English Teaching, Vol. 74, No. 1, Spring 2019
DOI: 10.15858/engtea.74.1.201903.49

Korean EFL Learners' Processing of English Caused-Motion Construction

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Sung, Hakyung. (2019). Korean EFL learners' processing of English caused-motion construction. *English Teaching, 74*(1), 49-73.

This study explores how Korean English learners process English caused-motion constructions (CMC) through online and offline experiments. The focus was on how Korean learners' processing of English CMC is affected by the typological difference between English and Korean. Of the 77 volunteer participants recruited, 17 were native English speakers and 60 were Korean EFL learners. The experiments included a sentence completion task (SCT) as an online experiment, and an acceptability jugment task (AJT) and a translation (correction) task as offline experiments. The results showed that in the SCT, the Korean learners showed difficulty in combining process and result events with intransitive manner verbs. In the AJT, they rarely accepted the CMCs with intransitive manner verbs, but easily accepted the 'causative verb + *by*-phrase' structures with the same type of verbs. When the sentences were employed in the AJT were asked to be translated into Korean, the low-intermediate Korean learners were likely to drop the result meaning and interpret the preposition phrase as a locative rather than a goal. In sum, Korean learners showed similar patterns to native English speakers in processing path verbs and transitive manner verbs, but different pattern in processing intransitive manner verbs. These findings demonstrate that Korean learners' processing of English CMC is heavily influenced by their L1 when the construction accompanied intransitive manner verbs.

Key words: English caused-motion construction, typology, construction grammar, sentence processing

1. INTRODUCTION

Motion events have been extensively studied in the area of cognitive linguistics, with many studies focusing on the importance of motion expression in relation to the development of cognition and language. The researchers have focused on the relationship

between motion and cognition, pointing out humans develop cognitive capacity along with recognizing motions around them (Lim, 2000; Radden, 1996).

Meanwhile, the researchers in the linguistic exploration of motion expressions have focused on two main themes. First, some researchers investigated the lexicalization patterns of the motion expressions and compared languages in order to learn how languages are different in terms of typology (Beavers, Levin, & Tham, 2010; Levin & Rappaport Hovav, 2016; Slobin, 1996; Talmy 1985, 1991). These typological studies are based on the Talmy's researches (1985, 2000a, 2000b), which suggests that every language has a universal cognitive system of motion events but have different lexicalization patterns. Second, researchers based on construction grammar explored motion constructions as they were some of the basic sentence-level constructions, which are in some sense basic to human experience (Goldberg, 1995). The set of basic constructions are used to encode general event types such as the events of 'something moved (i.e., intransitive motion construction) and 'someone caused something to change location (i.e., caused-motion construction).'

Recently, a great deal of attention has been paid to the question of how Korean learners of English acquire English motion structures, not only in the typological perspective (Y-H. Choi, 2010; Jung, 2005; J-E. Lee, 2007), but also in the usage-based perspective of construction grammar (J-Y. Choi, 2015; S-H. Kim, 2017; Kim, Choi & Yang, 2013; Lee & Kim, 2011; Rah, 2014; Shin, 2017). However, the previous studies present some potential limitations with regard to English caused-motion constructions (CMCs). First, the acquisition of English CMCs by Korean EFL learners was not examined separately from those of the intransitive-motion constructions by the researchers from a typological perspective (Y-H. Choi, 2010; Jung, 2005; J-E. Lee, 2007). In other words, they grouped two different motion constructions into one motion expression while focusing on how Koreans acquire typologically different motion expressions. Second, the previous studies, based on construction grammar, provided mixed evidence as to the learnability of the English CMC for Korean EFL learners. Some researchers revealed that the English CMC was difficult for Korean learners (J-Y. Choi, 2015; S-H. Kim, 2017; Lee & Kim, 2011; Shin, 2017), but others suggested that the construction is relatively easy for them (Kim, Choi & Yang, 2013; Rah, 2014). In addition, these researchers disregarded the semantic influence of verbs in the constructions while emphasizing the importance of the constructions.

Taking these limitations into consideration, this study investigates how Korean EFL learners process English CMCs compared to the English native speakers in online and offline processing experiments. Given the typological differences between Korean and English, the initial hypothesis of the present study is that Korean L2 learners' acquisition of English CMCs would be affected by their L1, especially in terms of manner verbs.

2. REVIEW OF THE LITERATURE

2.1. Motion Event and Typology

Talmy (2000a, 2000b) defines a motion event as being constituted of a *framing event* and a *co-event*. The framing event is a main event which provides the four universal components of the motion: (1) a moving *figure*, (2) a physical *ground* which the figure moves against, (3) a dynamic process of *motion*, and (4) a *path*, the trajectory of the figure. The co-event – external and optional components of the event – provides a supportive relation to the framing event by elaborating it. Talmy (2000a, 2000b) distinguishes the co-event into two most common forms as *manner* and *cause*[1]. Among the four basic components of the framing event, Talmy (2000a) establishes *path* of motion as the fundamental feature in conflating motion events. In terms of how a language conflates path information in its motion expressions, languages are categorized into two groups: *V-framed* languages (i.e., Korean) typically encode path of motion in the main verb (e.g., *neh-ta*, 'put'), whereas S-framed languages (e.g., English) incline to express path in a satellite associated with the main verb (e.g., *blow out*, *kick into*).

After Talmy (1975, 1985, 1991, 2000a, 2000b) introduced the influential two-way typology, various studies have revealed possible options for encoding motion events beyond Talmy's categorization (Slobin, 2004; Zlatev & Yangklang, 2004). Of the studies, Beavers et al. (2010) accommodate the growing exceptions of the previous distinctions, and posit an eclectic approach: A language may show both V and S-framed patterns. Instead of separating languages dichotomically, they suggest a different set of possibilities for incorporating both manner and path in a clause. Therefore, it is not the language itself that determines typological patterns, but it is the available language-specific resources that determine a pattern for encoding and combining manner and path. Most importantly, the several options of the lexicalization do not mean that the language users evenly avail them. Instead, they tend to resort to more preferred option, which is a "morphosyntactically less complex pattern" (Beavers et al., 2010, p. 366).

2.2. English Caused-Motion Construction

The English caused-motion construction (CMC) has a syntactic structure which consists of a subject, a verb, an object, and a prepositional phrase, e.g., [*Pat*]–[*sneezed*]–[*the napkin*]–[*off the table*]. This syntactic structure is associated with a constructional meaning,

[1] The present study does not diffrentiate between manner and cause because a majority of studies which adapted Talmy's (2000a, 2000b) classification does not strictly separate between manner and cause (e.g., Aske, 1989; Beavers et al. 2010).

'X causes Y to move $Z_{location}$.' The construction attributes to formulating causative meaning, which works independently from the meaning of the main verb.

The following two sentences in (1) show how the English CMC makes the causative meaning beyond the lexical aspect of the main verb.

(1) (a) John swept the floor.
(b) John swept the dirt into the corner.

In (1a) and (1b), the main verb is identical, but only (1b) implies the causative meaning from the action, which can be paraphrased as 'John caused the dirt to move into the corner by sweeping it.'

In order to explain the postulated causative meaning from the CMC as in (1b), a number of researchers have proposed accounts from the lexical semantic framework (Hoekstra, 1992; Pustejovsky, 1991). However, construction grammar contends that the construction itself yields causative meaning extending the lexical sense of the verb. By admitting the role of the construction, the theory explains some cases of the CMCs with intransitive verbs (e.g., The audience *laughed* the poor guy off of the stage). In such cases, the matrix verb does not independently license direct object complements and cannot occur with transitive meaning, which is the reason why the previous lexical semantic framework's accounts could not explain why the intransitive verbs are available in the CMC (Goldberg, 1995). In short, extending the focus from lexical items to the construction could give satisfactory explanations for exceptional cases and yield a conventionalized interpretation of the caused-motion to the construction.

2.3. Semantic Nature of Caused-Motion Construction

2.3.1. English caused-motion construction

Goldberg (1995) notes that the basic semantics of the caused-motion construction is that the causer argument directly causes the theme argument to move along a path designated by the directional phrase. The prior research proposed that the construction involves complex events – *process* and *result* (Comrie, 1976; Dowty, 1979; Jackendoff, 1983). Therefore, the semantic structure of the CMC can be separated into following events: (1) *process*: an agent performs an action, (2) *result*: an object undergoes motion in a certain direction.

First, the result events of the changed location of the object is expressed by a satellite structure because the satellite (e.g., *to, into, out of*) can head goal PPs that add or specify a result state (i.e., telicity) for the action expressed by the main verb (Aske, 1989; Hoekstra

& Mulder, 1990). For example, the unergative manner-of-motion verbs generally do not take a direct object (Folli & Harley, 2006, p. 124) like the following example (e.g., *John waltzed* (**Matilda*)). However, when the goal PPs are added (e.g., *John waltzed Matilda into the bedroom* (*in* /#*for*) *5 minutes*), the verbs accept direct objects as well as denoting telicity. The aspect of only accepting the modifying *in-* adverbials shows that the events denote endpoint (Vendler, 1957). Overall, denoting the result state of the event is an important feature of the English CMC.

Another key point of the semantic nature of the CMC is that the first event, the process event of the agent's action, is described by the matrix verb, and the verb can be categorized into several types depending on its semantic properties concerning path and manner. On the one hand, there are several verbs with salient path (i.e., deictic) meaning without pinpointing the manner of the agent's action. Levin (1993) defined them as the "verbs of continuous causation of accompanied motion in a deictically specified motion" (p. 46), and *bring* and *take* are included. These verbs generally overlap with the Korean ternary predicates (Nam, 2003), which are the prototypical verbs in the caused-motion event and mandatorily require three arguments of agent, theme, and goal/source. On the other hand, some verbs stand out the manner focusing on the agent's action with the movement of the object. The manner of motion verbs is again categorized into two depending on whether they imply a direct external cause (Levin & Rappaport Hovav, 1992). The verbs such as *roll, spin, push,* and *pull* are classified into the verbs denoting the existence of direct external cause and transitivity. In contrast, the verbs such as *walk, run, swim,* and *jog* are categorized into the verbs denoting indirect external cause and without transitivity. Table 1 below summarized the different types of the verbs that are available in English CMC.

TABLE 1

Categorization of the Verbs in English CMC

Types	Path (+), Manner (-)	Path (-), Manner (+)	
Examples	*bring, take, send* (Levin, 1993) *put, kick, throw* (Nam, 2003)	Direct Cause (+) (transitive)	*roll, spin, pull, push*
		Direct Cause (-) (intransitive)	*walk, run, swim, jog*
Reference	Levin (1993), Nam (2003)	Levin & Rappaport Hovav (1992)	

2.3.2. Korean caused-motion construction

Verbal serialization is a typical lexicalization pattern for Korean caused-motion construction (Beavers et al., 2010). By the definition, it is a construction where more than two verbs appear in a clause without an explicit marker of coordination or subordination (Ko & Sohn, 2015, p. 79). The syntactic structure of Korean caused-motion construction is

also cue for its semantic property. Firstly, the possibility of inserting *-se* between two verbs of the SVC verifies that the syntactic structure implies a temporal relationship rather than a causative meaning. The prior research revealed that a connection *-se* means 'and then' (S-H. Lee, 1992; Y-J. Lee, 2003; Sohn, 1976) and makes it explicit that the verbs in the SVC have temporal relationship (Kang, 1993). Li (1993) supported the relationship with *Temporal Iconicity Condition*, which suggests that the linear order of two verbs reflects the time sequence.

Meanwhile, Korean, as a V-framed language, does not have the secondary predication of the satellite, which does not imply the sense of result within the structure itself (Aske 1989; Beavers et al., 2010; Talmy 1991, 2000a, 2000b; Washio, 1997). When a clause involves a manner verb in the matrix position, it is particularly difficult to imply the telicity. According to Levin and Rappaport Hovav (2016), "manner (process) and result meaning components are in complementary distribution (Manner/Result Complementarity)" (p. 26), thus, a verb lexicalizes either process or result. Even though Korean speakers are able to employ additional linguistic resources such as completive adverbs or aspectual serial verbs to mark the telicity (Im, 2003), there are chances for the Korean native speakers to drop the result unless it is salient information when they describe an event with a manner verb (Slobin, 2004).

In a similar vein, the lack of the satellite leads to the oddity when manner verb occurs with goal PP. The following (2) is an example from Japanese.

(2) (a) *John-wa kishi-ni itta.*
John-TOP shore-to went.
'John went to the shore.'
(b) ?? *John-wa kishi-ni oyoida/tadayotta/hatta.*
John-TOP shore-to swam/drifted/crawled.
'John swam/drifted/crawled to the shore.'
(adapted from Beavers et al., 2010, p. 342)

When the goal PP is attached to a path verb as in (2a), the verb contributes to the directional interpretation. In contrast, when it is attached to a manner verb as in (2b), the goal PP failed to imply result location.

In brief, English and Korean CMCs are semantically different in terms of encoding causative meanings. English CMC shows both the process and result events in the causative relationship with the telicity. In contrast, Korean CMC combines the process and the result events in the temporal relationship with the lack of telicity. In other words, the Korean EFL learners may process the two events of the English CMC independently. Furthermore, they may experience difficulty in processing the goal PP and end up

interpreting it as a location when manner verbs are involved in the construction.

3. METHODOLOGY

3.1. Participants

A total of 77 volunteer participants were recruited for the study, 17 of whom were native English speakers and 60 of whom were Korean-speaking L2 English learners. Most of the English native speakers (NSs) were undergraduate students at Korean Language Institution, and the Korean participants were the 11th graders in high school.

At the beginning of the study, all the participants were asked to complete a C-test, adapted from Wen, Miyao, Takeda, Chu, and Schwartz (2010) (see Appendix). The test scores were used to divide the Korean EFL students into two groups. Those who scored 25 and above out of 40 were grouped as advanced (A group); those who scored less than 25 constituted the low-intermediate group (L group). An independent-sample t test showed that the C-test scores of the A group were significantly higher than those of the L group (t (58) = 12, p < .001).

TABLE 2

Mean C-test Scores

Group	*n*	C-test Score (max = 40)		
		M	*SD*	Range
Native English Speakers	17	36	3.7	27-40
Advanced L2ers of English (A group)	31	30.7	3.9	25-39
Low-intermediate L2ers of English (L group)	29	17.8	4.5	10-24

3.2. Online Processing: Sentence Completion Task (SCT)

The SCT was mostly employed in the research field to explore the grammatical mismatches in the production of subject-verb agreement in online processing (Hoshino, Dussias, & Kroll, 2010). In order to promote the immediate production of the sentences, the subjects were asked to repeat the given part of the sentence orally, and then produce a possible completion. The task is expected to provide information on the moment-by moment mental processes in producing the constructions.

3.2.1. Materials

The SCT used four types of verbs as a matrix verb in the CMC. As listed in Table 3, the

first group consists of Path type verbs (*throw, kick, put, send*), and the second Transitive type verbs (*roll, slice, shot, push*), and the third Intransitive manner type verbs (*dance, laugh, sneeze, jump*) were tested. The experiment involved 12 sets of experimental stimuli and 12 sets of grammatical fillers.

TABLE 3

Types of the Verbs Used in the Sencente Completion Task

Type	Verb	Given Sentence (→ Expected Completion)
1 (Path)	*throw*	*She threw the ball, and the ball was on the roof.* → She threw the ball on(to) the roof.
	kick	*He kicked the ball, and the ball was in the net.* → He kicked the ball in(to) the net.
	put	*She put the jacket, and the jacket was on the table.* → She put the jacket on the table.
	send	*He sent a package, and Mary received it.* → He sent a package to Mary /sent Mary a package.
2 (Transitive)	*roll*	*She rolled the ball, and the ball went out of the room.* → She rolled the ball out of the room.
	slice	*She sliced the ham, and the ham was on the plate.* → She sliced the ham on the plate.
	shot	*She shot the ball, and the ball went across the field.* → She shot the ball across the field.
	push	*She pushed him, and he went out of the room.* → She pushed him out of the room.
3 (Intransitive)	*dance*	*He danced with Matilda, and Matilda went into the room.* → He danced Matilda into the room.
	laugh	*He laughed at the guy, and the guy went out of the house.* → He laughed the guy out of the house.
	sneeze	*He sneezed at the tissue, and the tissue fell off the table.* → He sneezed the tissue off the table.
	jump	*She jumped to the horse, and the horse went over the fence.* → She jumped the horse over the fence.

3.2.2. Procedures

The subjects had to read a sentence that consisted of two clauses of process and result events, combined by a conjunction, *and* (e.g., She threw the ball*, and* the ball is on the roof). Subsequently, they were asked to provide a complete sentence of one clause that combines the meanings of the previously given sentences. All test items contained a blank after the given subject (e.g., She _____). The test items were given in a random order. The entire experiment lasted about 10 minutes per participant.

3.3. Offline Processing: Acceptability Judgment Task (AJT)

The AJT required the participants to judge the acceptability of the given sentences. In

addition, the task was designed to compare how the NSs and the Korean participants react to the different lexicalization patterns of the caused motion events.

3.3.1. Materials

The same categorization of the verbs in the online study were employed in the AJT. In addition, the task added the sentence types that were intended to test how Korean learners are influenced by their L1. In this type, a causative verb (e.g., *make*) was placed in the matrix verb position, and the manner information of the events was conveyed on the adverbial *by*-phrase (e.g., *I made him go out by shouting*). This design was inspired by Inagaki (2001) which proposed that Japanese English learners often show the similar lexicalization pattern as they try to conflate the information based on the lexicalization patterns of their V-framed language (i.e., Japanese). Therefore, a total of 26 sentences were presented: 12 CM sentences, 6 by-phrase sentences, and 8 fillers. The examples are given in Table 4.

TABLE 4

Sentence Used in the Acceptability Judgment Task

Type	Verb (*by*-phrase)	Sentences
1 (Path)	*take*	I *took* the cat into the house.
	send	I *sent* the package to her this morning.
	get	I *got* him out of the car.
	put	I *put* a memo on the table.
2 (Transitive)	*help*	I *helped* him into the hospital yesterday.
	urge	I *urged* Josh into the room.
	push	I *pushed* them out of the room.
	pull	I *pulled* the handkerchief out of my pocket.
3 (Intransitive)	*dance*	I *danced* Matilda into the room.
	laugh	I *laughed* the guy out of the room.
	shout	I *shouted* him into the house.
	run	I *ran* him off the street.
4 (*by*-phrase)	(*shout*)	I made him go out by *shouting*.
	(*roll*)	I put it next to my room by *rolling* it.
	(*slicing*)	I put them on the plate by *slicing* them.
	(*cough*)	I made the dust fall down by *coughing*.
	(*blow*)	I made the dust go out by *blowing* it.
	(*swim*)	I made the boys get off the water by *swimming.*

3.3.2. Procedures

The participants judged the acceptability of the target sentences after they read the

information on the preceding contexts. They rated the sentence on a five-point Likert scale (c.f., 1 = *totally unacceptable*, 2 = *probably unacceptable*, 3 = *unable to decide*, 4 = *probably acceptable*, 5 = *totally acceptable*). The four types of the experimental sentences were given in a random order. There was no time limit completing the task because the goal of the AJT was to assess participants' use of the metalinguistic knowledge. Without the limitation of the time, however, most of the participants completed the AJT within 5 to 10 minutes.

The Korean learners were asked to translate the target sentences of the AJT from English to Korean after they rated the acceptability. Meanwhile, the NSs were asked to correct the sentences of the AJT that they had judged 'unacceptable (2 points)' or 'totally unacceptable (1 point)', and provide a reason for their corrections. After the NSs finished correcting the sentences, some of them were given a short interview about the usage of the CMCs.

3.4. Data Coding and Analysis

For the SCT, each sentence completed by the participants was coded in terms of whether it had a target CMC, and under which error types the sentence is categorized into. Reponses using the target structure of the CMC received 1 point. Consequently, a participant could get four points if s/he gets a perfect score in one of the CMC types. Meanwhile, minor errors were not evaluated since those errors were not the main concern. The total scores were calculated and compared between the groups.

The data of the AJT was recorded from a five-point Likert scale. The total scores for each type were averaged and compared between the groups. The data from translation (correction) was transcribed and grouped together in terms of tis frequency.

A non-parametric test was computed to compare the SCT scores of the groups. A non-parametric test was employed because the sample sizes were too small, and the normality assumption was grossly violated. The test converted raw values of the scores into ranks and then they were analyzed. At first, Kruskal Wallis test was done to compare three groups, and if any significant difference was found between the groups, Mann Whitney U Test was done to track where the difference came from.

A repeated-measures ANOVA was implemented to analyze the results of the AJT. The interaction between the groups and four types of the CMCs were tested as well. For the qualitative analyses of translation (correction), the participants' responses were transcribed and categorized. To investigate group influence on the preferences among the competing forms, the patterns and frequency of the data were analyzed by groups.

4. RESULTS

4.1. Online Processing: SCT

In terms of mean (M) and standard deviation (SD), the L group showed the lowest mean score and standard deviation with Type 3 items. Meanwhile, the group recorded comparatively higher scores with Type 1 and Type 2 items with higher standard deviation, which means that the mean scores are not uniformly high among the participants in the group.

TABLE 5

SCT: Descriptive Statistics

Type	Group	*M*	*SD*
Type 1 (P)	NS	3.65	.49
	A	3.56	.72
	L	3.19	.93
Type 2 (T)	NS	3.71	.47
	A	3.81	.59
	L	3.31	1.18
Type 3 (I)	NS	2.00	.94
	A	1.28	1.42
	L	.16	.37

To analyze the results statistically, the three +groups' scores were first compared in a Kruskal-Wallis test. The differences between the groups were only significant ($p < .001$) with Type 3 items. In order to identify the cause of this difference, the groups were categorized into two (e.g., NS & A; NS & L; A & L), and a Mann Whitney U test was conducted separately for each combination. The tests showed that the gaps between the NS and L groups, and the A and L groups were statistically significant ($p < .001$).

Due to these results, an additional question was raised concerning the types of alternative lexicalization patterns that the participants made when they failed to combine two clauses into the target CMCs. To answer this question, the alternative patterns were grouped several categories. Table 6 shows the frequencies of each pattern by the groups.

The alternative lexicalization patterns of the NSs and the Korean learners show different frequencies. In the NS group, the *wh-clause* type was the most frequent pattern, followed by the *serial verb* and *redundant preposition*. In contrast, the Korean learners produced the *causative verb* patterns most frequently regardless of their proficiency. Including the correct answers, the overall lexicalization patterns for the Type 3 items, including the answers for the target CMCs, are presented graphically in Figure 1.

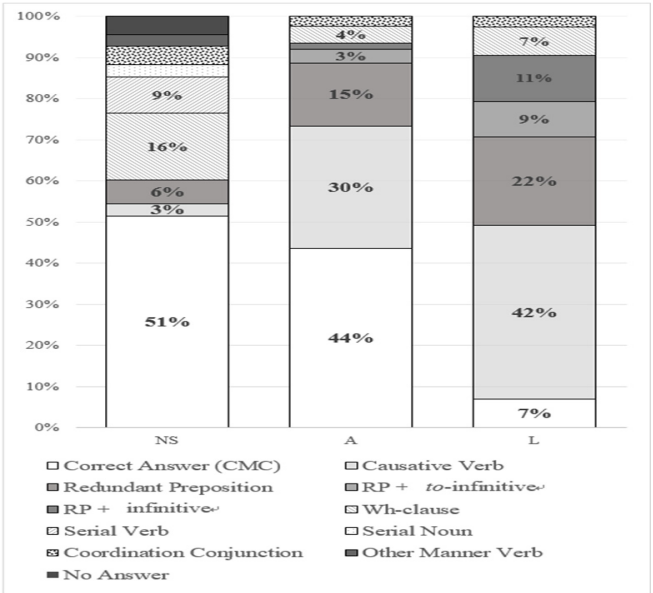
TABLE 6

SCT: Frequency of the Alternative Patterns

Error Type	NS	A	L
Causative Verb (e.g., He *made* Matilda go into the room by dancing with her.)	6% (2/33)	52.9% (37/70)	45.4% (49/108)
Only Redundant Preposition (e.g., He sneezed *at* the tissue off the table.)	12.1% (4/33)	27.1% (19/70)	23.1% (25/108)
Redundant Preposition (RP) + *To*-infinitive Verb (e.g., She Jumped *to* the horse *to go over the fence.*)	0% (0/33)	4.2% (4/70)	9.3% (10/108)
Redundant Preposition (RP) +Infinitive Verb (e.g., He laughed *at* the guy *go out of the house.*)	0% (0/33)	2.8% (2/70)	12% (13/107)
Relative clause (e.g., He sneezed at the tissue *which blow off the table.*)	33.3% (11/33)	7.1% (5/70)	7.4% (8/108)
Serial Verb (e.g., She *jumped* and *scared* the horse over the fence.)	18.2% (6/33)	0% (0/70)	0% (0/108)
Serial Noun (e.g., *He* and *Matilda* danced into the room.)	6% (2/33)	0% (0/70)	0% (0/108)
Coordination Conjunction (e.g., He laughed at the guy, *and* he went out of the house.)	9% (3/33)	4.3% (3/70)	2.8% (3/108)
Other Manner Verb (e.g., She *startled* the horse over the fence.)	6% (2/33)	0% (0/70)	0% (0/108)
No Answer	9% (3/33)	0% (0/70)	0% (0/108)
Total	100% (33/33)	100% (70/70)	100% (108/108)

FIGURE 1

SCT: Lexicalization Patterns for Type 3



The first research question of the present study investigated how proficient Korean learners' online processing of English CMCs was compared to that of native speakers. The results in the SCT confirms that the Korean learners dispreferred producing CMCs with intransitive manner verbs. When Type 3 verbs were used, they could not combine the process and the result events of the two independent clauses. Therefore, Korean learners may have not been able to extend their constructional knowledge to these verb types.

The alternative lexicalization patterns with the Type 3 CMCs (see Table 6 and Figure 1) present further key evidence to the investigation. The Korean learners could not conflate manner into the verbs, but instead conflated the causative verbs into the matrix verb positions. This result of Type 3 is in contrast with those of Type 1 and Type 2, and it primarily shows how the Korean learners changed their preferences based on the verb types, and additionally proves the complementary distribution of manner and result (i.e., causative) verbs (Levin & Rappaport Hovav, 2016). To be specific, the Korean learners had to choose the most suitable verb between manner and result denoting verbs when combining the process and result clauses of the caused-motion event. A critical finding was that when the process event was described with a transitive manner verb (Type 2), the Korean learner kept the same verb while combining the sentences, whereas when the event was described with an intransitive manner verb (Type 3), the learners changed the manner verb into a causative verb.

4.2. Offline Processing: AJT

First, the acceptability rates on the AJT were compared across groups. As shown in Table 7, the NSs and Korean learners responded differently especially with Type 3 and *by*-phrase test items.

TABLE 7

AJT: Descriptive Statistics

Type	Group	*n*	*M*	*SD*
1 (Path)	NS	68	4.76	.46
	A	124	4.76	.56
	L	116	4.41	.89
2 (Transitive)	NS	68	4.43	.97
	A	124	4.22	1.20
	L	116	3.89	1.24
3 (Intransitive)	NS	68	3.40	1.44
	A	124	2.81	1.39
	L	116	2.87	1.27
4 (*by*-phrase)	NS	102	1.75	.92
	A	186	3.42	1.30
	L	174	3.62	1.17

The result above shows the different acceptability rates between the NSs and the Korean groups. However, no significant difference was found between the A and L groups, which suggests that the English proficiency of the Korean learners was not a significant factor in this task. Second, the gap between the NS and Korean groups is prominent in Type 3 and *by*-phrase items. Third, given that the score of Type 3 items were higher than that of *by*-phrase items in the NS, and vice versa in the Korean groups, a negative correlation was found between Type 3 and *by*-phrase items.

A repeated measures ANOVA was conducted to analyze the results of the AJT. Because of the small sample size, the assumption of sphericity did not meet. Thus, a correction of Greenhouse-Geisser was used to test the overall main effects and the interaction effects (Howell, 2002). Above all, the statistical analysis indicates that the differences between the acceptability ratings of the three groups were statistically significant ($p < .01$). Post-hoc tests were then conducted in order to check where these differences arose. The differences between groups were not statistically significant in Types 1, 2, and 3 ($p > .01$). However, for *by*-phrase items, the difference between the NSs and the Korean learners was statistically significant ($p < .001$), but the gap between the A and L groups was not significant ($p = .30$). Within the groups, the differences in the ratings for the four types of stimuli were also statistically significant ($p < .001$).

TABLE 8

AJT: Mean (*SD*) Acceptability Rates (Verb Items)

Group	Type 1			
	take	*send*	*Get*	*put*
NS	4.6 (0.5)	4.9 (0.2)	4.6 (0.6)	4.9 (0.3)
A	4.8 (0.6)	4.8 (0.6)	4.6 (0.6)	4.9 (0.3)
L	4.6 (0.7)	4.5 (0.9)	4.0 (1.1)	4.6 (0.6)
Group	Type 2			
	help	*urge*	*Push*	*pull*
NS	4.1 (1.1)	3.9 (1.2)	4.8 (0.4)	4.9 (0.5)
A	3.5 (1.4)	3.9 (1.3)	4.7 (0.8)	4.8 (0.6)
L	2.9 (1.3)	3.9 (1.2)	4.5 (0.8)	4.3 (0.9)
Group	Type 3			
	dance	*ran*	*Laugh*	*shout*
NS	3.3 (1.2)	4.1 (1.4)	3.6 (1.4)	2.6 (1.3)
A	2.8 (1.3)	3.4 (1.3)	2.3 (1.3)	2.8 (1.4)
L	2.4 (1.3)	3.3 (1.1)	3.1 (1.4)	2.7 (1.2)

Group	*by*-phrase					
	shout	*roll*	*slice*	*cough*	*blow*	*swim*
NS	1.5 (0.8)	2.0 (0.8)	2.4 (0.9)	1.4 (0.9)	1.6 (0.9)	1.6 (1.0)
A	4.2 (0.9)	3.2 (1.2)	3.2 (1.1)	4.1 (1.0)	3.3 (1.5)	2.5 (1.3)
L	4.0 (0.9)	3.4 (1.3)	3.4 (1.2)	4.2 (0.7)	3.8 (1.0)	2.9 (1.3)

Table 8 additionally shows the acceptability rates of each verb items. With Type 1, the verb *get* received the lowest rates of the four verbs. With Type 2, both *help* and *urge* were the most rejected. In Type 3, the verb *run* was generally accepted, and particularly, the Korean learners gave low acceptability rates for the verbs in Type 3 except for *run*. With *by*-phrase items, the NSs showed particularly low rates of acceptability for the verbs. Only two verbs, *roll* and *slice,* were recorded as being higher than 2 points. For the Korean learners, the verb *swim* was the least accepted within the *by*-phrase structure.

The second research question of the present study investigated how proficient the Korean learners' processing of English CMCs was compared to that of the NSs in offline acceptability judgment tasks. The results indicated that the Korean learners showed less acceptance for CMCs with intransitive manner verbs, but conversely, showed higher acceptance for *by*-phrase constructions.

Given that point 3 is a neutral acceptability number in the five-point Likert scale, the acceptability rate of the Korean learners was below the neutral point in the case of the intransitive manner (Type 3) verbs (A group: 2.81; L group: 2.87). In contrast, the NSs recorded 3.40, which is above the Korean learners. Meanwhile, the scores for the *by*-phrase sentences were negatively correlated to the scores of Type 3. The Korean learners scored over 3 (A group: 3.43; L group: 3.62), while the score of the NSs dropped to 1.75. Overall, the English proficiency of the Korean learners did not affect this judgment.

The results demonstrate that Korean learners prefer the 'causative verb + *by*-phrase' option to the CMC when they conflate the caused-motion events. Moreover, such preference was prominent with intransitive manner verbs. To be specific, the 'causative verb + *by*-phrase' option consisted of six items: three intransitive manner verbs (*shout, cough, swim*) and three transitive manner verbs (*roll*, *slice, blow*), and the Korean learners gave higher acceptability rates for the *by*-phrase sentences with intransitive manner verbs, especially *shout* and *cough.*

At the same time, the participants' pragmatic knowledge may have been a factor in the process of acceptability judgment (Kudrnáčová, 2008; Slobin, 2004). Evidence supporting this claim is that all participants, including the NSs, partly showed low acceptability rates for CMCs with Type 3 verbs, compared to those of Type 1 and 2. In essence, intransitive manner verbs with indirect causation are sometimes difficult even for NSs to comprehend within CMCs, as the construction requires "direct causation" within "a single event" situation (Goldberg, 1995, p. 152). A short interview with one of the NSs supported this reasoning. The participant said that he would not use CMCs with Type 3 verbs before ensuring the movement of the object was caused by the action, such as *dance* or *sneeze,* which are unfamiliar and infrequent situations in real life. Similarly, the verb *swim* of the *by*-phrase sentences showed the lowest score even with the Korean learners. Even though

the *by*-phrase structure strongly implies caused-motions event for Korean learners, the verb *swim* – a motion that hardly causes someone or something to move – is difficult to be understood in such a situation.

Additionally, the results imply that the lexical meanings of the individual verbs notably affected the scores of the AJT. For example, the verb *get* of Type 1 showed the lowest score. The general meaning of the light verb[2] may have prevented the participants from accepting the construction. Of Type 2, *help* and *urge* showed relatively low scores. Although these two verbs bear transitivity (e.g., *I will help you do your homework, we urge you to save the environment*), the lack of direct causation (i.e., it is difficult to cause someone to move somewhere by the action of *helping*) may have caused interference in the participants' verb processing in the construction. Similarly, the verb *run* in Type 3 showed relatively high scores among other verbs. As the lexical meaning of the verb usually denotes motion with direction (i.e., it is difficult to imagine the motion of *running* without a certain direction), the directional meaning might have facilitated in the processing of the CMC.

In conclusion, the offline processing experiment revealed that the semantic property of the verbs influenced the Korean learners' processing of the CMCs. The Korean learners could not extend their constructional knowledge to the Type 3 verbs, and therefore did not accept them. Instead of using the CMCs with intransitive manner verbs, Korean learners preferred the 'causative verb + *by*-phrase' lexicalized pattern as an alternative option. Meanwhile, the metalinguistic data of the offline processing study revealed that world knowledge and lexical knowledge notably intervened in the processing of the CMCs, even for NSs. Nevertheless, the NSs showed higher acceptability rates for the Type 3 CMCs compared to the Korean learners, as their constructional knowledge could be extended to those verbs.

4.3. Offline Processing: Translation and Correction

As an extension of the offline processing study, both translation and correction tasks were given to the Korean learners and the NSs, respectively, in order to examine their preferred lexicalization patterns for each verb type.

First, the translated data was examined to determine whether the Korean participants accurately interpreted the English CMCs. Given that the constructions have a dual structure of result and process in their semantic property, the researcher employed the following criteria to examine each translation: (1) Does the translation include the meaning

[2] A light verb is a verb that has little semantic content of its own and forms a predicate with some additional expressions (e.g., *do, give, have, make,* and *take*).

of *result* from the construction? (2) Does the translation include the meaning of *process* from the manner verb? (3) Are the two semantic structures of *result* and *process* closely related with the causative meaning?

With regard to the above criteria, the researcher first calculated the percentage of correct translations. In the case of Type 1 verbs, however, the percentage was not calculated because nearly every participant showed perfect performance in translating the sentences.

Figure 2 shows that the Korean students experienced difficulty in translating the Type 2 CMCs with *help* and *urge*. In particular, only half of the L group was able to accurately translate the CMCs with *urge.*

FIGURE 2

Translation: Type 2 (Transitive Manner Type)

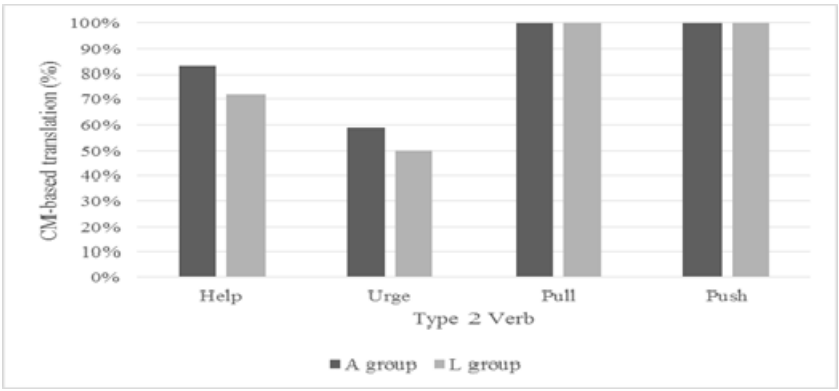


Figure 3 shows that the Korean learners struggled in interpreting the CMCs with Type 3 verbs as the correction rates fell compared to the previous figures. Even the A group showed low performance in translating the CMCs with *dance* and *run*, and the correction rates dropped under 30%. The L group showed more difficulty with the same type of items. Meanwhile, the Korean learners showed relatively higher score with the verb *shout* among the Type 3 verbs.

On the other hand, the Korean learners produced better results in translating the *by*-phrase patterns as is presented in Figure 4. The transitivity of the inserted verb did not seem to affect the translation as the learners generally received high scores for both transitive verbs and intransitive verbs. However, the Korean learners were unable to translate the sentence with the verb *swim* into the corresponding caused-motion event.

While Korean participants were asked to translate the AJT items, the NSs were directed to correct the items that they had judged totally unacceptable or unacceptable.

FIGURE 3

Translation: Type 3 (Intransitive Manner Type)

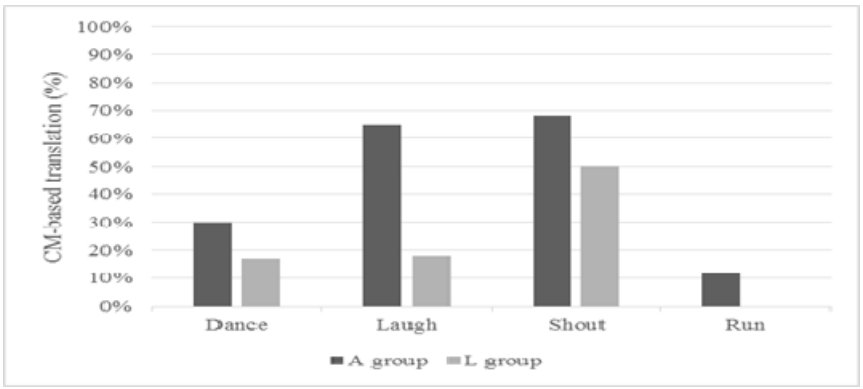
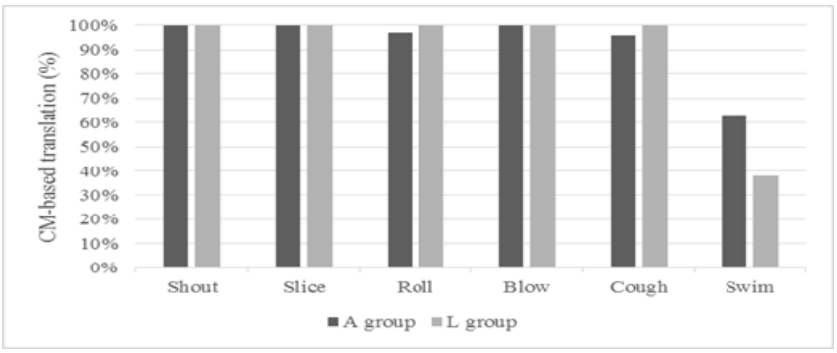


FIGURE 4

Translation: *by*-phrase Patterns



Above all, with the Type 3 items, the NSs generally mentioned that the preposition should be placed next to the verb and the transitive use of the intransitive verbs was odd. Sometimes, the participants also separated the clauses by adding *to*-infinitive or different arguments. Among the four verbs in Type 3, *dance* and *shout* were corrected by seven participants, while *run* and *laugh* were rarely modified. The following is the examples of their corrections (3-6).

(3) [dance: I danced Matilda into the room]
I danced into the room with Matilda.

(4) [shout: I shouted him into the house]
I shouted at him to get/come into the house.

(5) [run: I ran him off the street]

He saw me and ran away from me.

(6) [laugh: I laughed the guy out of the room]
Because of my laugh, the guy left the room.

Most notably, the corrections of the *by*-phrase sentences were nearly identical, and the NSs erased the causative verbs and replaced them with manner verbs. The primary reason for the rejection of the causative verbs was that "it is too ambiguous/ indirect/ awkward to use such an expression." The examples of the corrected sentences are listed below (7-12).

(7) [by shouting: I made him go out by shouting]
I shouted at him to leave the room.

(8) [by slicing: I put them on the plate by slicing them]
I sliced them and put them on the plate.

(9) [by rolling: I put it next to my room by rolling it]
I rolled it next to my room.

(10) [by blowing: I made the dust go out by blowing it]
I blew the dust off.

(11) [by coughing: I made the dust fall down by coughing]
I coughed and the dust blew to the floor.

(12) [by swimming: I made the boys get off the water by swimming]
I swam to rescue the boys.

As an extension of the second research question of the present study, a qualitative analysis was made of the translation task to explore Korean learners' metalinguistic knowledge of English CMCs. The analysis showed that the low-proficiency Korean learners were more likely to drop the result information and comprehend the preposition as a location rather than a goal.

With the Type 2 verbs, some of the Korean learners mistranslated the sentences with *help* and *urge*. For both of these verbs, the L group more frequently dropped the result information. Similarly in Type 3, the analyzed graphs showed that the mistranslation and dropping of the result information occurred more often in the L group than in the A group.

The learners' difficulty in processing result information is correlated to their difficulty in processing the preposition as a goal. As V-framed languages do not have the satellite structure to express the result state of an object (i.e., the changed location of the object, in the case of CMCs), the prepositional phrases merely deliver locational meaning and indicate the location of the object for V-framed language speakers (Beavers et al., 2010). Undoubtedly, the translated data shows that the Korean learners were likely to interpret the preposition as a location, especially with the Type 3 verbs (13).

(13) [dance: I danced Matilda into the room]
Mistranslation: *I danced with Matilda in the room.*
[laugh: I laughed him out of the room]
Mistranslation: *I laughed at him outside of the room.*

The translated data give insight as to why the Korean learners could not extend their constructional knowledge to the Type 3 verbs. In order to properly understand the caused-motion events, the learners needed to be able to interpret the process and result events properly. However, they had difficulty with satellites, and misunderstood them as locations, which led the learners to drop the result information. As this error was seen more frequently with the low-intermediate learners, it may be argued that the understanding of the preposition as a goal PP is achieved at a more advanced level of acquisition.

The translated data also revealed that Korean learners were influenced by their prior linguistic knowledge and L1 in their interpretations of the constructions. First, the translations of the CMC with the verb *run* show that some of the Korean learners used their idiomatic knowledge about the phrase *run into*. Despite the high scores in the AJT, some learners tended to mistranslate the sentences with the meaning of 'accidently meeting someone', from the idiomatic interpretation of *run into someone.* Given that this is a commonly learned verb particle construction in Korean secondary school, it is hypothesized that the Korean students may have memorized the idiomatic meaning of the expression and used their prior linguistic knowledge while completing the translation task.

Second, some Korean learners were influenced by their L1 and produced interlingual errors of connecting the process and the result: *I danced with Matilda and took her to the room; I drove him out of the street while I ran*. As is proposed in the previous study, the Korean connective marker, *-se,* shows a temporal relationship between V_1 and V_2 in Korean SVC (Ko & Sohn, 2015), and this allowed the learners to combine two events as a causal relationship.

As a further development of the research question, a correction task was administered to explore the NSs' metalinguistic knowledge of English CMCs. The analysis of the correction task indicates that the NSs prefer conflating manner verbs in CMCs, while at the same time have alternative lexicalization patterns for caused-motion events.

In the correction task, the NSs mainly focused on replacing the manner verbs of the *by*-phrase with the matrix verbs. They sometimes skipped the goal information and used the verb particle construction (e.g., *I blew the dust off* for *I blew the dust out of the window*). In addition, they often separated the process events and the result events into two clauses (e.g., *I coughed and blew the dust off onto the floor*). A critical finding is that they notably preferred to express the events with manner verbs, even if they did not employ the

expected construction. This finding is harmonious with the results of previous studies stating that S-framed language speakers prefer to use manner verbs to express events. (Beavers et al., 2010; Slobin, 2004).

5. CONCLUSION

The present study delved into the Korean EFL learners' processing of the English CMCs through online and offline experiments. The major findings of the study are summarized as follows.

First, the Korean learners showed the similar processing compared to the NSs when it comes to the path and transitive manner verbs. Without salient manner information in the caused-motion events, Korean native speakers could process motion events with a single path verb. Considering the typological difference, the Korean learners were not expected to easily process the CMCs with all manner verbs. However, the results indicated that the Korean learners generally showed high performance in processing the transitive manner verbs. Second, the Korean learners showed different processing compared to the NSs when it comes to the intransitive manner verbs. Different from the transitive manner verbs, these verbs did not imply the direct causation for the movement of the object. While the NSs compensate the lack of information from the verbs by processing the satellite as a goal PP, Korean learners could not process this type due to the insensitivity to the structure and the misunderstanding of it as a locational PP. Instead of resorting to the CMC, the Korean learners often used the 'causative verb + *by*-phrase' pattern to express the caused-motion events.

In sum, the major findings conclude that the Korean learners show the limited constructional knowledge on the CMC with the influence of the typological difference and the semantic property of the verbs. Their constructional knowledge covers the path and transitive manner verbs, but is not extended to intransitive manner verbs.

Although this study provides baseline data on how Korean EFL learners process English CMCs with different verb types, it is not without its research limitations. The issues related to sample size, task type, and the involvement of the instruction with the processing of the CMCs of the Korean EFL learners have not yet been fully addressed in the present study. Additional research is also needed to combine the instruction and check whether the instruction change the Korean EFL learners' processing of the CMCs. The research of comparing pre-test and post-test of the CMC instruction to the Korean EFL learners could be expected to provide insightful pedagogical results.

REFERENCES

Aske, J. (1989). Path predicates in English and Spanish: A closer look. In K. Hall, M. Meecham, & R. Shapiro (Eds.), *Proceedings of the Fifteenth Annual Meeting of the Berkeley Linguistics Society* (pp. 1-14). Berkeley, CA: Berkeley Linguistics Society.

Beavers, J., Levin, B., & Tham, S. W. (2010). The typology of motion expressions revisited. *Journal of Linguistics*, *46*(2), 331-377.

Choi, J-Y. (2015). *Communicative functions and argument structure constructions in Korean middle school students' English speaking interaction.* Unpublished master's thesis, Seoul National University, Seoul, Korea.

Choi, Y-H. (2010). *A study on motion-event expressions by Korean learners of English.* Unpublished master's thesis, Korean National University of Education, Chung-buk, Korea.

Comrie, B. (1976). *Aspect: An introduction to the study of verbal aspect and related problems* (Vol. 2). Cambridge: Cambridge University Press.

Dowty, D. R. (1979). *Word meaning and montague grammar: The semantics of verbs and times in generative semantics and in Montague's PTO*. Dordrecht: Reidel.

Folli, R., & Harley, H. (2006). On the licensing of causatives of directed motion: Waltzing Matilda all over. *Studia Linguistica*, *60*(2), 121-155.

Goldberg, A. E. (1995). *Constructions: A construction grammar approach to argument structure*. Chicago: University of Chicago Press.

Hoekstra, T. (1992). Aspect and theta theory. In I. M. Roca (Ed.), *Thematic structure: Its role in grammar* (pp. 145-174). Berlin, NY: Foris.

Hoekstra, T., & Mulder, R. (1990). Unergatives as copular verbs; locational and existential predication. *The Linguistic Review*, *7*(1), 1-80.

Hoshino, N., Dussias, P. E., & Kroll, J. F. (2010). Processing subject–verb agreement in a second language depends on proficiency. *Bilingualism: Language and Cognition*, *13*(2), 87-98.

Howell, D. C. (2002). *Statistical methods for psychology* (5th ed.) Belmont, CA: Duxbury.

Im, S-C. (2003). Fulfillment of events expressing realization in English and Korean. *The Journal of Linguistic Science*, *26,* 307-325.

Inagaki, S. (2001). Motion verbs with goal PPs in L2 acquisition of English and Japanese. *Studies in Second Language Acqusition 23*, 153-170.

Jackendoff, R. (1983). *Semantics and cognition*, Cambridge: MIT Press.

Jung, K-H. (2005). *An analysis of English learners' errors on based of typological patterns of motion event.* Unpublished master's thesis, Korean National University of Education, Chung-buk, Korea.

Kang, S-Y. (1993). Serial verb constructions in Korean and their implications. *Studies in Generative Grammar*, *3*(1), 79-109.

Kim, S-H. (2017). *Effects of input frequency distribution manipulation on Korean students' English argument structure construction learning and passage-level reading comprehension*. Unpublished master's thesis, Seoul National University, Seoul, Korea.

Kim, S-J. (2016). *L1 influence on L2 learning of English resultative constructions: The syntactic and semantic structure of Korean students' interlanguage.* Unpublished doctoral dissertation, Seoul National University, Seoul, Korea.

Kim, H-W., Choi, H-Y., & Yang, H-K. (2013). Developmental patterns of Korean EFL learners' English argument structure constructions. *Procedia-Social and Behavioral Sciences*, *97*, 397-404.

Ko, H., & Sohn, D. (2015). Decomposing complex serialization: The role of v. *Korean Linguistics*, *17*(1), 78-125.

Kudrnáčová, N. (2008). *Directed motion at the syntax-semantics interface*. Brno: Masaryk University.

Lee, J-E. (2007). *Study on Korean learners' acquisition of English motion verbs.* Unpublished master's thesis, Kyungpook National University, Kyung-pook, Korea.

Lee, S-H. (1992). *The syntax and semantics of serial verb constructions.* Unpublished doctoral dissertation, University of Washington, Seattle, WA.

Lee, Y-J. (2003). Two kinds of structural relationships in SVCs. In G. K. Iverson & S-C. Ahn (Eds.), *Explorations in Korean language and linguistics* (pp. 443-458). Seoul: Hankookmunhwasa.

Lee, J-H., & Kim, H-M. (2011). The L2 developmental sequence of English constructions and underlying factors. *Korea Journal of English Language and Linguistics*, *11*(3), 577-600.

Levin, B. (1993). *English verb classes and alternations: A preliminary investigation*. Chicago: University of Chicago Press.

Levin, B., & Hovav, M. R. (1992). The perspective from unaccusativity. *Thematic structure: Its role in grammar*, *16*, 247-270.

Levin, B., & Rappaport Hovav, M. (2016). Lexicalization patterns. In R. Truswell (Ed.), *Oxford handbook of event structure* (pp. 395-425). Oxford: Oxford University Press.

Li, Y. (1993). Structural head and aspectuality. *Language*, *69*, 480-504.

Lim, J. R. (2000). Aspects of the lexicalization of motion events in Korean. *Studies in Modern Grammar*, *20*(1), 23-45.

Nam, S-H. (2003). Lexical semantic structures and argument alternations of movement verbs in Korean. *Language Research, 39*(1), 111-145.

Pustejovsky, J. (1991). The generative lexicon. *Computational Linguistics*, *17*(4), 409-441.

Radden, G. 1996. Motion metaphorized: The case of coming and going. In E. H. Casad (Ed.), *Cognitive linguistics in redwoods: The expansion of a new paradigm in linguistics* (pp. 423-458). Berlin, NY: Mouton de Gruyter.

Rah, Y-O. (2014). *Effects of construction-grammar-based instruction on the sentence production ability of Korean college learners of English*. Unpublished doctoral dissertation, Seoul National University, Seoul, Korea.

Shin, G. H. (2017). Developmental aspects of English argument structure constructions for Korean-speaking second language learners: Usage-based constructional approaches to language development. *Ampersand*, *4*, 10-20.

Slobin, D. I. (1996). Two ways to travel: verbs of motion in English and Spanish. In M. Shibatani & S. A. Thompson (Eds.), *Grammatical constructions: Their form and meanings* (pp. 157-219). Oxford: Oxford University Press.

Slobin, D. I. (2004). The many ways to search for a frog: Linguistic typology and the expression of motion events. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (pp. 219-257). Mahwah, NJ: Lawrence Erlbaum.

Sohn, H-M. (1976). Semantics of compound verbs in Korean. *Linguistic Journal of Korea, 1*(1), 142-150.

Talmy, L. (1975). Semantics and syntax of motion. In J. P. Kimball (Ed.). *Syntax and semantics* (pp. 181-238). New York: Academic Press.

Talmy, L. (1985). Lexicalization patterns: semantic structure in lexical forms. In Shopen, T. (Ed.). *Language typology and syntactic description* (pp. 57-149). Cambridge: Cambridge University Press.

Talmy, L. (1991). Path to realization: A typology of event conflation. *Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistics Society* (pp. 480-519). Berkeley, CA: Berkeley Linguistics Society.

Talmy, L. (2000a). *Toward a cognitive semantics* (vol. 1): *Concept structuring systems.* Cambridge, MA: MIT Press.

Talmy, L. (2000b). *Toward a cognitive semantics* (vol. 2): *Typology and process in concept structure.* Cambridge, MA: MIT Press.

Vendler, Z. (1957). Verbs and times. *The Philosophical Review*, *66*(2), 143-160.

Washio, R. (1997). Resultatives, compositionality, and language variation. *Journal of East Asian Linguistics, 6*(1)*,* 1-49.

Wen, Z., Miyao, M., Takeda, A., Chu, W., & Schwartz, B. D. (2010). Proficiency effects and distance effects in nonnative processing of english number agreement. In K. Franich, K. M. Iserman, & L. L. Keil (Eds.), *Proceedings of the Boston University Conference on Language Development* (pp. 445-456). Somerville, MA: Cascadilla.

Zlatev, J., & Yangklang, P. (2004). A third way to travel: The place of Thai in motion event typology. In S. Strömqvist, & L. Verhoeven (Eds.), *Relating events in narrative* (vol. 2): *Typological and contextual perspectives* (pp. 159-190). Mahwaw, NJ: Lawrence Erlbaum.

APPENDIX

C-test (Wen et al., 2010)

Text 1

We all live with other people's expectations of us. These are a refle_____ of th_____ trying to under_____ us; th_____ are predic_____ of wh_____ they th_____ we will think, d_____ and feel. Gene_____ we acc_____ the sta_____ quo, but these expec_____ can be ha_____ to han_____ when they co_____ from our fami_____ and can be diff_____ to ign_____ , especially wh_____ they come from our par_____ .

Text 2

The decision to remove soft drinks from elementary and junior high school vending machines is a step in the right direction to helping children make better choices when it comes to what they eat and drink. Childhood obe_____ has bec_____ a ser_____ problem in th_____ country a_____ children cons_____more sugar-based fo_____ and sp_____ less ti_____ getting the nece_____ exercise. Many par_____ have quest_____ schools' deci_____ to al_____ vending machines which disp_____ candy and so_____ drinks. Many schools, tho_____ , have co_____ to re_____ on the mo_____ these machines generate through agreements with the companies which makes soft drinks and junk food.

Applicable levels: Secondary, tertiary

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Received on January 20, 2019
Reviewed on Feburary 19, 2019
Revised version received on Feburary 25, 2019