that they tended to use suppletive inflection at a significantly higher rate than affixal inflection. Elicited data from a grammaticality judgement task further suggested that the learners were sensitive to irregular inflectional morphology than to regular inflection on lexical verbs. Based on these observations, they argued that purely structural features and projections were present in the initial state of interlanguage despite their surface absence. That is, such functional categories as TP/AgrP and syntactic operations involving them are present in the learners' grammatical knowledge even if they may be formally deviant on the surface.

Hawkins (2007) also holds that child acquisition of inflectional morphology cannot be considered as a process of knowledge merging from the learning of salient and frequent forms in input without reference to innate knowledge. He proposed a nativist account where children use innately-known interpretable (but not uninterpretable) features to create lexemes of the kind proposed by Distributed Morphology. These lexical entries are

assumed to be created based on context-sensitive co-occurrence information rather than the feature content of single syntactic terminal nodes. The proposed hypothesis was tested through an oral sentence completion task that systematically disrupts linear co-occurrence patterns and a pilot study of how learners use V-s as a cue to the interpretation of the number feature of the subject. The results, it was claimed, lent support to the proposal that the lexemes of learners at an early stage of development are qualitatively different from those of adult speakers.

There could be arguments against such nativist accounts. One notable example is Blom, Paradis, and Duncan (2012), which investigated children's development of knowledge and performance in inflectional morphology. The researchers analyzed spontaneous speech samples collected from 15 children and found that word frequency, allomorphs, vocabulary size, previously learned inflectional morphemes, and months of language exposure all had substantial impact on the children's acquisition process and outcome. This finding appears to support a usage-based approach to learning inflection and the importance of a multifactorial analysis of language development.

Against this backdrop of controversy, the observations in this study converge to make two points regarding child learners' acquisition of uninterpretable features involved in Korean long form negation. First, it seems safe to say that children are sensitive to the grammaticality in question, albeit with a measurable degree of individual difference. Second, the fact that they often dropped illegitimate case markers upon repetition makes it likely that they have a firm mental representation for well-formed linguistic expressions with limited empirical support. Admittedly, this pilot study has much to progress. The findings are far from conclusive, giving birth to more questions than answers. However, it can be seen as a preliminary attempt to tackle the linguistic phenomena from the view of learnability, inviting a more thorough exploration in subsequent studies.

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[Appendix]

1. Frequencies of Verbs Adjoined with the Negative Ending and a Case Marker

	V-NE	V-NE-NOM	V-NE-ACC
Run-NE	58,600/98,100	Run-NE-NOM 0/150	Run-NE-ACC 1,290/1,500
Shout-NE	13,500/13,500	Shout-NE-NOM 0	Shout-NE-ACC 5/5
Cry-NE	52,000/52,000	Cry-NE-NOM 142/154	Cry-NE-ACC 3,450/3,450
Smile-NE	40,100/ 40,100	Smile-NE-NOM 5/52	Smile-NE-ACC 4,610/4,610
Fall-NE	10,650/42,600	Fall-NE-NOM 31/105	Fall-NE-ACC 960/3,840
Blow-NE	1,470/14,700	Blow-NE-NOM 28/286	Blow-NE-ACC 37/37
Come-NE	8,610/8,610	Come-NE-NOM 0	Come-NE-ACC 110/110
Bloom-NE	18,800/18,800	Bloom-NE-NOM 3/3	Bloom-NE-ACC 233/233
Eat-NE	139,000/139,000	Eat-NE-NOM 1/1,170	Eat-NE-ACC 20,370/29,100
Listen-NE	106,000/106,000	Listen-NE-NOM 0/297	Listen-NE-ACC 19,000/19,000
Hit-NE	126,000/126,000	Hit-NE-NOM 0	Hit-NE-ACC 939/939
Buy-NE	20,300/20,300	Buy-NE-NOM 0/9	Buy-NE-ACC 153/252
Turned on-NE	27,900/27,900	Turned on-NE-NOM 380/3,380	Turned on-NE-ACC 664/664
Shown-NE	25870/34500	Shown-NE-NOM 4,241/34,500	Shown-NE-ACC 12,700/12,700

Note: The numbers before and after the slash (/) indicate the occurrence estimates of the verb and those of the verb plus its homonyms in the same context, respectively.

2. Task Items

1. 토끼와 거북이는 달리기 시합을 했습니다. 그런데 거북이가 앞서기 시작했습니다. 지기 싫어하는 토끼는 거북이를 밀어서 넘어뜨려 버렸습니다. → 토끼가 거북이를 밀었습니다.
2. 토끼와 거북이는 다리를 건너고 있었습니다. 다리 밑엔 맑은 물이 흐르고 있었습니다. 토끼는 거북이를 밀어서 물에 풍덩 빠뜨렸습니다. → 토끼를 거북이가 밀었습니다.
3. 토끼와 거북이는 달리기 시합을 했습니다. 그런데 거북이가 앞서기 시작했습니다. 지기 싫어하는 토끼는 거북이를 밀어서 넘어뜨려 버렸습니다. → *토끼가 거북이가 밀었습니다.
4. 토끼와 거북이는 다리를 건너고 있었습니다. 다리 밑엔 맑은 물이 흐르고 있었습니다. 토끼는 거북이를 밀어서 물에 풍덩 빠뜨렸습니다. → *토끼를 거북이를 밀었습니다.
- 5-1. 개미와 베짚이와 잠자리는 함께 소풍을 갔습니다. 한참을 가니 큰 강이 있었습니다. 먼저 개미가 나뭇잎을 타고 건너기로 했습니다. 베짚이와 잠자리는 풀을 엮어 작은 배를 만들었습니다. 배에서 잠자리는 장난을 치고 싶었습니다. 그래서 베짚이를 밀어 물에 풍덩 빠뜨렸습니다. → 개미가 베짚이를 밀지 않았습니다.

5-2. 개미와 베짚이는 함께 소풍을 갔습니다. 한참을 가니 작은 강이 있었습니다. 개미와 베짚이는 나뭇가지를 엮어 작은 배를 만들었습니다. 배에서 베짚이는 장난을 치고 싶었습니다. 베짚이는 개미를 밀어 물에 풍당 빠뜨렸습니다. → *베짚이는 개미를 물에 빠뜨리지 않았습니다.

■ Unergative LFN

1. 출발신호가 떨어졌습니다. 모든 아이들이 달리기 시작했습니다. 하지만 영희는 가만히 서 있었습니다. → *영희가 달리지 않았다.
2. 드디어 산 정상에 올랐습니다. 모두 야~호하고 크게 소리쳤습니다. 하지만 철수는 조용히 서 있었습니다. → *철수가 소리치지 않았다.
3. 할머니께서 슬픈 이야기를 들려 주셨습니다. 그 이야기를 듣고 모두 영영 울었습니다. 하지만 영수는 그대로 있었습니다. → 영수가 울지를 않았다.
4. 친구들과 재미있는 만화를 봤습니다. 모두 깔깔거리며 웃었습니다. 하지만 순이는 조용히 있었습니다. → 순이가 웃지를 않았다.

■ Unaccusative LFN

1. 뜨거운 햇볕이 쨍쨍 내리쬐고 있었습니다. 땅은 메말라 가고 들판에 곡식들은 시들어졌습니다. → 비가 내리지 않았다.
2. 친구와 종이비행기를 만들었습니다. 창가에 가서 종이비행기를 날렸습니다. 그런데 종이비행기가 힘없이 땅바닥에 떨어졌습니다. → 바람이 불지가 않았다.
3. 드디어 기다리던 겨울이 왔습니다. 눈싸움도 하고 눈사람도 만들고 싶었습니다. 그런데 그럴 수 없었습니다. → 눈이 오지를 않았다.
4. 화단에 꽃씨를 뿌렸습니다. 꽃이 피면 엄마에게 선물로 주고 싶었습니다. 그런데 그럴 수 없었습니다. → 꽃이 피지를 않았다.

■ Transitive LFN

1. 강아지에게 주려고 맛있는 밥을 만들었습니다. 강아지 밥그릇에 담아두었습니다. 그런데 하루가 지나도 밥이 그대로 있었습니다. → *강아지가 밥을 먹지가 않았다.

2. 영희와 철수는 자주 다투곤 합니다. 어느 날 철수가 엉엉 울며 집에 왔습니다. 길에서 넘어졌기 때문입니다. → *영희가 철수를 때리지가 않았다.
3. 엄마는 영수에게 그만 놀고 어서 자라고 하셨습니다. 그런데 영수는 엄마 몰래 놀다가 들키고 말았습니다. 그래서 엄마에게 혼이 났습니다. → 영수가 엄마 말을 듣지를 않았다.
4. 아빠랑 마트에 갔습니다. 로봇 장난감이 있었습니다. 아빠에게 사달라고 졸랐습니다. 하지만 아빠는 그 장난감은 위험하다고 하셨습니다. → 아빠가 장난감을 사주지를 않았다.

■ Passive LFN

1. 도둑이 돼지저금통을 훔쳐갔습니다. 경찰 아저씨께 말했습니다. 그런데 며칠이 지나도 저금통을 찾을 수 없었습니다. → 도둑이 붙잡히지가 않았다.
2. 컴퓨터 게임을 하고 싶었습니다. 그런데 문제가 생겼습니다. 컴퓨터를 아무리 눌러도 화면이 안 떴습니다. → 컴퓨터가 켜지지 않았다.
3. 친구들과 숨바꼭질을 했습니다. 내가 먼저 술래가 됐습니다. 드디어 친구들을 모두 찾았습니다. 그런데 영희만 못 찾았습니다. → 영희가 보이지를 않았다.
4. 글씨쓰기 연습을 했습니다. 아무리 반듯이 쓰려고 해도 글씨가 뻘뻘 떴대요. → 글씨가 예쁘게 써지지 않았다.

■ Adjectival Predicator LFN

1. 공원에 놀러 갔습니다. 공원엔 큰 연못이 있습니다. 그런데 연못 속 물고기들을 볼 수 없었습니다. → 연못이 맑지가 않았다.
2. 생일선물로 인형을 받았습니다. 그런데 인형이 정말 이상하게 생겼습니다. 눈은 너무 작고 코는 돼지코에 입은 또 너무 컸습니다. → 인형이 예쁘지가 않았다.
3. 아빠가 새 침대를 사주셨습니다. 침대 위에서 뛰어 보았습니다. 그런데 침대가 너무 딱딱해서 땀 수가 없었습니다. → *침대가 푹신하지를 않았다.
4. 할아버지께서 초콜릿을 사주셨습니다. 새로 나온 초콜릿입니다. 그런데 맛이 너무 쓴니다. → *초콜릿이 달콤하지를 않았다.