# L2 Acquisition of Korean locative construction by English L1 speakers

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#### **Abstract**

Korean has locative construction as other languages do such as English. Although L2 acquisition of locative construction has been examined in L2 English research, few experimental investigations of Korean L2 acquisition have been conducted. The current study focused on the syntactic alternation among Figure Framed sentence, Ground Framed sentence, Figure only sentence and Ground only sentence. Forced choice task on 72 locative construction have been conducted by 21 Native Korean speakers and 20 advanced L1 English learners of Korean. L2ers showed different acceptability judgment on Korean locative construction which was distinct from their L1 argument structure. The results showed that these asymmetries were driven by L1 effect when the learnability problem arises due to insufficient input.

# **Introductions**

Locative construction in languages imposes intriguing phenomenon in terms of case marking<sup>1</sup>. Locative verbs compose two different structures with a transitive verb. This phenomenon is known

<sup>1</sup> In researches of error Analysis on L2 Korean case marking, there have been reports on high frequency errors among L2ers of Korean regarding 'ey' and 'ul/lul' substitution. The locative structure has very structural (or systematic) substitution among these two types of case marking in the alternation phenomenon. There have been researches on semantic interpretation on

'figure/ground' alternation locative or alternation. Locative verbs denote a transfer of a substance or a set of objects (theme, content, or locatum) into or onto a container or surface (the goal, container, or location) as investigated in Pinker (1989). A substance or a set of objects are often referred as 'figure' and a container or surface is referred as 'ground' in the locative alternation studies. For example, English locative verb 'load' can have two structures of figure direct object [Figure Frame, henceforth FF] as in (1a) and ground direct object [Ground Frame, henceforth GF] as in (1b).

(1) a. Irv loaded <u>hay</u> into the wagon.

[Figure Frame]
b. Irv loaded <u>the wagon</u> with hay.

[Ground Frame]

Semantically locative sentences which alternate between FF and GF have different interpretation, often called as 'holistic interpretation' <sup>2</sup>. Syntactically, FF locative constructions whose figure NPs are denoted as objects are argued as unmarked compared to GF. Since FF has unmarked case marking, they have canonical/unmarked

locative structures but since case marking and argument structures are quite important in Korean language as other agglutinative languages. It is worthy investigating what mechanism in L2 language of case marking alternation of Korean happens in the path.

<sup>2</sup> The holistic interpretation will be explained in chapter 2 of this research.

linking pattern (Larson 1988) <sup>3</sup> or canonical structural realization (Grimshaw, 1981).

Regarding to the L2 acquisition of Korean locative construction which is not often focused as target grammar items in the classroom, a question arises whether L2ers will conform to the canonical linking pattern or be affected by their L1 or even L2. L2ers may have diverse acquisition paths available when L2 argument structure is not identical to their L1 and target input is insufficient enough to acquire target knowledge.

#### **Previous Studies**

There have been a series of studies of locative structure in L2 acquisition but they were mostly on L2 English cases (Juff, 1996a; Juff, 1996b; Brinkmann 1997; Inagake, 2007; Kim, 1999; Joo, 2000; Bley-Vroman & Joo, 2001, Choi & Lakshmanan, 2002). In addition, the focus was not on the argument structure itself but on semantic interpretation, 'holism effect'.

Holism effect or holistic interpretation can be explained in (2). For example, verb 'load' can have two structures, FF and GF.

(2) a. Irv loaded hay into the wagon.

[Figure Frame]

- b. Irv loaded the wagon with hay.
- → *Holistic interpretation* [Ground Frame]

GF Sentence (2b) has holistic interpretation compared to FF sentence (2a) <sup>4</sup>. The ground NP 'wagon' in (2b) is interpreted as fully filled with hay compared to 'wagon' in (2a), which is in \_adverb phrase. The holistic interpretation is that the ground NP as in (2b) has been fully affected by the action of locative verbs.

There have been researches on L1 Korean acquisition research (Lee, 1997) and child bilingual (Kim et. al., 1999; Kim, 1999) for younger speakers. In this study, L2 Korean acquisition of English L1

Few studies in L2 adult Korean acquisition of locative structure by L1 English speakers can be found. Syntactic locative alternation is left for further investigation in L2 acquisition research.

# Cross-linguistic variation across Korean and English locative construction

Many studies have investigated the cross-linguistic variation in the mapping of locative construction among Korean and English including Kim et al. (1999), Kim (1999), Bley-Vroman and Joo (2001), Choi and Lakshmanan (2002), and Joo (2003). One of the discrepancies is that the number of Korean locative verb classes is smaller than that of English. Also, the number of locative verbs that belongs to each category is not evenly distributed. The English locative verbs show 4 types of diversity in terms of syntactic alternation as in (3)  $\sim$  (6).

- (3) Non-alternating Figure verbs in English (e.g., *dribble, spill, slop, or ladle*)
  - a. John *poured* water into the glass. [FF]
  - b. \*Josh *poured* the glass with water. [GF]
- (4) Non-alternating Ground verbs in English (e.g., *cover, decorate, or soak*)
  - a. \*John filled water with the glass. [FF]
  - b. Sarah filled the glass with water. [GF]
- (5) Alternating Figure verbs in English (e.g., *spray*, *load*, *or*, *sow*)
  - a. John *piled* books on the table. [FF]
  - b. John *piled* the table with books. [GF]
- (6) Alternating Ground verbs in English (e.g., *paint*, *wrap*, *or stuff*)
  - a. John *stuffed* feather into the pillow. [FF]

<sup>3</sup> In the linking theories, Larson (1988:82) that Agent maps onto subject, Theme maps onto object, and Location maps onto oblique object. This syntactic and semantic hierarchies is called as Canonical linking pattern.

<sup>4</sup> Pinker (2013:92) explained that holistic interpretation is not confined to locative alternation. Holistic requirement on the ground framer, whereby the grammatical object must be

completely affected (covered filled, etc.) by the action of the verb (see Andersen, 1971). Holistic effect is a characteristic of grammatical objects in general, not just of grammatical objects in the container-locative construction, which has been mentioned in Hopper and Thomson (1980) and Rappaport and Levin (1985).

young learners has been examined but these studies also focused on holistic interpretation not on syntactic alternation.

#### b. John *stuffed* the pillow with feather. [GF]

However, Korean has mostly two types of locative verbs as in (7) and (8). For ground verbs, there are arguments over the availability of alternation among researchers and it is displayed by "?" mark in Table 1 below.

### (7) Non-alternating figure verbs

a. John-*i* cengwen-*ey* <u>mwul-*ul*</u>

John-NOM <u>garden-LOC</u> <u>water-ACC</u>

wulyesseyo.

sprayed. [FF]

'John sprayed water on the garden.'

b. \*John-i mwul-<u>lo</u> <u>cengwen-ul</u>
John-NOM <u>water-INS</u> <u>garden-ACC</u>
pwulyesseyo.

sprayed. [GF]

'John sprayed the garden with water.'

# (8) Alternating Ground verbs

a. John-i <u>cup-</u>ey <u>mwul-ul</u>

John-NOM <u>cup-LOC</u> <u>water-ACC</u>

chaywuesseyo. [FF]

'\*John filled water into the cup.'

b. John-i mwul<u>-lo</u> cup<u>-ul</u>
John-NOM <u>water-INS</u> <u>cup-ACC</u>
chaywuesseyo. [GF]

(1) a. He piled the books. [Figure only] b. \* He piled the shelf. [Ground only]

c. He piled the books onto the shelf. [FF]

d. He piled the shelf with the books. [GF]

'John filled the cup with water.'

The distribution of English and Korean locative verbs can be summarized as in Table 1 below.

Table 1. English and Korean locative verbs

	English		Korean	
	Alternating	Non-	Alternating	Non-
		alternating		alternating
Figure		$\sqrt{}$		
oriented				
Ground	V	V	√/?	? 5
oriented				

As shown in table 1, English has figure oriented<sup>6</sup> non-alternating, ground oriented alternating, alternating, and non-alternating verbs. In Korean, however, has figure verbs which do not alternate and most of the ground verbs are alternating except a few ground verbs, which is marked by "?". Researchers have different judgments on the grammaticality of the structure of alternating ground verbs and non-alternating ones. Choi and Lakshmanan (2002) stated that Korean only has figure non-alternator verbs and ground alternator verbs. But Lee, H. (1997) reported that Korean has alternators (figure/ground), figure non-alternators, but very little number of ground non-alternators<sup>7</sup>. Since the defining the ground alternating and nonalternating verbs is not agreed upon and Korean native speakers show diverse spectrum of grammaticality8, we will focus on the figure nonalternating verbs in the current research.

<sup>7</sup> Only two verbs of 'telephita (*stain*)' and 'cangsikhata (*decorate*)' belong to ground non-alternating class in Korean.
<sup>8</sup> A norming test has been conducted on the 23 Korean native speakers' grammaticality judgment over the sentences of the ground alternating and ground non-alternating verbs. The verbs tested in the norming test were 6 verbs including 'chilhata (*paint*)', 'makta (*block*)', 'paluta (*spread*)', 'tephta (*cover*)', 'cangsikhata (*decorate*)', and 'chaywuta (*fill*)'. For each verb, 3 sentences in FF and GF were given to the participants. The table below shows that so called ground verbs in Korean do not have consistency in the grammaticality judgments performed by Korean native speakers.

	Grammaticality judgments (%)		
Sentences type	FF	GF	
Chilhata	21.7 (94.34%)	19.7 (85.65%)	
Makta	6.67 (29%)	21.3 (92.6%)	
Paluta	22.7 (98.7%)	8.33 (36.22%)	
Tephta	20.3 (88.26%)	19.7 (85.65%)	
cangsikhata	15 (65.22%)	20.3 (88.26%)	
chaywuta	20.67 (89.87%)	18.33 (79.7%)	

<sup>&</sup>lt;sup>5</sup> These disagreements can be explained by two reasons. One is that the studies examined different group of locative verbs from each other. The other reason is that the grammaticality judgment task or researcher's individual grammaticality judgment was not decisive enough to draw conclusion.

<sup>&</sup>lt;sup>6</sup> Figure oriented means that the figure verbs allow 1 argument sentence with figure object only but not with ground object only in the sentence. Verb 'pile' is an alternating figure verb. The verb 'pile' allows figure only sentence in (1a) below but not ground only sentence (1b). Pinker (1989) argued that there existed directionality from figure only object sentence (1a) to figure frame sentence (1c). (1d) is possible since 'pile' allows the ground frame, therefore verb 'pile' is a figure oriented alternator verb.

Now let us turn to the other discrepancy. The discrepancy of grammaticality judgments of corresponding locative constructions between English and Korean. As we have seen in (7b), some Korean figure non-alternating verbs semantically correspond to alternating verbs in English. This may lead L2ers whose L1 is English to judge Korean sentence in GF to be grammatical, even though it is not grammatical in Korean.

The structural equivalence of the locative alternation in Korean and English may create a significant confusion/problem for language learners, since despite the affinity in their structural alternation (i.e. existence of alternation phenomenon between figure and ground argument structure), they are quite distinctive in their grammaticality of the semantically corresponding verbs.

We are interested in cross-linguistic variation of locative structures. Therefore, we will specify the verbs that will be examined in the research as in Table 2.

Table 2. Locative verbs classification in this research

	Korean
Grammaticality	Figure non-alternator
Identical with	Type 1a
English	hullita, 'spill'
	pwusta, 'pour'
	kelta, <i>'hang'</i>
Distinct from	Type 1b
English	ppwulita, 'spray'
	ssahta, 'stock'
	sitta, 'load'

For Type 1a in Table 2, grammaticality judgments over FF and GF in English and Korean are identical. FF is grammatical but GF is ungrammatical in Type 1a. For Type 1b, grammaticality on the FF in English and Korean is ungrammatical. However, grammaticality on GF in Korean and English is distinct from each other. Korean GF is ungrammatical but English GF is grammatical.

The linguistic knowledge required for L1-English learners of Korean to learn ground frame by figure

non-alternator verb (7b) is not easily accessible for them since it cannot come from their L1, nor is it easily induced from L2 Korean input alone, and it is not covered as target grammar in the Korean classroom. This (specifically figure non-alternator) causes learnability problem<sup>9</sup> in L2 adult acquisition of Korean locative construction. Therefore, we will focus on the figure non-alternator construction in the study.

# 1 The Study

# 1.1 Research Questions and Hypothesis

**Research Question**: Is there difference in acceptability judgment on Korean non-alternators among Native Korean speakers and L1 English learners of Korean (henceforth, L2ers)?

**Hypothesis**: The L2ers will show different acceptability judgments from Korean native speakers in the figure non-alternator construction, which is distinct from their L1 argument structure.

L2ers of Korean may choose to conform to L2, L1, or canonical linking pattern (or canonical structural realization) in acquisition of locative alternation. If figure non-alternating construction is easy to acquire without focused instruction, there will be no difference in grammaticality judgments of NKs and L2ers. However, Korean figure non-alternating verbs may cause learnability problem to the L1 English learners of Korean. If L2ers conform to L1 argument structure of figure non-alternator, they will show different acceptability judgments in GF from NKs when their L1 argument structure is distinct from L2 Korean. If L2ers follow canonical linking pattern, they will show preferences for FF and Figure only sentence (henceforth consistently in acceptability judgments.

# 1.2 Participants

The study participants consisted of two groups: 21 Korean Native speakers (NKs, age range=25~38) and 20 advanced L1 English learners of Korean (L2ers, age range=17-20). NKs were either current university students or graduates of universities in

knowledge and the data that the child is exposed to. In other words, the input is insufficient to alert the learners to the relevant distinction, learnability problem arises.

<sup>&</sup>lt;sup>9</sup> White (2003:8) argued that learnability problem is constituted by the situation where there is a mismatch between the adult

Korea. L2ers were current high school students of foreign school near Seoul. The proficiency of L2ers corresponds to level 5-6 in TOPIK (Test of Proficiency in level Korean) which is advanced level.

#### 1.3 Task. Material & Procedures

The main task used in the experiment was a forced choice task. The participants were asked to indicate acceptability for the given sentences by choosing all the acceptable sentences.

The test material was composed of 72 Korean locative constructions along with 104 fillers of Korean causatives: There were 36 sentences of three non-alternating figure verbs (hullita, 'spill'; pwusta, 'pour'; kelta, 'hang'). All of them were identical with the grammaticality of corresponding English sentences: all of the alternatives are grammatical. The other 36 sentences were composed of another three verbs (ppwulita, 'spray'; ssahta, 'stock'; sitta, 'load') which have discrepancy in grammaticality between in English and in Korean: which is grammatical in English GF and Ground only sentences (henceforth G), but not grammatical in Korean.

For each verb, four types of sentences which are FF, GF, figure only sentence, and Ground only sentence were given for participants' choice.

- (9) a. John-*i* khep-*ey* <u>mwul-*ul*</u>

  John-NOM <u>cup-LOC</u> waater<u>-ACC</u>

  pwuesseyo.

  poured. [FF]
  - 'John poured water into the cup.'
    b. \*John-i mwul-lo khep-ul
  - John-NOM <u>water-INS</u> <u>cup-ACC</u> pwuesseyo. [GF] poured.
    - 'John poured the cup with water.'
  - c. John-i <u>mwul-ul</u> <u>pwuesseyo.</u>

    John-NOM <u>water-ACC</u> poured.

    'John poured water.' [Figure only]
  - d. \*John-*i* khep<u>-*ul*</u> pwuesseyo.

    John-NOM <u>cup-ACC</u> poured.
    - 'John poured the cup.' [Ground only]

In order to help the participants to understand the sentences, pictures were provided along the sentences of one verb as in Figure 1.



Figure 1. Example of the experiment material

# 1.4 Statistical Analysis

The data collected were not applicable for parametric test such as *t*-test or MANOVA. In order to compare the scores of participants' choice over the acceptable Korean locative, Mann-Whitney U test has been used. The dependent variable in the analysis was the total scores of the acceptability judgment for the sentences which share the same argument structure. The independent variable was the Korean proficiency group of NKs and L2ers.

#### 2 Results

In our data sets, there were two types of figure nonalternators: the verbs that have identical argument structure with English and the verbs that have distinct argument structure from English. We first compared the total score of forced choice task on each FF, GF, F, and G for the both of identical and distinct categories.

Table 2. Mann-Whitney U test of forced choice task scores of NKs and L2ers

L1-L2		df	z	p
Identical	FF	21.676	-1.361	.187
	GF	21.676	-1.361	.187
	F	29.117	-1.110	.276
	G	27.262	473	.640
Distinct	FF	28.637	-1.474	.151
	GF	22.711	-3.099	.005*
	F	28.637	783	.440
	G	21.522	-2.635	.015*
				* 05

\*p<.05

Table 2 demonstrates that NKs and L2ers showed statistically significant difference only in GF and G sentences of distinct category.

The descriptive statistics in Table 3 shows that L2ers have chosen the unacceptable sentence more than NKs in GF sentences and G only sentences. The range of L2ers' responses in GF and G of distinct context is marked by boxes in Table 3 below.

Table 3. Median and range of the forced-choice task scores on acceptable locative sentences

L1-L2			median	Range (Min.~Max.)
Identical	FF	NKs (21)	9	1 (8~9)
		L2ers (20)	9	1 (8~9)
	GF	NKs (21)	9	1 (8~9)
		L2ers (20)	9	1 (8~9)
	F	NKs (21)	9	1 (8~9)
		L2ers (20)	9	2 (7~9)
	G	NKs (21)	9	1 (8~9)
		L2ers (20)	9	2 (7~9)
Distinct	FF	NKs (21)	9	1 (8~9)
		L2ers (20)	9	1 (8~9)
	GF	NKs (21)	9	1 (8~9)
		L2ers (20)	9	3 (6~9)
	F	NKs (21)	9	1 (8~9)
		L2ers (20)	9	2 (7~9)
	G	NKs (21)	9	1 (8~9)
		L2ers (20)	9	2 (7~9)

# **Discussion**

Korean figure non-alternating verbs may cause learnability problem in L1 English learners of Korean. They may choose to conform to L2, canonical linking pattern (or canonical structural realization), or L1.

First, it is assumable that since L2 locative alternation is not focused as target grammar in the classroom, L2ers may not be able to know all the figure oriented verbs are non-alternators in L2. This may have L2ers file to conform to L2 argument structure of locatives. Secondly, L2ers can choose to follow the canonical pattern (or argument structure) or conform to their L2, in which L2ers may simply regard all the FF and F sentences as acceptable and deny all the GF and G sentence as unacceptable.

However, the results showed that advanced L2ers did not conform to L2 argument structure nor did they to canonical linking pattern. They made the acceptability judgments based on their L1 argument structure by showing discrepancy over identical and distinct categories.

L2ers of Korean might have seen that some of Korean ground verbs could alternate, assuming that the alternators in their L1 correspond to L2 locative construction even when all the Korean figure verbs are non-alternators.

#### Conclusion

The current study investigated how the interlanguage of L1 English learners of Korean is shown in Korean figure non-alternating verbs' construction. 21 NKs and 20 advanced L2ers of Korean participated in the acceptability judgment tests which were composed of 4 types of locative construction (FF, GF, F, and G).

The results showed that advanced L2ers failed to acquire syntactic distinction in figure non-alternating constructions. They appeared to make their judgments in GF and G constructions in distinct argument structure category based on their L1. This may explain how L2ers depend on L1 knowledge when learnability problem arises.

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