Assymetry of L2 Learners’ Implicit and Explicit Knowledge of Unpaired English Unaccusatives

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Assuming that implicit and explicit knowledge are two different constructs, the current study takes unpaired English unaccusatives as its target grammar feature to investigate these two types of knowledge among Korean EFL learners. In line with the growing body of research utilizing a battery of tests, this study adopts a combination of validated tests to assess implicit and explicit knowledge. In doing so, this study lends support to previous studies, in that the L2 learners’ two types of knowledge are not on par. The findings indicate that proficiency was not correlated with the learners’ explicit knowledge, while it was highly correlated with their implicit knowledge. Moreover, regardless of the grammaticality of the unaccusative sentences, the role of subject animacy varied depending on the learners’ different type of knowledge in relation to proficiency. Finally, a critical discussion on the importance of separating the two constructs of knowledge and implications for future research are provided.

Key words: implicit knowledge, explicit knowledge, unpaired English unaccusatives, proficiency, animacy

* We are most grateful to Jeong-eun Kim, Hikyoung Lee, and the three anonymous reviewers for their detailed comments and suggestions for improving this paper.
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1. INTRODUCTION

Starting from theories that distinguish implicit knowledge and explicit knowledge (Krashen, 1981; Paradis, 1994, 2004; Ullman, 2001), recent years have seen considerable progress in understanding the two different constructs of knowledge through various validating measurements (Bowles, 2011, R. Ellis, 2005, 2009; Erlam, 2006; Rebuschat, 2013; Spada, Shiu, & Tomita, 2015). Implicit and explicit knowledge differ in the extent to which an individual is aware of the regularities underlying linguistic structures. The separation of the two constructs have been well documented in studies in cognitive psychology, revealing that developing implicit knowledge is independent of explicit knowledge (e.g., Knowlton & Squire, 1996; Reber, Walkenfeld, & Hernstadt, 1991). While widely agreeing that implicit knowledge is distinct from explicit knowledge and that implicit knowledge is considered to be a primary goal of L2 learning (R. Ellis, 2005), there still seems to be a lack of interest in taking advantage of previously verified tests when investigating L2 learners’ grammar knowledge of a target language.

While a vast array of SLA studies revealed findings on L2 learners’ knowledge by using grammatical judgment tests and/or forced-choice elicitation tests, whether the knowledge that the researchers think that the L2 learners possess is “genuine knowledge of language” (Truscott, 1998, p. 120) has been under contention. From a methodological perspective, researchers studying what L2 learners have internalized have yet to systematically document evidence of the validity of their knowledge. Despite the fact that many studies are directed towards understanding the two separate constructs of knowledge alongside the important position that they take up in the field of SLA, it has come to the researchers’ attention that only a few studies have taken advantage of working towards utilizing validated tests to investigate the L2 learners’ knowledge in Korea (Cho, 2012; J.-E. Kim, 2014; K. J. Kim, 2013). As there has not been much research measuring to what extent L2 learners possess these two types of knowledge with regard to English grammatical structures up until recently (Hahn, 2009; Jo & Lim, 2013), the current study, in this respect, chose English unaccusative constructions,¹ which are reported to be one of the grammar forms that many L2 learners tend to experience difficulty in. In measuring Korean EFL learners’ sensitivity towards unaccusatives in terms of implicit and explicit knowledge of unaccusatives, a combination of tests has been employed. The study also aimed to investigate to what extent the L2 learners’ proficiency was related to their explicit and implicit knowledge.

¹ The study focused on unpaired (non-alternating) unaccusatives in particular. See section 2.3 for more details.
2. LITERATURE REVIEW

2.1. Distinguishing Implicit and Explicit Knowledge

Although there have been different definitions regarding implicit and explicit knowledge in the field of SLA, the major differences that make the two distinguishable are their (a) absence or presence of consciousness/awareness, and (b) ability or inability to verbalize the underlying structure of language (R. Ellis, 2004, 2005; Hulstijn, 2005). To elaborate, implicit knowledge of language can be described as tacit, intuitive, and procedural knowledge (Bialystok, 1979; R. Ellis, 1994, 2005, 2009). R. Ellis (1994) stated that learners with implicit knowledge are unlikely to be aware of what they know and that it is only accessed through automatic processing. In other words, learners are not conscious of the knowledge that they possess and it is only evident when they use and produce language. This is what forms the basis of unplanned and spontaneous language (Krashen, 1994).

Explicit knowledge, on the other hand, which is held consciously, can be accessed during controlled processing. When learners possess explicit knowledge, they are able to analyze and verbalize the metalinguistic reason for why a certain sentence is grammatical or ungrammatical (R. Ellis, 2004). However, R. Ellis (2009) posited that the default L2 production predominantly relies on one’s implicit knowledge of a language and one generally tries to access their declarative information when an individual encounters something they find difficult to judge, showing their lack of confidence (see R. Ellis, 2005) for more detail on the operationalization of implicit and explicit knowledge).

2.2. Measuring Implicit and Explicit Knowledge

As mentioned above, implicit and explicit knowledge have distinctive features, and it has been acknowledged that L2 performance involves both types of knowledge (Bialystok, 1982; DeKeyser, 2003; Paradis, 2009). Nevertheless, not much has been studied on how to measure implicit and explicit knowledge respectively. The distinctiveness of L2 implicit and explicit knowledge has been well documented in the field of applied linguistics as well as in cognitive psychology and neuroscience. Krashen (1982, 1994) posited that the two types of knowledge are separate constructs. He made a clear distinction between acquisition, which leads to implicit knowledge, and learning which yields explicit knowledge, whose role is only to monitor the accuracy of acquired knowledge. Paradis (1994, 2004) also argued that the two types of knowledge are separate in nature.

Despite such postulations, it was not until recent years that studies directed their attention towards establishing valid measures of implicit and explicit knowledge. In his psychometric study using an exploratory factor analysis, R. Ellis (2005) developed
relatively independent measures with a battery of five tests, which accounted for gauging implicit knowledge (e.g., oral imitation test, oral narration test, and timed grammaticality judgment test) and explicit knowledge (e.g., untimed grammaticality judgment test and metalinguistic knowledge test), respectively (see R. Ellis & Loewen (2007) for further confirmation of the measurements).

While validated tests were used to investigate learners’ knowledge of L2 grammar in general, R. Ellis (2006) found that there were clear differences regarding implicit and explicit knowledge based on different grammatical structures. That is to say, the different types of structures which were found to be easy in terms of implicit knowledge were relatively difficult in explicit knowledge and vice versa. Depending on the grammar structure, L2 learners possessed implicit and explicit knowledge on certain grammar structures to different degrees in relation to their general language proficiency. Previous studies in the SLA literature have witnessed that learners’ performances on tasks were highly dependent on the type of grammatical structure (see R. Ellis, 2009). This was also clearly noted by Spada et al.’s (2015) research that investigated the construct validity of elicited imitation test focusing solely on be-passive forms. This provides the motivation for the current study in focusing on a specific grammatical structure, the English unaccusative constructions, which have been known to be difficult for EFL learners to acquire in the SLA literature (Balcom, 1997; Chung, 2014, Hwang, 2006; Ju, 2000; J. T. Kim, 2006; No & Chung, 2006; Oshita, 1997, 2000, 2001). The following section gives an overview of the previous studies on the difficulty of acquiring L2 unaccusative constructions.

2.3. Difficulty in Acquiring English Unaccusatives

Due to persistent errors found in their perception and production of L2 learners of English, unaccusatives have received a great deal of attention. According to the Unaccusative Hypothesis proposed by Perlmutter (1978), the class of intransitives consists of two subclasses, which include unergatives (e.g., walk, sing, talk) and unaccusatives (e.g., appear, happen, rise). Burzio (1986) and Yip (1995) stated that unaccusatives can further be divided into two types, according to whether they have their transitive counterparts (paired) or not (unpaired). Unaccusatives are verbs that appear with a single argument, which is syntactically placed in a subject position but takes the role of a Theme/Patient, while unergatives appear with a subject argument that takes the role of an Agent. It has been reported in the literature that L2 learners often treat unaccusatives like passives by overgeneralizing the passive morphology (be + the passive participle) even to unpaired unaccusatives which do not have transitive counterparts, resulting in overpassivization errors (Balcom, 1997; Hirakawa, 1995; Montrul, 1997; Oshita, 1997, 1998, 2000; Yip, 1995; Zobl, 1989), as shown below.
Asymmetry of L2 Learners’ Implicit and Explicit Knowledge of Unpaired English Unaccusatives

(1) *The most memorable experience of my life was happened 15 years ago. (Zobl, 1989)
(2) *Our offspring will be suffered because we neglect the pollution. (Yip, 1995)
(3) *You are arrived in the eternity city. (Oshita, 2000)

This type of construction has been identified as one the most difficult grammar features which even advanced L2 learners continue to struggle with (Hinkel, 2002; Ju, 2000; Yip 1995; Zobl, 1989). L2 learners seem to be less sensitive towards passivized unaccusatives which are ungrammatical constructions, considering them as being acceptably grammatical. With regard to the L2 learners’ difficulty of dealing with unaccusatives, researchers suggested various accounts for such phenomena. The Unaccusative Trap Hypothesis, suggested by Oshita (2001), for instance, claims that unaccusatives are difficult for many L2 learners, which demonstrated “a developmental account for a variety of non-target phenomena observed with unaccusative verbs in L2 contexts” (p. 300).

Despite the various accounts for overpassivation such as L1 influence (Chung, 2014; Juffs, 1998; J. E. Kim, 2010; Montrul, 1999; No & Chung, 2006), learnability (Hwang, 1999; E. H. Kim, 2008; Lee, 2007; No & Chung, 2006; Yip, 1995), and verb variations (Balcom, 1997; Hwang, 2001), subject animacy has been one that has attracted much research. Ju (2000), for instance, found that animacy played a key role in choosing the voice of a sentence, and therefore an important factor that led L2 learners to cause overpassivization. An animate subject is likely to be related to the subject of a sentence due to its prominent role as an Agent, whereas an inanimate subject was linked to a Theme/Patient in a sentence (Chung, 2014). Oh (2014) and Shin (2011) in their respective corpus study of Korean EFL learners’ English composition also found that animacy played an important role for making errors and that errors were inversely proportional to the learners’ proficiency to an certain extent.

Although many studies devoted their research in finding possible factors of why L2 learners had difficulty in acquiring unaccusative constructions, less attention has been paid to the types of tests that they had administered. It has been shown in the literature that many studies relied solely on one type of measurement in assessing L2 learners’ knowledge. R. Ellis (2006) found that L2 learners possessed different degrees of implicit and explicit knowledge, showing that some grammatical features were more difficult to learn than others. He argued that such phenomenon can only be understood through the distinction of the two types of knowledge. Studies have hardly focused on the possibility that L2 learners’ errors of unaccusative constructions may be brought about by their asymmetrical implicit and explicit knowledge. Therefore, to contribute to what has been studied to a lesser extent, the current study posed the following research questions by making use of validated tests measuring Korean EFL learners’ two different types of
constructs of English unaccusatives.

1. To what extent do Korean L2 learners of English possess knowledge of unaccusatives when compared to native speakers of English?
2. Is learners’ proficiency related to their explicit knowledge of unaccusatives? If so, to what extent is their explicit knowledge influenced by animate-inanimate asymmetry?
3. Is learners’ proficiency related to their implicit knowledge of unaccusatives? If so, to what extent is their implicit knowledge influenced by animate-inanimate asymmetry?

3. METHOD

3.1. Participants

For the current study, a total of forty-nine participants were recruited. Out of this number, seven native speakers of English (2 males and 5 females) and forty-two Korean L2 learners of English (14 males and 28 females) took part in the study. The age of the English native speakers ranged from twenty to twenty-six (\(M = 22, SD = 2.3\)), and the age of the Korean participants ranged from nineteen to twenty-four (\(M = 21.3, SD = 1.7\)). All the Korean participants were majoring in English language and literature at a university in Korea. The Korean participants reported that they began to learn English at the age of 8.22 (\(SD = 2.04\)) on average. Among the forty-two Koreans, twelve participants reported that they had experience living in an English speaking country for 0.43 years on average. The Korean participants also reported their self-rated English proficiency levels of reading, listening, writing, and speaking on a six-point Likert scale (1 = beginner; 2 = intermediate; 3 = high-intermediate; 4 = advanced; 5 = near-native; 6 = native). According to their self-ratings, they considered themselves as fairly advanced learners of English regarding their reading skills in general (\(M = 4.10, SD = 0.96\)), but to a lesser extent in their speaking ability (\(M = 3.00, SD = 1.18\)).

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2 Although we recruited fifty-five participants, six of them were not able to complete all the tasks properly and were excluded from the study.
3 The native speakers of English participated in the study as a control (baseline) group. They reported that they were born and raised in an English-speaking country (UK, US, Canada, and New Zealand) where they used English as their first and primary language in their everyday lives before coming to Korea.
4 The Korean participants in the current study considered themselves as high-intermediate learners in listening (\(M = 3.45, SD = 1.17\)) and writing (\(M = 3.33, SD = 1.00\)).
For their English proficiency, the Korean participants were required to report their official English test score in the background questionnaire. Although some participants reported their TOEIC and TOEFL scores, a study conducted by Elder and Ellis (2009) found that standardized measurements such as TOEFL were “related only to the measure of explicit knowledge” (p. 192). Due to their practical benefits as they take little time to administer, C-tests have been proven to be valid and reliable measurements to predict L2 learners’ general language proficiency (Carroll, 1987; Chapelle & Abraham, 1990; Dörnyei & Katona, 1992; Ishihara, Okada & Matsui, 1999, 2000). Therefore, the current study rated the participants’ English proficiency by adopting a C-test from Ishihara, Hiser and Okada (2003). The C-test used in the study consisted of three short passages containing fifty blanks in total. Participants were asked to fill in the omitted letters to complete the words provided with a title and a full first sentence to help them to better understand the content of each passage (e.g., Police are looking for a man in connection with this morning’s bank robbery in Leicester. It is known that the sus[   ] is a man in his ea[   ] thirties, is lightly built, and if[   ] about five feet eight inches ta[   ]).

3.2. Test Battery

3.2.1. Oral elicited imitation test (OEIT)

A total of twenty-four sentences5 (12 targets and 12 distractors6) were provided in belief statements to focus the participants’ attention to meaning in the OEIT (Erlam, 2006; Spada et al., 2015). The twelve target sentences contained unpaired unaccusative verbs appear, disappear, suffer, arrive, emerge, exist, happen, arise, rise, fall, come and occur, which all shared the same word frequency according to the official online Collins COBUILD Advanced Learner’s Dictionary of American English. The target sentences were evenly distributed based on the grammaticality and the animacy of the subjects as shown in Table 1.

<table>
<thead>
<tr>
<th>Grammaticality</th>
<th>Animate [+A]</th>
<th>Inanimate [-A]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammatical [+G]</td>
<td>fall, come, suffer</td>
<td>emerge, occur, arise</td>
</tr>
<tr>
<td>Ungrammatical [-G]</td>
<td>appear, exist, disappear</td>
<td>arrive, happen, rise</td>
</tr>
</tbody>
</table>

Instructions and all test items were read out by a female native speaker of American English.

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5 All test items used in the study had a length ranging from seven to ten words.

6 Distractors used in the study targeted other grammatical features that were irrelevant to unaccusatives or passive constructions.
English, who did not take part in the study, and digitally recorded, which were then computerized using SuperLab Pro (Version 4.0) software program for Windows in a semi-randomized order. In the OEIT, the participants were asked to listen to a sentence once (e.g., Unicorns were existed in European continent until the 17th century), and to judge whether the given sentence was ‘true’ or ‘false’ depending on their own common sense in order to direct their attention not to the grammaticality but to the contents of the stimuli. They were then given 8 seconds to repeat the sentence in correct English after hearing a beep (e.g., Unicorns existed in the European continent until the 17th century).

3.2.2. Timed & untimed grammaticality judgment tests (TGJT & UGJT)

A total of twenty-four sentences (12 targets and 12 distractors) were created for the TGJT and the UGJT, respectively. All twelve target sentences contained unpaired unaccusative verbs (e.g., occur), with different contents for the TGJT (e.g., Something unexpected was occurred at the hotel lobby) and the UGJT (e.g., The car accident was occurred at the intersection) to prevent participants from noticing the target forms. The target sentences were evenly divided across grammaticality and the animacy of the subjects, as shown in Table 2.

<table>
<thead>
<tr>
<th>Targets for the TGJT and UGJT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammaticity</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Grammatical [+G]</td>
</tr>
<tr>
<td>Ungrammatical [-G]</td>
</tr>
</tbody>
</table>

Instructions and all test items in the TGJT were read aloud again by the same female native speaker in the OEIT and digitally recorded and computerized by SuperLab in semi-randomized order. The participants were required to judge the grammaticality of the aurally provided sentences by pressing the assigned keys on the keyboard (“/” for grammatical; “z” for ungrammatical) within a fixed time limit. The time limit for each test item in the TGJT was established by adding an additional twenty percent to the English native speaker participants’ average response time taken for each item (R. Ellis, 2005). The testing phase started with a set of three practice items which were not included in the actual
test.

In the UGJT, participants were asked to judge the grammaticality of the sentences provided in a pencil-and-paper test form by circling “G” for grammatical and “U” for ungrammatical. If they judged a sentence as ungrammatical, they were told to identify the error and provide reasons for their correction either in Korean or English. This served as the metalinguistic knowledge test (MKT).

3.3. Procedure

This study consisted of five sections. A C-test served a dual purpose as a warmup and measurement for general language proficiency. In order to prevent any learning effects that might occur during the tests, the implicit knowledge measurement tests (i.e., OEIT and TGJT) were administered first, which were followed by explicit knowledge measurements (i.e., UGJT and MKT). The experiment was conducted on a one research-one participant basis. Before commencing each test, directions were given by one of the researchers in person to avoid any confusion that may occur during the experiment. The participants were then given examples and several practice items to become familiar with the nature of each test (See Appendix for test directions and sample items).

3.4. Scoring

3.4.1. Interrater reliability

Participants’ responses to all tests were scored in terms of accuracy, which were converted into percentage values. Setting the distractor items apart, only twelve target sentences were taken into account. Interrater reliability was established through double coding of the responses by two researchers, reaching an agreement rate of nearly ninety-five percent across all four tests. Whenever there were discrepancies, the researchers consulted with a third researcher who was not involved in the coding process. Any disagreements that arose were resolved through discussion.

3.4.2. Oral elicited imitation test (OEIT)

The participants’ reproduced utterances elicited from the OEIT were scored according to the grammatical use of the target sentences. One point was assigned for correct use, and no points for incorrect use of the unaccusative verbs. Since the OEIT was designed to

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8 Participants' oral responses were all recorded in case of disagreements in scoring.
assess the participants’ grammatical reproduction of the target sentences while focusing on meaning (Duff, Tomita, Suzuki, & Jessop, 2009), participants’ use of synonyms of the target verbs were accepted as long as grammar was not violated. Therefore, their use of arise instead of occur or vice versa and use of emerge instead of appear or vice versa were considered correct. For non-target content words such as Europe instead of the European continent, these were also accepted as long as they posed no impediment to the meaning of the given target sentences.

3.4.3. Grammaticality judgment tests: TGJT and UGJT

For the TGJT, the participants’ acceptance of grammatical sentences and their rejection of ungrammatical sentences were given one point for each item within a fixed time limit. However, if their judgements were incorrect or if they were not able to judge the items within the time limit, no points were given. Likewise, for the UGJT, which was a self-paced test, one point was given only if the participants judged the item correctly and no points were given for misjudgments.

3.4.4. Metalinguistic knowledge test (MKT)

As the MKT was designed to examine the participants’ metalinguistic knowledge of grammar rules, learners’ answers only for the ungrammatical target sentences were analyzed. Metalinguistic terminology was not required. As long as they were able to correct and provide appropriate reasons for their awareness of why a sentence was ungrammatical in the UGJT, one point was given. However, when they failed to do so despite their ability to correct the ungrammatical portion of the sentence, no points were given.

3.5. Data Analyses

For quantitative analyses, SPSS package version 21 was employed to analyze the collected data. A factor analysis was first conducted to check whether the data could be further analyzed to answer the given research questions. Descriptive statistics for the four tests were computed. Independent/paired samples t-tests and correlations were then carried out to examine the participants’ sensitivity towards unaccusatives in each given test measuring implicit and explicit knowledge with further post-hoc pairwise comparisons when necessary.
4. RESULTS

Before reporting the main results of the study, it was necessary to check the construct validity of the instruments used in the current study. In order to render the results reliable, it was imperative to check the degree to which the instruments were measuring what they intended to measure (i.e., implicit and explicit knowledge). Without verification of validity, further analyses cannot be conducted. To investigate the extent to which the oral elicited imitation test and the timed grammatical judgment test measured implicit knowledge and the untimed grammatical test and the metalinguistic test measured explicit knowledge, the total scores for each of the four tests were submitted to factor analysis with those with eigenvalues greater than 1, using a Varimax rotation.

**TABLE 3**

<table>
<thead>
<tr>
<th>Tests</th>
<th>Factor 1 Implicit Knowledge</th>
<th>Factor 2 Explicit Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEIT</td>
<td>.784</td>
<td>.276</td>
</tr>
<tr>
<td>TGJT</td>
<td>.792</td>
<td>-.153</td>
</tr>
<tr>
<td>UGJT</td>
<td>.157</td>
<td>.885</td>
</tr>
<tr>
<td>MKT</td>
<td>-.056</td>
<td>.901</td>
</tr>
</tbody>
</table>

*Note: OEIT = Oral elicited imitation test; TGJT = Timed grammaticality judgment test; UGJT = Untimed grammaticality judgment test; MKT = Metalinguistic knowledge test.*

Table 3 shows that the OEIT and the TGJT loaded quite strongly on Factor 1, while the UGJT and the MKT loaded heavily on Factor 2. This demonstrates that L2 learners responded differently to each of the tests given, which ensured validity.

4.1. L2 Learners’ Knowledge of English Unaccusative Constructions

Table 4 displays the descriptive statistics for the overall mean test scores of the English native speakers and the L2 learners. This shows that the native speakers outperformed the L2 learners in all measures except for the MKT. That is, the L2 learners were able to verbalize why the ungrammatical sentences were ungrammatical by correcting and providing specific metalinguistic reasons, whereas the native speakers relying on their intuition failed to verbalize any relevant grammar concepts. Moreover, unlike the tests measuring their explicit knowledge of unaccusatives, a large gap was found between the native speakers’ and the L2 learners’ test scores for implicit knowledge measurements. However, it was also found that both groups scored the grammatical unaccusative constructions to a similar extent in the UGJT grammatical items. This implies that L2 learners were able to display native-like performance with regard to accepting grammatical
unaccusatives when there was no time constraint. To examine the extent to which the test scores of the L2 learners were different from those of the native speakers of English, a series of independent samples t-tests were carried out. Statistics showed that besides the grammatical UGJT scores \((p > .05)\), all tests showed significant differences.

### TABLE 4

**Descriptive Statistics of the Overall Mean Scores**

<table>
<thead>
<tr>
<th>Test</th>
<th>Native Speakers ((N = 7))</th>
<th>L2 Learners ((N = 42))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(M)</td>
<td>(SD)</td>
</tr>
<tr>
<td>Implicit knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEDIT (total)</td>
<td>90.48</td>
<td>8.90</td>
</tr>
<tr>
<td>OEDIT (grammatical items)</td>
<td>90.48</td>
<td>8.91</td>
</tr>
<tr>
<td>OEDIT (ungrammatical items)</td>
<td>97.62</td>
<td>6.30</td>
</tr>
<tr>
<td>TGJT (total)</td>
<td>100.00</td>
<td>.00</td>
</tr>
<tr>
<td>TGJT (grammatical items)</td>
<td>100.00</td>
<td>.00</td>
</tr>
<tr>
<td>TGJT (ungrammatical items)</td>
<td>100.00</td>
<td>.00</td>
</tr>
<tr>
<td>Explicit knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UEDIT (total)</td>
<td>100.00</td>
<td>.00</td>
</tr>
<tr>
<td>UEDIT (grammatical items)</td>
<td>100.00</td>
<td>.00</td>
</tr>
<tr>
<td>UEDIT (ungrammatical items)</td>
<td>100.00</td>
<td>.00</td>
</tr>
<tr>
<td>MKT (metalinguistic knowledge)</td>
<td>23.81</td>
<td>35.82</td>
</tr>
<tr>
<td>C-test</td>
<td>98.86</td>
<td>2.27</td>
</tr>
</tbody>
</table>

To further examine the L2 learners’ sensitivity towards the grammaticality of unaccusatives, paired samples t-tests were conducted. Significant differences were found in each test (OEIT, \(t(41) = 3.81, p = .000\); TGJT, \(t(41) = 9.96, p = .000\); UGJT, \(t(41) = 4.56, p = .000\)). To see if participants showed difference in their scores according to the different types of tests, one-way repeated measures ANOVA confirmed that they did, showing a significant effect size, \(F(3, 41) = 32.40, p < .00, \text{ partial } \eta^2 = .44\). Moreover, post-hoc pairwise comparisons showed that the L2 learners performed significantly better in explicit knowledge measurements than in tests measuring their implicit knowledge \((p < .05)\). This suggests that learners’ degree of implicit and explicit knowledge were different and that they were less likely to judge the overpassivized unaccusatives as ungrammatical under time pressure. These results led us to explore the relationship between the L2 learners’ proficiency and their explicit and implicit knowledge as reported in the following sections.

### 4.2. L2 Learners’ Explicit Knowledge of English Unaccusatives

In order to answer the second research question, Pearson correlation analyses were conducted. As shown in Table 5 below, statistics showed that there were no correlations between the L2 learners’ C-test scores and their respective tests measuring the explicit knowledge of English unaccusatives \((p > .05)\).
**TABLE 5**

<table>
<thead>
<tr>
<th>Test</th>
<th>C-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>UGJT (total)</td>
<td>.194</td>
</tr>
<tr>
<td>UGJT (grammatical items)</td>
<td>-.004</td>
</tr>
<tr>
<td>UGJT (ungrammatical items)</td>
<td>.252</td>
</tr>
<tr>
<td>UGJT (animate subject items)</td>
<td>.198</td>
</tr>
<tr>
<td>UGJT (inanimate subject items)</td>
<td>.135</td>
</tr>
<tr>
<td>MKT (metalinguistic knowledge)</td>
<td>-.003</td>
</tr>
</tbody>
</table>

Figure 1 shows the correlation between the C-test scores and the UGJT (total) scores. This indicates that most of the L2 learners did quite well in their tests regardless of their C-test scores, which shows that proficiency was not related to their performance in tests measuring explicit knowledge of unaccusatives.

To determine whether the L2 learners’ explicit knowledge was influenced by the animate-inanimate asymmetry of the subjects in the given items on the tests, paired samples t-tests were carried out. Whether they were analyzed as a whole or based on proficiency, statistics revealed that animacy did not play a significant role in the learners’ performance on explicit knowledge measurements. Statistics showed that there was no significant difference in the overall scores for animate subjects ($M = 83.73$, $SD = 13.01$) and inanimate subjects ($M = 87.30$, $SD = 15.96$) conditions, $t(41) = -1.46$, $p = .152$. To further examine if there were any differences with regard to the grammaticality of the sentences in relation to animacy, additional paired samples t-tests were run. Results once again confirmed that animacy played no role in their judgements (animate-inanimate in grammatical condition: $t(41) = -1.53$, $p > .05$; animate-inanimate in ungrammatical conditions: $t(41) = -0.76$, $p > .05$). This indicates that whether the subjects in the given sentences were animate or inanimate regardless of the...
grammaticality, L2 learners were unlikely to be affected by the animate-inanimate asymmetry in explicit knowledge measurements.

4.3. L2 Learners’ Implicit Knowledge of English Unaccusatives

To examine whether the L2 learners’ C-test scores were related to their implicit knowledge test scores, Pearson correlation analyses were conducted. Unlike the results in section 4.2, statistics revealed that there were strong correlations between their C-test and implicit knowledge test scores, as shown in Table 6.

<table>
<thead>
<tr>
<th>Test</th>
<th>C-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEIT (total)</td>
<td>.500**</td>
</tr>
<tr>
<td>OEIT (grammatical items)</td>
<td>.466**</td>
</tr>
<tr>
<td>OEIT (ungrammatical items)</td>
<td>.359</td>
</tr>
<tr>
<td>OEIT (animate subject items)</td>
<td>.402**</td>
</tr>
<tr>
<td>OEIT (inanimate subject items)</td>
<td>.477**</td>
</tr>
<tr>
<td>TGJT (total)</td>
<td>.234</td>
</tr>
<tr>
<td>TGJT (grammatical items)</td>
<td>.282</td>
</tr>
<tr>
<td>TGJT (ungrammatical items)</td>
<td>.040</td>
</tr>
</tbody>
</table>

*p < .05, **p < .001.

Figure 2 displays a striking contrast when compared to Figure 1. Figure 2 shows that there was a strong positive correlation between the L2 learners’ C-test scores and their OEIT (total) scores. That is, the higher the proficiency, the better they were in their OEIT. For the TGJT, however, L2 learners’ proficiency did not reach significance despite the fact that a marginal significant correlation (p = .08) was found in the grammatical TGJT items.
To examine whether the L2 learners’ implicit knowledge was influenced by the animate-inanimate asymmetry of the subjects in the given items, paired samples t-tests were carried out. Findings showed that there were significant differences in their scores for animate subject items \((M = 65.08, SD = 21.08)\) and inanimate subject items \((M = 41.67, SD = 25.30)\), \(t(41) = 6.96, p = .000\). This demonstrates that the L2 learners were highly influenced by the animate-inanimate asymmetry in their OEIT production; when the subjects were animate, the learners had a better chance of judging the items correctly, while for inanimate subjects, their chances of correctly judging those items were fairly low.

Moreover, to see if this was due to the grammaticality of animate-inanimate asymmetrical sentences, additional paired samples t-tests were conducted. Significant differences were found in the L2 learners’ OEIT scores (animate-inanimate grammatical conditions, \(t(41) = 6.53, p = .00\); animate-inanimate ungrammatical conditions, \(t(41) = 2.90, p = .006\)). This suggests that learners were able to accept grammatical animate subjects \((M = 77, SD = 24.95)\) and reject ungrammatical animate subjects \((M = 53.17, SD = 30.41)\) in their productions. However, when they heard sentences with grammatical inanimate subjects, they were more likely to reject them \((M = 46.03, SD = 34.49)\) and more likely to accept ungrammatical inanimate subjects \((M = 37.30, SD = 28.71)\), showing their difficulty in making correct grammatical judgments.

5. DISCUSSION

Unlike previous studies that measured L2 learners’ knowledge simply relying on one type of grammatical judgement test, the current study aimed to investigate L2 learners’ implicit and explicit knowledge on English unaccusatives through a series of measurements that were hypothesized to tap into different types of L2 knowledge. Although it may be premature, the study in general demonstrated that implicit and explicit knowledge are two different constructs, which lends support to the studies of Bowles (2011), R. Ellis (2005, 2006, 2009), Loewen (2009), and Spada et al. (2015).

With regard to the first research question (i.e., to what extent Korean L2 learners of English possess knowledge of unaccusatives compared to native speakers of English), it was found that except for the metalinguistic knowledge test where the L2 learners outperformed the native speakers, the L2 learners overall showed less sensitivity towards unaccusatives and were less likely to reject ungrammatical unaccusative sentences. In this sense, the results are in line with previous studies that showed L2 learners’ tendency to accept overpassived unaccusatives (Hwang, 1999, 2006; No & Chung, 2006). Past studies indicated that L2 learners with higher levels of proficiency showed propensities for displaying near mastery of English unaccusative verbs. However, such studies highly
relied on explicit knowledge measurements without taking into account the construct of implicit knowledge. Although it may seem obvious that L2 learners were less likely to do better in a battery of tests when compared to native speakers’ performance, it was through this comparison that enabled the study to find evidence of the two distinct types of knowledge (R. Ellis, 2005; Erlam, 2006; Loewen, 2009). Thus, L2 learners’ implicit and explicit knowledge of English unaccusatives were asymmetric. The findings of the current study also furnish proof that L2 learners were struggling with unaccusatives due to their lack of implicit knowledge of this linguistic feature.

As for the second and third research question (i.e., whether learners’ proficiency is related to their explicit/implicit knowledge of unaccusatives, and if so, to what extent their explicit/implicit knowledge is influenced by animate-inanimate asymmetry), the study has shown that L2 learners’ implicit and explicit knowledge of unpaired unaccusative constructions were not on par. Findings revealed that L2 learners’ proficiency was not correlated with their explicit knowledge, meaning that they were able to detect and judge unaccusatives correctly, regardless of their proficiency. Moreover, under such test conditions, whether the sentence subject was animate or inanimate did not prevent the learners from making misjudgments. This indicates that when given tests in a self-paced fashion, L2 learners were able to make use of their explicit knowledge, which was relatively unrelated to their general English proficiency. However, when L2 learners were tested on their implicit knowledge, the OEIT in particular, a strong positive correlation was found between their proficiency and implicit knowledge. This confirms that the two types of knowledge are distinct in nature. Animate-inanimate subject asymmetry also seemed to have influenced their decision. Looking into more detail, it was found that L2 learners experienced more difficulty with inanimate subject sentences whether they were given either in a grammatical or ungrammatical construction, showing an imbalance in their knowledge constructs (R. Ellis, 2006; Spada et al., 2015).

For proficiency, the results of the OEIT, which required spoken production indicate that L2 learners with higher proficiency were more likely to judge the grammaticality of English unaccusative constructions correctly regardless of animacy. This implies that advanced level L2 learners possessed a greater extent of implicit knowledge than lower level L2 learners. This may be due to the fact that the OEIT demands were difficult for the learners, as their previous language learning was relatively focused on grammar and receptive skills, with fewer opportunities to put them into real use.

Taking all the findings into account, the current study has documented evidence that utilizing only one type of measurement to assess L2 learners’ knowledge does not suffice. Despite the fact that the study was not able to witness any development of the L2 learners as there was no treatment involved, L2 learners were less likely to be affected by the animacy effect as their proficiency increased. This may be due to the fact that they were
Asymmetry of L2 Learners’ Implicit and Explicit Knowledge of Unpaired English Unaccusatives

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able to tap into their implicit knowledge, showing stronger reliance on the thematic information of unaccusatives rather than on the effect of subject animacy (Chung, 2014). Learners may be different in their learning trajectories, as learning does not follow a linear process, but recent studies that draw on the conceptualization of the interface positions between knowledge types provide support for the theoretical argument. N. C. Ellis (2005) postulated that the relationship between implicit and explicit knowledge is “dissociable but cooperative” (p. 305), i.e., explicit knowledge may facilitate the developmental process of implicit knowledge (R. Ellis, 1994) only when L2 learners are developmentally ready (Pienemann, 1989). DeKeyser (1997), working from the perspective of skill acquisition theory, suggested that declarative knowledge followed by plentiful practice led L2 learners to proceduralize their explicit linguistic knowledge, and that this in turn became automatically retrievable for communicative use (DeKeyser, 1998).

With recent movements towards endorsing integrated types of form-focused instruction (J.-E. Kim, 2014; K. J. Kim, 2013; Spada, Jessop, Tomita, Suzuki, & Valeo, 2014) employing tests measuring both explicit and implicit knowledge provided promising results. These studies, despite their quasi-experimental nature, documented evidence that these learning conditions were beneficial for the development of implicit knowledge. Although we cannot deny the significant role of explicit knowledge that L2 learners possess (Smith, 1991), we should acknowledge the importance of attaining implicit knowledge, as it is the primary component of developing linguistic competence, which cannot be substituted by explicitly recognizing a few declarative rules (N. C. Ellis, 2002; R. Ellis, 2005).

6. CONCLUSION AND IMPLICATIONS

In sum, the study demonstrated the asymmetry of Korean EFL learners’ implicit and explicit knowledge for English unaccusatives by employing validated measurements. The results showed that L2 learners’ proficiency was not correlated with their explicit knowledge but was positively correlated with their implicit knowledge, indicating that the two types of knowledge are distinct in nature. Moreover, regardless of the grammaticality of the unaccusative sentences, the role of subject animacy did not seem to influence their judgments on tests measuring the L2 learners’ explicit knowledge, as it was shown that they were able to accept grammatical and reject ungrammatical unaccusative constructions by stating the violated rules. However, when learners were asked to judge the grammaticality of unaccusatives in the OEIT, the findings showed their inability to use correct forms of unaccusatives in their speech while paying attention to meaning. Learners with higher proficiency were less likely to be affected by animacy under time pressure,
showing evidence of their use of implicit knowledge.

The study, nevertheless, has several limitations. Although the unaccusative verbs used in each of the tests were identical, ranging from seven to ten words, it was relatively difficult to keep the complexity of the sentences consistent. Second, L2 learners who participated in the study were all English majors, meaning that findings may be less generalizable to other populations.

Despite the small population and the limitations that were mentioned, the study yields pedagogical implications. The results of the study encourage language instructors to take into the account the importance of developing L2 learners’ implicit knowledge alongside their explicit knowledge by making use of different measures when teaching a language to test the efficacy of their teaching. It also suggests the importance of assessing whether learners have acquired implicit knowledge of a particular feature. Finally, it is hoped that this study will serve as a basis for developing teaching materials and tests for improving general and genuine language proficiency, and will promote further studies with validated measurements in order to assess the generalizability of such findings for insights on learners’ implicit knowledge.

REFERENCES


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APPENDIX
Test Directions and Sample Items

1. Oral elicited imitation test (OEIT)

Directions: You will be listening to an array of statements. When you hear each statement, indicate whether the statement is True or False. Press “/” for True; Press “Z” for False. You must then REPEAT the statement that you have heard in CORRECT English. The statements will NOT be shown on the screen and will be spoken only one time during the actual test. Before we begin, you will be given several examples.

♦ Example:
Kimchi is one of the traditional foods in Korea.

The statement sounds True. Therefore, you must press “/” to indicate that the statement is True.
You must then repeat the statement in CORRECT English as

Kimchi is one of the traditional foods in Korea.

♦ Let us now practice:
Tourism are a key sector in Thailand’s economy.

Repeat in “CORRECT” English after the beep.

♦ Let us now begin:
Test item: Seven dwarves were appeared in the movie, Snow White.

2. Timed grammatical judgment test (TGJT)

Directions: You will be listening to an array of statements. When you hear each statement, press “/” if the statement is grammatical and press “Z” if the statement is ungrammatical.
Examples:
1. My mom will send me a birthday present yesterday.
2. Mike is the chief editor of Cambridge Press.
3. Children all over the world hates watching cartoons.

Let us now begin:
Test item: A police officer arrived on the scene.

3. Untimed grammatical judgment test (UGJT) and metalinguistic knowledge test (MKT)

Directions: Read the following statements and judge whether they are grammatical or ungrammatical. Circle “G” if the statement is grammatical or “U” if you think it is ungrammatical. If you think the statement is ungrammatical, CIRCLE and CORRECT the error and briefly state why it is ungrammatical.

Examples:
Children all over the world loves watching cartoons. (G / U)
Correction: loves ⇒ love
Reason: Subject Verb agreement is incorrect

Mike is the chief editor of Cambridge Press. (G / U)
Correction: N/A
Reason: N/A

Let us now begin:
Test item: All the students were disappeared from the school. (G / U)
Correction:
Reason:

Applicable levels: Tertiary

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Received on December 1, 2015  
Reviewed on January 15, 2016  
Revised version received on February 15, 2016