L2 Acquisition of English Unaccusative Verbs: A Longitudinal Study

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This paper presents aspects of eight advanced Korean EFL speakers' acquisition of English unaccusative verbs over a period of five years. It examines how three factors—L1 morphology, pragmatic causation, and animacy—have affected their English unaccusative verb grammar during that time. A forced-elicitation grammaticality judgment task was performed three times over this period. It showed that L1 morphology was the most persistent among these factors. The results are compared with Chung (2014), a cross-sectional study, where the same method was used. The findings reveal that the Korean EFL subjects' overpassivization of English unaccusatives is not fossilized, which differs from the findings of Han (2006), who examined two Chinese native learners of English. It also indicates that instruction can play an important role in long-term L2 learning.

**Key words:** English unaccusative verbs, overpassivization, L1 morphology, external causation, animacy, fossilization, instruction

1. INTRODUCTION

Intransitive verbs are classified into two types: unaccusative and unergative (Perlmutter, 1978). The thematic role of the single argument of an unaccusative verb is a patient which undergoes an event (e.g., *The ship sank*), whereas the role of the single argument of an unergative verb is as an agent or initiator of an event (e.g., *The girl jumped*). The unaccusative verb construction involves interactions of several modules such as verb semantics, syntax and pragmatics; as Levin and Rappaport Hovav (1995) put it,

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“Unaccusativity is semantically determined but syntactically represented” (p. 30).

Unaccusative verbs are known to be a great challenge for L2 learners; it is reported that even advanced L2 learners frequently make errors using them (Balcom, 1997; Ju, 2000; Montrul, 1999, 2005; Oshita, 1997, 2000, 2001; Yip, 1994; Zobl, 1989). Some research has reported that errors with unaccusative verbs are fossilized in the L2 learner grammar of advanced speakers (Han, 2006), or that learners’ knowledge of unaccusatives is incomplete even in near-native L2 speakers’ grammar (Sorace, 1993). One well-known phenomenon with English unaccusative verbs is overpassivization by L2 learners, which is not grammatical in the target language, as shown below:

(1) a. Why is this happened? (Balcom, 1997, p. 1)
   b. My mother was died when I was just a baby. (Zobl, 1989, p. 204)
   c. The mirror was shattered during the earthquake. (Yip, 1994, p. 129)

The verbs happen, die and shatter in (1) are unaccusative verbs. It is reported that overpassivization of unaccusative verbs takes place regardless of learners’ L1 backgrounds (Balcom, 1997; Ju, 2000; Montrul, 2005; Oshita, 1997, 2000, 2001; Yip, 1994; Zobl, 1989).

Several studies have suggested factors causing overpassivization such as L1 morphology (Hirakawa, 1995; Kondo, 2005; Montrul, 1999), pragmatic causation (Ju, 2000), overgeneralization of the passive rules (Oshita, 2000), and an interplay of multiple factors (Chung, 2014; No & Chung, 2006; Toth, 2000).

If overpassivization of unaccusative verbs is a general phenomenon for various L1 learners of L2 English, interesting questions to ask will be how persistent it is over time, how the L2 grammar of English unaccusative verbs develops or changes, and which factor, if there are several factors, grows stronger or weaker over time. To address these questions, a longitudinal study is required. Though there are a considerable number of studies on L2 acquisition of unaccusatives, there is only one longitudinal study, Han (2006), to the researcher’s knowledge. In the six-year longitudinal study, Han claims that the “passive unaccusatives” used by two Chinese L1 speakers of L2 English are fossilized. The two native Chinese speakers, who had lived for five years in an English-speaking country, made almost the same errors in the study’s two tasks in 1997 and 2003. The “passive unaccusatives” were produced although the subjects were highly motivated to improve their English and resided for a long period (11 years by the time of the last task) in the target language community. Han’s study, however, has limitations; it contains some methodological problems and did not consider several factors contributing to overpassivization.

The present study investigates the acquisition of Korean speakers’ L2 grammar of English unaccusative verbs. It presents and analyzes the results of eight advanced Korean
adult EFL speakers of English unaccusatives, which were collected at three times over a period of five years. We will see how persistent overpassivization of unaccusative verbs is and how strong the factors causing overpassivization change over time are. The factors examined are L1 morphology (verb types: alternating versus non-alternating verbs), pragmatic external causation (externally caused events versus non-externally-caused events), and animacy of the surface subject (animate versus non-animate subjects).

This study differs from Han (2006) in several respects. First, Han’s subjects were ESL learners, but those of the present study are EFL learners. Second, the task used in the present study considers multiple factors affecting overpassivation of unaccusatives, whereas Han examined only verbs or verb types. Third, the number \((N = 8)\) of the subjects of the present study is larger than those \((N = 2)\) of Han (2006). Thus, this study will present a more detailed picture of the processes of interlanguage development.

2. L2 ACQUISITION OF UNACCUSATIVES

2.1. Unaccusative Verbs and Overpassivization

Unaccusative verbs are further divided into alternating (paired) and non-alternating (unpaired) verbs (Levin & Rappaport Hovav, 1995; Yip, 1994). Alternating unaccusative verbs have corresponding transitive verbs, while non-alternating verbs do not. The following are examples of each type: non-alternating unaccusatives in (2) and alternating unaccusatives in (3).

(2) a. Billy’s dog died.
    b. Judy’s cat disappeared.
(3) a. A gun dropped. (cf. The man dropped a gun.)
    b. The original plan changed. (cf. We changed the original plan.)

Note that English does not require any overt markers for the verb alternation in (3); the verbs, *drop* and *change*, have identical unaccusative and transitive forms. The argument structure of a typical transitive verb is represented in (4) and those of unaccusative and unergative verbs in (5):

(4) transitive verb: \(x <y>\)
(5) a. unaccusative verb: \(<y>\)
    b. unergative verb: \(x < >\)
In the argument structure above, x is an external argument, appearing outside the brackets, and y is an internal argument. The external argument is linked to subject and the internal argument to object in the syntax. An unaccusative verb has a single internal argument, and an unergative verb has a single external argument. The internal argument y is linked to object, and the external argument x to subject. This linking follows universal linking rules or projection principles known as Universal Thematic Alignment (UTA, Rosen, 1984) and Universal Thematic Alignment Hypothesis (UTAH, Baker, 1988), which are simplified below for convenience:\footnote{Baker’s (1988) UTAH is as follows: “Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.” (p. 46)}

(6) Linking Rules (between argument structure and syntax)

a. An internal argument is linked to object.
b. An external argument is linked to subject.

The linking rules apply to the underlying structure (or D-Structure). The argument structures of the two types of intransitive verbs in (5) differ, but their surface structures appear the same since the single argument of an unaccusative verb moves to subject. The following example shows the derivation of an unaccusative verb construction:

(7) The ship sank/disappeared ___.

The internal argument of the verb *sank* or *disappeared* moves from object to subject. The derivation of the unaccusative verb construction in (7) is similar to that of the passive in (8):

(8) The book was written ___.

In (8) the internal argument *the book* of the passive verb *written* moves to subject. Since many L2 learners know the universal linking rules and the passive rule, they tend to overgeneralize the passive rule onto the unaccusative verb construction, which is similar in meaning to the passive, resulting in the so-called passive unaccusatives (e.g., *The ship was disappeared*). Several studies take this rule-overgeneralization approach to overpassivization of unaccusatives (Balcom, 1997; Oshita, 1997).
2.2. Factors Causing Overpassivization

If the universal linking rules and the passive rule are at work in L2 learners’ minds, it is predicted that all unaccusative verbs will be equally overpassivized in L2 learner data. Studies, however, report that learners make more errors with some verbs and fewer with others. One difference is that L2 learners make more errors with alternating verbs than with non-alternating ones. Researchers have suggested several factors causing these differences, including L1 morphology (Hirakawa, 1995; Montrul, 1999), a contextual causal factor (Ju, 2000) and animacy of the subject (No & Chung, 2006; Pac, Schanding, Kwon, & Lee, 2014).

Hirakawa (1995) and Montrul (1999) suggested that L1 morphology affects overpassivization; when the L1 of L2 learners has overt morphology for unaccusativity or verb alternation, they are more likely to overpassivize alternating verbs than non-alternating ones. For example, Korean has overt morphological markers for causativization or anticausativization, as shown in (9) and (10). The Korean verbs *mal-ja* ‘dry’ in (9) and *bakku-ja* ‘change’ in (10) alternate between transitive and intransitive, and overt morphemes are required for the alternation (causativization or passivization). With this L1 morphology, Korean learners of L2 English are likely to use overt markers in English unaccusatives. Several studies (Chung, 2014; Hirakawa, 1995; Kondo, 2005; Montrul, 1999) have shown that this L1 morphological factor affects the L2 acquisition of unaccusatives, causing overpassivization.

(9) a. Meri-ga mal(u)-sa-ss-ja
    hair-NOM dry-PAST-DEC\(^2\)
    ‘The hair dried.’

b. Jina-ga meri-lul mal-li-ess-ja
    Jina-NOM hair-ACC dry-CAUS-PAST-DEC
    ‘Jina dried the hair.’

(10) a. Jina-ga kyebyoq-ul bakku-ess-ja
    Jina-NOM plan-ACC change-PAST-DEC
    ‘Jina changed the plan.’

b. kyebyoq-i bakku-i-ess-ja
    plan-NOM change-PASS-PAST-DEC
    ‘The plan was changed/The plan changed.’

\(^2\) NOM: nominative case marker; ACC: accusative case marker; PAST: past tense marker; DEC: declarative marker; CAUS: causative marker; PASS: passive marker
Two more factors, a pragmatic factor and animacy, have been suggested for causing overpassivization. Ju (2000) suggested that pragmatic external causation played a role in overpassivization. Ju observed this role in the context of causation, as shown below, where the target sentence is *It broke gradually*:

(11) a. Heavy trucks put more and more pressure on the bridge. *It broke gradually.*
    b. The wooden bridge was very old. *It broke gradually.* (Ju, 2000, p. 96)

Sentence (11a) has external causation for the bridge’s breaking while (11b) does not, and Ju predicted and showed that Chinese learners of L2 English chose passive unaccusatives (*e.g.*, *It was broken gradually*) more with (11a) than with (11b). Ju claimed that a conceptual agent, a pragmatic causer, played a role in L2 grammar. Similar results were found in Chung (2014) with Korean and Chinese learners of L2 English at various levels of proficiency.

Another factor for overpassivization is animacy. It is predicted that L2 learners are likely to overpassivize more with non-animate subjects than with animates, since a non-animate entity is one of the typical properties of object which is used as subject in passives. This prediction was born out in Chung (2014). Chung (2014) examined several factors, including the three above, which cause overpassivization of unaccusative verbs: L1 morphology, external causation, animacy, and proficiency; the study investigated which factor is stronger than the others at which level of proficiency and with which L1 group. Two L1 groups of subjects, Chinese (*N* = 99) and Korean (*N* = 117), participated in the experiments. Chinese does not require overt markers for verb alternation or unaccusativity, while Korean does, and thus one prediction was that the Korean learners would make more errors than the Chinese learners. This prediction was born out in the results; the alternating verbs were overpassivized more often by the Korean speakers than the non-alternating ones. L1 morphology was the strongest factor for the Korean speakers among these three—external causation, animacy and L1 morphology—but L1 morphology was the weakest for the Chinese speakers among the three. Chung also found that external causation played a significant role, further attesting Ju’s (2000) findings. Both groups of Korean and Chinese speakers were affected by this pragmatic factor; they overpassivized externally caused unaccusatives more than internally caused ones. This factor was the second strongest for the Koreans and the strongest for the Chinese. The last factor, animacy, played a role, but it was the weakest for the Koreans and the second strongest for the Chinese. It was overcome earlier than the other two factors.

Chung (2014) also examined the effect of proficiency in overpassivization. L1 morphology, an effect found for alternating and non-alternating unaccusatives, played a significant role for the Korean group at all levels of proficiency. L1 morphology, however,
did not show any significant effect for the Chinese group at any level of proficiency. External causation was also strong at the elementary (the lowest level) and lower-intermediate levels, but not at the higher levels (upper-intermediate and advanced). Animacy was strong for both groups at the elementary level, but grew weaker as their proficiency increased. These findings for proficiency are important because some factors show a significant difference at some levels of proficiency, but not at others.

2.3. Fossilization of Overpassivized Unaccusative Verbs

It is known that many L2 learners fail to achieve native speaker competence and that they often make the same errors over time. Persistent errors by the same learner are known to often be stabilized or fossilized (Long, 2003; Selinker, 1972). Han (2006) claimed that overpassivization of L2 English unaccusative verbs by Chinese L1 speakers was persistent and fossilized.

Han (2006) examined two L1 Chinese subjects’ acquisition of L2 English unaccusative verbs over a period of six years. At the time of the initial data collection, the subjects were very advanced users of English who were highly motivated to improve their English. They had for five years lived in the United States where they first studied for their doctorate and then worked as postdoctoral fellows. Han collected two types of data from the two subjects (named Geng and Fong): the results of a grammaticality judgment test and naturalistic data; the first data set was collected in 1997 and the second in 2003. The grammaticality judgment test included 27 unaccusative verbs—19 alternating and 7 non-alternating—and 8 distractors.3 Tables 1 and 2 show the results of the tests (Han, 2006, p. 65).

The overpassivized unaccusatives by Geng in Table 1 increased from 9 in 1997 to 15 in 2003, while those by Fong in Table 2 decreased from 13 to 8. The total numbers of overpassivized unaccusatives by the two subjects are rather high compared to their level of proficiency. Han examined whether the subjects made overpassivization errors with the same verbs in 1997 and 2003. The nine overpassivized unaccusative verbs in 1997 by Geng were also overpassivized in 2003, with the exception of one verb. Eight of the 13 verbs overpassivized in 1997 by Fong remained unchanged in 2003. Han concluded that the two subjects’ grammar of L2 English unaccusatives showed stability and thus fossilization.

3 Only the results of the grammaticality judgment test are examined. Since the naturalistic data do not contain overlapping verbs at the two time points, it is difficult to say whether they show some stability or fossilization of L2 grammar.
TABLE 1
Results of Grammaticality Judgment (Geng)$^4$

<table>
<thead>
<tr>
<th></th>
<th>Alternating Unaccusatives</th>
<th>Non-Altering Unaccusatives</th>
<th>Other</th>
<th>Non-Passivized Form</th>
<th>Total Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>26</td>
<td>35</td>
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<tr>
<td>2003</td>
<td>14</td>
<td>1</td>
<td>2</td>
<td>18</td>
<td>35</td>
</tr>
</tbody>
</table>

TABLE 2
Results of Grammaticality Judgment (Fong)

<table>
<thead>
<tr>
<th></th>
<th>Alternating Unaccusatives</th>
<th>Non-Altering Unaccusatives</th>
<th>Other</th>
<th>Non-Passivized Form</th>
<th>Total Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>22</td>
<td>35</td>
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<tr>
<td>2003</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>26</td>
<td>35</td>
</tr>
</tbody>
</table>

Though Han’s (2006) research makes a unique contribution to the longitudinal research of L2 unaccusatives, it has some problems and limitations. The first problem is that her test contains items that are not unaccusatives.$^5$ The examples below are from Han’s test (p. 81-82).

(12) a. This bread cuts easily when it isn’t frozen solid.
    b. This meat was cut easily when Jane used a sharp knife.

(13) a. This tent sets up easily when you follow the instructions.
    b. This stereo system is set up easily once you have read the instructions.

Sentences (12a) and (13a) are not unaccusatives but middles. Middles are similar to unaccusatives, in that their subject is not an agent but appears to be a patient. But the two constructions are different; unaccusatives describe events, while middles describe states. The sentences describe properties (states) of the surface subject, not the events of ‘cutting easily’ and ‘setting up easily.’ Middles require some modifications such as adverbs, but unaccusatives do not. (12a) and (13a) contain the adverb easily. If this adverb is removed, the sentences become ungrammatical or sound awkward (See Chung, 1996; Fagan, 1988; Hale & Keyser, 1987; Keyser & Roeper, 1984).$^6$

The second problem with Han (2006) is that her test was not appropriately controlled for

$^4$ Han (2006) used the term “Unacc. (i-T)” for alternating unaccusatives.
$^5$ Han (2006) used the test employed by Balcom (1997).
$^6$ The sentences in (12a) and (13a) are in the present tense, but all the other test items in Han (2006) are in the past tense except for some of the distractors. Middles prefer to take the present tense, though not always.
important factors such as verb types (alternating vs. non-alternating) and external causation (externally vs. internally caused events). The verb types used by Han were not balanced; 19 verbs were alternating but only 7 were non-alternating. Furthermore, some verbs sometimes appeared in an externally caused event and sometimes in a non-externally caused event. The examples in (14) describe externally-caused events, and those in (15) non-externally-caused ones (Han, 2006, pp. 81-82):

(14) a. The bottle was broken when Bill threw it on the road.
   b. The glass broke when the child dropped it on the floor.
(15) a. The door closed quietly because the hinges were well-oiled.
   b. This story took place before the couple got married.

It has been shown in previous studies (Chung, 2014; Ju, 2000) that unaccusative verbs in externally caused events are more likely to be overpassivized than those in non-externally caused events.\(^7\) Thus, the example in (14b), an externally caused event, is more likely to be overpassivized by L2 learners than (15a), a non-externally caused event.

2.4. Instruction and L2 English Unaccusatives

Some studies have shown effects of instruction on L2 Spanish unaccusatives (Toth, 2000) and on L2 English unaccusatives (Hwang, 2001; Kim, 2004; Lee, 2008; Yip, 1994). Toth (2000) showed that the subjects greatly improved their knowledge of Spanish unaccusatives from the pretest to the posttest immediately after a seven-day class treatment where explicit form- and meaning-focused instruction was given the subjects. Long-term learning, which was assessed 24 days after the immediate posttest, was also evident, though scores for it were lower than those of the immediate posttest.

Yip (1994) suggested that consciousness-raising is a viable approach to teaching English unaccusatives (Yip uses the term, ‘ergatives’) and showed its effectiveness in a pilot study performed in the United States in which 10 advanced ESL college students participated. The posttest was performed two weeks after the two 45-minute consciousness-raising sessions in which special attention was given to the properties of unaccusatives and the differences between unaccusatives and passives. Hwang (2001) and Kim (2004) also showed the effects of instruction on L2 English unaccusatives, for Korean college students learning English. Hwang (2001) tested subjects’ (N=15) knowledge two

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\(^7\) Ju (2000) used the terms ‘externally caused’ and ‘internally caused,’ but Chung (2014) used ‘externally caused’ and ‘not externally caused.’ Ju’s terms may leave out cases which do not belong to neither externally nor internally caused events.
days after the treatment, consisting of five 75-minute classes, with implicit form-focus instruction for the treatment. Hwang found significant differences between the experimental group and the control group. Kim (2004) gave explicit and implicit form-focus treatments to two different groups (N=20, each group) and showed that the explicit was more effective than the implicit. Lee (2008) examined Korean high school students’ (N=154) acquisition of English unaccusatives and aimed to see the effects of input enhancement and input frequency distribution. Lee showed that input salience and input frequency distribution both showed significant immediate effects, but they did not show significant delayed effects in the final posttest three weeks after the immediate posttest, although the p-values almost approached significance.

Norris and Ortega (2000), who meta-analyzed many studies (N=77) on the effects of instruction, suggested that the focus on form method is more effective than focus on forms, and that explicit instruction is more effective than implicit instruction; the most effective one was focus on form with explicit instruction. They also suggested that the effects of L2 instruction seem to persist, but this suggestion should not be taken as definitive, since a small number of studies have included delayed post-tests and examined their subjects over short periods such as several hours, or, one or two weeks. There have been no studies on long-term learning of unaccusatives which tested subjects for several months or a year after treatments.

2.5. Research Questions

The present study asks the following research questions (RQs):

RQ1: Which factor among L1 morphology, external causation or animacy is more persistent and stronger over time?

RQ2: Does instruction play a role in L2 learning in long-term learning of unaccusative verbs?

RQ3: Is Korean adult EFL users’ overpassivization of L2 English unaccusatives fossilized?

RQ1 pertains to the relative strengths of the factors causing overpassivization: L1 morphology, pragmatic causation and animacy, which were examined in Chung (2014). The present study investigates how the strengths of these factors change over time. RQ2 concerns the long-term effects of instruction on L2 English unaccusatives. The present study examines subjects’ knowledge for longer periods of 9, 18 or 33 months after form-and meaning-focused instruction on the construction.

RQ3 addresses whether overpassivization of English unaccusatives by advanced Korean
EFL speakers is fossilized. Its results will be compared with those from the Chinese ESL speakers in Han (2006). It is predicted that Korean EFL speakers will exhibit more overpassivation errors than the Chinese ESL speakers, since the Koreans have fewer opportunities to be exposed to the target language than the Chinese.

3. THE STUDY

3.1. Method

The tasks were performed three times over a five-year period (61 months): the first one in September 2009, the second in December 2012, and the third in September 2014. There was a 39-month interval between the first and the second tasks, and 24 months between the second and the third.

The participants of the present study were eight Korean L1 native speakers, all college EFL students majoring in English language education at a university in Seoul, Korea, at the time of the first task in 2009. Six were sophomores and two were freshmen; Table 3 shows the students’ information. All subjects were aged 19 to 21, and had learned English in a classroom setting for 11 or 12 years since grade 3.

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Description of the Subjects (2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>College year</td>
<td>S1</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>Years of English learning</td>
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<tr>
<td>QPT level</td>
<td>4</td>
</tr>
<tr>
<td>TOEFL scores</td>
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</tr>
</tbody>
</table>

The subjects all took the QPT (Quick Placement Test, Oxford University Press, 2001) in 2009 at the time of the first task, and all the subjects except one scored at Level 4 or 5, which corresponds to the advanced and very advanced levels of the Association of Language Testers in Europe (ALTE). One subject (S5) tested at Level 3 (ALTE upper intermediate). Two subjects, S2 and S8, at level 5 had iBT TOEFL scores of 99 and 97.

The researcher of the present study taught in the department in which the subjects were majoring in English language education, and had a very close relationship with them for years. The department puts a strong focus on English skills; ninety percent or more of the

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8 The eight Korean subjects who participated in the present study were participants of Chung (2014), where the total number of participants was 216.
classes were taught in English. Four English-native speakers taught speaking, listening, reading and writing, and culture classes in English, and most of the courses (English teaching/learning theories, applied English linguistics, education-oriented British and American literature) were also taught in English. Most of the students aimed to be English teachers at secondary schools after graduation and had a strong motivation to learn English.

Table 4 provides descriptions of the subjects in 2012 and 2014 after the first task. The subjects all took standardized English tests such as TOEFL or TOEIC, which were required for graduation by their department; the scores were reported to the researcher in 2012. The table shows that their proficiency improved during the period and that six out of the eight subjects resided in the United States or Canada as exchange students for six months or a year; the other two lived in Korea only. In December 2012, four subjects (S1, S2, S4, and S7) were teaching English as teachers at secondary schools after graduating, three subjects (S3, S5, S6) were seniors, and one subject (S8) was attending graduate school in Korea, majoring in an area unrelated to English. In 2014, subjects other than S5 and S8 were employed as English teachers; S5 was studying for the public teachers test after graduation. Subject S8 was studying and working as a graduate student in an area unrelated to English, being exposed to English rarely.9

<table>
<thead>
<tr>
<th>Subjects</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>S6</th>
<th>S7</th>
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<td>Tf 92</td>
<td>Tf 102</td>
<td>Tc 935</td>
<td>Tc 955</td>
<td>Tc 960</td>
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<tr>
<td>Years in L2</td>
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<td>1</td>
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<tr>
<td>Environment (2012)</td>
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<td>Status (2012)</td>
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<td>S</td>
<td>T</td>
<td>S</td>
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<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>G</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Tc=TOEIC; Tf=TOEFL; T=teacher; S=senior; G=graduate student

Since the subjects were studying in the department, English education, where the researcher worked, some of them took a course, Pedagogical English Grammar, which was taught by the researcher. In the course, the instructor (i.e., the researcher) gave the class explicit instruction on English unaccusatives at the end of the passive section, placing emphasis on differences in form and meaning between unaccusatives and passives. In particular, the instructor pointed out Korean EFL learners' overpassivization problems with unaccusative verbs, using ungrammatical or inappropriate examples such as *The accident was occurred* or *The door was opened* (for which the unaccusative form *The door opened* is appropriate.). The instruction was provided for about 15 minutes; it should be noted that

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9 There were other subjects who participated in the first or second tasks but were excluded in the final analysis since they did not participate in the third task in 2014.
the instructions were given as a regular part of the syllabus of the class and not for the purpose of the present research. The course was offered every spring semester by the same instructor. Five of the subjects took the course and three (S4, S7 and S8) did not.

The task materials of the first and second tests were the same as those of Chung (2014), a forced-elicitation choice grammaticality judgment test. The third test contained different fillers from those in the first and second. The subjects were asked to choose the correct form of the two, passive or active (unaccusative) verb forms. The test contained 12 unaccusative verbs: six alternating and six non-alternating, as in (16). The number of asterisks next to a verb indicates its frequency level in the Collins COBUILD English Dictionary for Advanced Learners (2001); five asterisks indicates the highest level of frequency, and no asterisks the lowest level:

(16) a. alternating verbs
   change****, drop****, dry****, roll****, sink***, bounce**
   b. non-alternating verbs
   appear******, die******, arrive****, emerge****, disappear***, vanish**

Note also that the Korean verbs corresponding to the alternating verbs in (16a) require some overt morphemes to be used as unaccusatives (or passives), as shown earlier in (9) and (10), while the non-alternating verbs in (16b) do not.

Each verb was presented in four different conditions in terms of external causation (+EC) and subject animacy (+SA); therefore, each verb appears four times in four different conditions: [+EC, +SA], [+EC, -SA], [-EC, +SA], [-EC, -SA]. The following are four test items where the verb appear appears in different conditions:

(17) a. The boy lifted the dog out of the blanket.
    The dog (appeared / was appeared) slowly.
 b. The boy pulled the toy car out of the sand.
    The car (appeared / was appeared) slowly.
 c. It was a very foggy morning. (foggy 안개 길)
    Some people (appeared / were appeared) slowly in the distance.
 d. It was a very foggy morning. (foggy 안개 길)
    Some houses (appeared / were appeared) slowly as we drove along.

---

10 Refer to Chung (2014) for more detailed information about the materials.
11 A grammaticality judgment test was used as a test for longitudinal research by Han (2006) and Lardiere (2006).
Example (17a) contains an animate subject, the dog, and the event, ‘the dog appearing slowly,’ is externally caused; thus the item condition is [+EC, +SA]. Since the verb appear is non-alternating ([−VA]), the complete condition of the item is [−VA, +EC, +SA]. Example (17d) is a case of [−VA, −EC, −SA] where the verb is non-alternating, the subject is inanimate and the event is not externally caused. The first sentence of each item provides a context, and the second is the target sentence where participants need to choose either form, appeared or was appeared; the target form is an unaccusative (or active) form. The test included 12 fillers in addition to 48 target items (12 verbs in four different conditions). The fillers were used as a passive test where the target is a passive form, as shown below:

(18) a. The mechanic fixed the car.
   It (drove/was driven) away immediately. (mechanic 지었고, the I)
   Jenny was going to get married in one month.
   Jenny (excited/was excited) too much, I guess.

Fillers like (18a) were used in the tasks in 2009 and 2012, mixed in with target items. In the first task, the fillers were also used to test the subjects’ knowledge of English passives. Subjects who made five or more errors out of the 20 questions were excluded from the final analysis; it is necessary for them to have acquired the form and meaning of the passive. The eight subjects of the present study were all included in the final analysis; only one or two subjects made one error on the 2009 and 2012 tasks. Fillers containing a psychological verb, like (18b), were used in the third task. EFL learners are known to have difficulties with the psychological verbs and often make errors like *I am exciting or *I excited (Chen, 1997; Kim, 2012; White et al., 1999). It was intended that the third task in 2014 appear different from the previous ones. The target forms in the fillers were always passive forms (e.g., I am excited or Jenny was bored). Note also that some translated expressions in Korean were provided when they were not verbs, as shown in the examples above. The unaccusative test was also taken in 2009 by a control group, nine native speakers of English, and they all agreed with the target choices.

The first task was performed in a class room, and the second and third tasks were conducted informally in an office where the subjects were allowed to ask questions about the test, but not about the meanings of the target verbs. The time spent for the test by the subjects was approximately 20 minutes or less.
3.2. Results

3.2.1. Results by factors

The results of the present study, reflecting only eight subjects, may not represent a general picture of Korean speakers of L2 English. However, the results of the study, a longitudinal study, exhibit interesting aspects of the L2 grammar acquisition compared with a cross-sectional study, Chung (2014), regarding (i) whether the general picture shown in a cross-sectional study remains unchanged, and (ii) which factor becomes stronger or weaker over time.

Table 5 shows the subjects’ errors for overpassivization by factor and time. The factors are external causation (EC), verb alternation (VA) and subject animacy (SA). In 2009, the 8 subjects made 39 errors (the number of total items was 384 [-48*8]: 26 errors with alternating verbs and 13 with non-alternating ones; 25 errors with externally-caused events and 14 with non-externally-caused events; and 15 errors with animate subjects and 24 errors with non-animate subjects.

<table>
<thead>
<tr>
<th>Year</th>
<th>VA (+)</th>
<th>VA (-)</th>
<th>EC (+)</th>
<th>EC (-)</th>
<th>SA (+)</th>
<th>SA (-)</th>
<th>Yearly Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>26</td>
<td>13</td>
<td>25</td>
<td>14</td>
<td>15</td>
<td>24</td>
<td>39</td>
</tr>
<tr>
<td>2012</td>
<td>24</td>
<td>11</td>
<td>22</td>
<td>13</td>
<td>14</td>
<td>21</td>
<td>35</td>
</tr>
<tr>
<td>2014</td>
<td>18</td>
<td>1</td>
<td>14</td>
<td>5</td>
<td>10</td>
<td>9</td>
<td>19</td>
</tr>
</tbody>
</table>

As expected, more errors were made with alternating verbs or externally-caused events items than non-alternating verbs or non-externally-caused events, while more errors occurred with the non-animate subjects than animate subjects. The decrease in errors with positive items was slower than that with negative items. In particular, the errors with the negative items decreased greatly in 2014: 11 to 1 with [-VA], 13 to 5 in [-EC] and 21 to 9 in [-SA].

3.2.2. Results by individual subjects

Table 6 shows the number of overpassivization errors by the subjects in the three tasks. One can see that the numbers of errors decreased over time, except for those of S7 and S8, whose errors continued to increase. Subjects S4 and S5 improved greatly; their errors dropped from 0 to 7, and from 16 to 5, respectively. The number of errors by S6 fluctuated up and down.
In Table 6 the subjects can be classified into three groups: target, improving and regressing. The first three subjects (S1, S2 and S3), the target group, seems to master the target grammar of English unaccusatives, making only three errors or less (out of 48 items) on the first task and no errors on the third task. The improving group (S4, S5, and S6) became markedly better as time passed. For example, subject S4 made 7 errors in 2009 but none in 2014, and subject S5 made 16 errors in 2009 but only 5 in 2014. The regressing group (S7 and S8) made more errors as time went by. For instance, subject S7 made two errors in 2009, but four in 2012 and seven in 2014.

Table 7 shows the number of errors for the factor VA by subject and year. Most subjects made more errors with alternating ([+VA]) verbs than non-alternating ([−VA]) ones, except for S5 in 2009 and 2012. The difference in errors between the two verb types became greater as time passed. The subjects tended to make more errors with alternating verbs when they make errors, than with non-alternating verbs in the three tasks.

Table 8 shows the number of errors for EC by subject and year. All subjects except for S5 were not influenced by EC in the 2009 task, making almost the same number of errors with [+EC] and [-EC] items; Subject S5 made 15 errors with [+EC] events but 1 error with [-EC] events in 2009. But in 2012 and 2014 the subjects of the improving and regressing groups, including S5, were influenced by EC, making more errors with [+EC] items.
TABLE 8

<table>
<thead>
<tr>
<th>Year</th>
<th>Subject</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>S6</th>
<th>S7</th>
<th>S8</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>[+EC]</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>15</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>[-EC]</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>2012</td>
<td>[+EC]</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>[-EC]</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>2014</td>
<td>[+EC]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>[-EC]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 9 shows the number of errors for SA by subject and year.

TABLE 9

<table>
<thead>
<tr>
<th>Year</th>
<th>Subject</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>S6</th>
<th>S7</th>
<th>S8</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>[+SA]</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>[-SA]</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>11</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>2012</td>
<td>[+SA]</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>[-SA]</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>2014</td>
<td>[+SA]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>[-SA]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

Most of the subjects made slightly more errors with [-SA], non-animate subject unaccusatives. Subject S5 made many more errors with [-SA] than with [+SA], especially in 2009 and 2012.

4. DISCUSSION

4.1. L1 Morphology, Pragmatic Causation, and Animacy

Let us examine the first research question: which factor among L1 morphology (verb type), external causation, or animacy, is more persistent and grows stronger or weaker over time. Chung (2014), a cross-sectional study, found that the L1 morphology factor was the strongest for the Koreans and that its influence grew as proficiency increased. The present study also shows that the factor related to L1 morphology was persistent and played an influential role for the eight Korean subjects over time. The Korean EFL speakers, except for subject S5, made more errors with alternating verbs than non-alternating verbs in the three tasks (See Table 7), and even S5 made more errors with alternating verbs in the final task.

The effect of L1 morphology became stronger as time passed; the error rates with
alternating to non-alternating verbs grew—66.7% (26/39) in 2009, 68.6% (24/35) in 2012, and 94.7% (18/19) in 2014—though the total number of errors decreased. This effect is much clearer for the regressing group; subjects S7 and S8 made two errors and none in 2009, respectively, but four and one errors in 2012, respectively, and seven and six errors in 2014, respectively, all of which (except one) were errors with alternating verbs. This persistent role of L1 confirms the claim by Selinker and Lakshmanan (1993), who granted a central role to L1 transfer in the stabilization of L2 grammar: “When two or more SLA factors work in tandem, there is a greater chance of stabilization of interlanguage forms leading to possible fossilization” (p. 198).

The next factor under consideration is external causation, a pragmatic factor, which played a significant role for the Korean EFL subjects in Chung (2014). In Table 9 we see that pragmatic causation also played a role for most of the Korean EFL users over time. Though it was weaker than the L1 morphology factor, this pragmatic factor also strengthened over time: 64.1% (25/39) in 2009, 62.9% (22/35) in 2012, and 73.7% (14/19) in 2014. However, some subjects were unaffected by this factor; S6 made almost the same number of errors with externally caused or non-externally caused events. S1, S2, and S3 in 2009 made just one more error for non-externally caused events than in externally caused ones, but over time, they made more errors with externally caused events. This finding accords with Ju (2000) and Chung (2014), but contrasts with Kondo (2005), who argued that pragmatic causation did not play a significant role. This confirms that it plays a persistent role over time; note that causer is one of the major properties of subject (Dowty, 1991; Hopper & Thompson, 1980).

The last factor to examine is animacy of the surface subject, which was weakest for the Korean EFL subjects in Chung (2014), and it was overcome by the EFL learners at the intermediate levels. The present study shows that most of the subjects were not influenced by this factor, except for subject S5 (See Table 9), who made more errors with non-animate subjects than animate ones. We suggest that subject S5 belongs to the animacy-subject type who considers animacy a major property of subject and accepts non-animate subjects only in passives. This factor was persistent over time for the subject only; she made more errors with non-animate subjects, though her total errors decreased over time.

4.2. Role of Instruction in Learning L2 English Unaccusatives

This section deals with the second research question: whether instruction affects Korean EFL learners of unaccusatives over time. We see an unpredicted difference in the findings between the present study and Han (2006); it was predicted that the subjects of the present study in an EFL environment would make more errors than Han’s subjects in an ESL environment, but the Korean EFL users made far fewer errors than Han’s ESL speakers.
Note that the subjects of Han (2006) had lived in the United States for 5 years at the time of the first task and 11 years at the time of the second task. A possible reason for the lower error rates among the Korean EFL users would be that they majored in English language education and that they had received instruction on English unaccusatives. We mentioned earlier that there were two groups of the subjects: one group (S1, S2, S3, S5, and S6) who took a pedagogical English grammar course and the other group (S4, S7 and S8) who did not. To examine the effects of instruction on error rates, we need to check the time when instruction on English unaccusatives was given. Table 10 shows when the subjects took the grammar course and their error numbers for each task.

**TABLE 10**

<table>
<thead>
<tr>
<th>Task</th>
<th>Instruction</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>S6</th>
<th>S7</th>
<th>S8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 2009</td>
<td></td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>7</td>
<td>16</td>
<td>6</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Apr. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Apr. 2011</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr. 2012</td>
<td></td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>15</td>
<td>10</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Dec. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr. 2013</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

*Note:* The symbol √ indicates when the subject took the course.

Table 10 shows a marked contrast between the group of subjects who took the course and the other who did not; the number of errors by the first group decreased over time, while the other group’s errors increased gradually; S7 made two errors in 2009, four errors in 2012 and seven in 2014, and S8 made no errors in 2009, one error in 2012 and six errors in 2014. An exceptional subject is S4, who did not take the course, yet her errors decreased over time. Note that the intervals between the time of instruction and the test time in which some effects were found are of considerable length: 5 months (S5), 8 months (S1), 29 months (S3 and S5), and 32 months (S2).

For the effectiveness of the instruction we suggest two reasons. First, the subjects were very advanced EFL users and English-education majors who planned to teach English. Thus, they were very sensitive to and paid attention to the unusual features of the target language. According to Schmidt (1995), many experiments have provided support for the position that attention is necessary for encoding in long-term memory, and what learners notice in input is what becomes intake for learning. Accordingly, we can assume that they noticed the properties of English unaccusatives and overpassivization problems for EFL learners, and what they noticed became intake and complete knowledge.

We suggest another reason for its effectiveness is that the method of instruction was explicit and focused on the form and meaning of unaccusatives. The instruction included
both positive and negative input (White, 1991), which seemed to make it clear that overpassivization is a problem for EFL learners and that unaccusatives differ from passives. The explicit method is considered one of the most effective instructions (Norris & Ortega, 2000; Yip, 1994).

We speculate that the subjects who did not receive any instruction on English unaccusatives and their unusual properties tended not to notice them and would have been affected by their L1 and pragmatic factors, thus making more errors than before. This finding indicates that instruction can prevent L2 English unaccusatives from being fossilized.

4.3. Fossilization of L2 English Unaccusative Verbs

Now let us consider the third research question of whether overpassivization of English unaccusatives is fossilized for Korean adult advanced users of L2 English. Tables 11 and 12 show the overpassivization rates of the subjects of Han (2006) and those of the subjects of the present study:

<table>
<thead>
<tr>
<th>TABLE 11</th>
<th>Overpassivization Error Rates (%) of the Subjects in Han (2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Geng</td>
</tr>
<tr>
<td>1997</td>
<td>33.3</td>
</tr>
<tr>
<td>2003</td>
<td>55.6</td>
</tr>
<tr>
<td>Mean</td>
<td>44.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 12</th>
<th>Overpassivization Error Rates (%) of the Subjects in the Present Study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S1</td>
</tr>
<tr>
<td>2009</td>
<td>4.2</td>
</tr>
<tr>
<td>2012</td>
<td>0.0</td>
</tr>
<tr>
<td>2014</td>
<td>0.0</td>
</tr>
<tr>
<td>Mean</td>
<td>1.4</td>
</tr>
</tbody>
</table>

These tables show that the Korean subjects' overpassivization rates are much lower than those of the Chinese subjects; the overpassivization rates of Han's (2006) subjects were nearly 42%, and those of the present study were around 8%. Han (2006) stated that overpassivization by her two subjects was fossilized. The Koreans' overpassivization does not seem to be persistent and fossilized; the error rates of the subjects are low and

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12 Subject S4 improved though she did not take the course. She may have acquired the properties of English unaccusatives just by being exposed to input or somehow by herself. She was a very sensitive and hard-working student in other course that the researcher taught.
decreased over time, except for subjects S7 and S8.

This study shows that the fossilization of L2 English unaccusatives can be prevented if appropriate instruction is given to learners. All the Korean subjects in the present study were advanced EFL college students majoring in English in an EFL environment, which differs from the subjects of Han (2006), who were in an ESL environment. These findings suggest that instruction can play a very effective role, or a stronger role than an L2 environment.

5. CONCLUSION

This research has made some contributions to the SLA literature. First, this study, the first longitudinal study of L2 acquisition of English unaccusative verbs by advanced Korean EFL speakers majoring in English, shows that the fossilization of overpassivization of unaccusative verbs can be prevented by instruction. Second, it presents findings that L1 morphology and pragmatic causation played persistent roles in the development of L2 English unaccusatives over the years, but animacy did not. Third, this study shows that instruction employing an explicit method can play an effective role in the acquisition of L2 English unaccusatives, especially for those who are sensitive to language features. Finally, the findings of the present study show that multiple factors are in play in the development of L2 English unaccusatives: L1, pragmatics, semantics (animacy), instruction and UG. This pragmatic factor and animacy are related to the universal linking rules, since cause and animacy are typical properties of subject (Dowty, 1991). The fact that the Korean EFL subjects of the present study overapplied the theme-subject construction implies that UG constrains the development of their L2 English grammar. These findings conform to the Multiple Effects Principle by Selinker and Lakshmanan (1993) and support the findings of No and Chung (2006), which argued that “L2 learners have more difficulty with unaccusatives when multiple factors are cooperating together” (p. 34). The findings are also consistent with Toth (2000), who showed the cooperative contributions of L2 input, instruction, L1 and UG to L2 Spanish unaccusative learning.

REFERENCES


Applicable levels: Tertiary

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