

**L2 acquisition of genericity in English
articles: the case of Korean adult
learners of L2 English**

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L2 acquisition of genericity in English articles: the case of Korean adult learners of L2 English

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ABSTRACT

This study investigates the acquisition of L2 English articles by adult native speakers of L1 Korean. While English articles are used to denote both (in)definiteness and genericity, few studies were conducted regarding generic use of English articles in the context of second language acquisition. The current thesis is concerned with characterising and explaining persistent non-target like behaviours that are to be observed in the adult L2 English generic article acquisition within the generative framework. More specifically, it examines whether Korean adult learners whose L1 do not have an article system can access to Universal Grammar by testing poverty of stimulus effects. Additionally, it investigates to what extent learners' L1 has influence in the interlanguage of Korean speaking learners of L2 English. It also researches if naturalistic input is advantageous to adult L2 learners when acquiring less salient L2 features, such as English articles. Lastly, the current thesis aims to expand testing grounds of the Interface Hypothesis to L2 acquisition of English articles (Sorace and Serratrice, 2009), assuming that the (in)definite use of English articles represents external interface, whereas the generic use of English articles involves internal interface.

In this study, in order to explore the L2 knowledge of English article uses, overall 77 native Korean speakers at advanced proficiency levels of L2 English were administered three types of tasks including a timed-acceptability judgment task, a translation task, and a untimed-grammaticality judgment task. The results provided evidence for the accessibility of UG to the adult Korean learners despite the difficulties that they faced in the acquisition of generic articles. Additionally, a

suggestive role of native language was observed. The overall comparison of the tasks showed that learners with ample naturalistic input showed more target-like responses than those lack the naturalistic input, thus providing an advantageous role of naturalistic input in adult SLA. Furthermore, the ‘Interface Hypothesis’ was not supported by the current study. The results indicate that processing difficulty at external interface do not necessarily cause problems for L2 learners. These findings suggest that the locus of difficulty does not lie in the different level of interfaces, but rather subtle semantic restrictions involved in the choice of articles posed great difficulties for L2 learners.

Declaration

I hereby declare that this thesis is of my own composition, and that it contains no material previously submitted for the award of any other degree. The work reported in this thesis has been executed by myself, except where due acknowledgment is made in the text.

Sun Young Park

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Glossary

List of Abbreviations

ACC - Accusative case marker

CG - Characterising generics

CL - Classifier

COP - Copular verb

DEC - Declarative marker

GEN - Generic particle

HAB - Habitual

KRGO - Kind-referring generics in object position

KRGO-KRV - Kind-referring generics in object position after kind-requiring verb

KRGO-STV - Kind-referring generics in object position after stative verb

KRGS - Kind-referring generics in subject position

LOC - Locative marker

NOM - Nominative case marker

PAST - Past tense

PLU - Plural marker

PRE - Present tense

TAJT - Timed acceptability judgment task

TOP - Topic marker

TT - Translation task

UGJT - Untimed grammaticality judgment task

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Chapter 1

Introduction

This thesis investigates second language acquisition of L2 English articles by adult native speakers of L1 Korean. It, firstly, attempts to examine whether adult learners can access Universal Grammar, testing poverty of stimulus effects. Secondly, it attempts to investigate to what extent L1 transfer plays a role in the acquisition of English articles. Furthermore, it examines whether naturalistic input is advantageous for adult L2 learners when they acquire generic use of English articles. Lastly, it expands testing grounds of the the ‘Interface Hypothesis’ (Sorace and Serratrice, 2009), based on the assumption that English article uses represent properties at both internal (generic use of English articles) and external ((in)definite use of English articles) interfaces.

Young children are nearly always successful in learning their first language. In the absence of developmental abnormalities, they seem to attain full mastery of their L1. They successfully acquire their L1 despite deficient L1 input and without any explicit instruction of their L1, thus raising the poverty of the stimulus problem. Chomsky (1965) proposed that L1 acquisition is governed by Universal Grammar which is suggested to consist of principles and parameters. It was argued that

children are born with a build-in grammar constrained by Universal Grammar and they use input to develop a grammar specific to their native language.

L2 acquisition studies have been interested in whether UG is similarly available for L2 acquisition. According to some acquisition studies, adult L2 learners cannot fully acquire L2 languages especially when they are exposed to input after adolescents (Johnson and Newport, 1989, 1991). Johnson and Newport (1989, 1991) argued that an ability to acquire a language critically declines with age, which coins a term, ‘critical period’ and this is widely assumed for L2 acquisition (Hawkins and Hattori, 2006; Tsimpli and Dimitrakopoulou, 2007). On the other hand, other researchers claim that adult L2 learners can attain native-like performance in the absence of early exposure to L2 input (Birdsong, 1992). Thus, the question of accessibility to UG by adult learners remains to be open for much debate (Ionin et al., 2004, 2009; Hawkins and Hattori, 2006; Johnson and Newport, 1991; Rothman and Iverson, 2007; Tsimpli and Dimitrakopoulou, 2007).

Regarding UG accessibility in L2 acquisition, there are mainly three approaches: 1) no access position, 2) partial access position, and 3) full access position. Researchers who supported *no access* position claim that L1 and L2 acquisition is fundamentally different (Bley-Vroman, 1989; Clashen and Muysken, 1986). In the acquisition study of German word-order, Clashen and Muysken (1986) argued that L2 learners did not seem to be able to reset parameters associated with word-order, thus UG is not available for L2 learners. What is more, Bley-Vroman (1989) proposed the *Fundamental Difference Hypothesis* which argues that adult L2 learners learn languages based on general learning strategies. However, some researchers presented counter-evidence to the *no access* approach because the *no access* position cannot account for some grammatical knowledge of L2 learners such as subjacency (Vainikka and Young-Scholten, 1996; Schwartz and Sprouse, 1996; Epstein et al., 1996; Schachter, 1989; Schachter, 1990).

Some researchers take the *partial access* position to UG and they argue that L2 learners can access UG only when the L2 properties are instantiated in their L1. Schachter (1989) tested if L2 learners with various L1s including Dutch, Chinese, Indonesian, and Korean can detect subjacency violations in English. According to the results, L2 learners whose L1 has subjacency effects performed better than those whose L2 does not have subjacency effects. Schachter (1989) interpreted the results as lack of UG access by L2 learners unless the L2 property is incorporated in their L1 grammar. However, later studies found that Indonesian speaking L2 learners whose L1 does not have subjacency effects can detect subjacency violations in English sentences. The results provide evidence that adult L2 learners can access UG even when L2 properties are not instantiated in their L1 (Martohardjono, 1993).

As we have seen evidence of UG accessibility by L2 learners above, some researchers take a position that adult L2 learners have *full access* to UG, like L1 acquisition. Many studies support this view by showing successful acquisition of L2 principles and parameters that are not manifested in the L1 (Epstein et al., 1996; Schwartz and Sprouse, 1996; Martohardjono, 1993; Ionin et al., 2004, 2009; Rothman and Iverson, 2007). In the *full access* view, the possibility of L1 transfer was not precluded, but the role of L1 transfer seems far from reaching a consensus. There are a number of studies which found L1 transfer in the acquisition of various L2 features such as word order and negation (Hulk, 1991; Robertson and Sorace, 1999; Sprouse and Schwartz, 1998). On the other hand, in some L2 domains, L1 transfer did not appear to have any effect on L2 acquisition, such as CP-headedness parameter, reflexive binding, and verb-raising (Flynn et al., 2000; Pollock, 1989; Eubank et al., 1997; Wexler and Manzini, 1987; Thomas, 1991).

As we have seen so far, a number of second language researchers have examined numerous linguistic properties to investigate UG accessibility and the role of L1 transfer, and found evidence that L2 learners can access UG properties that are

not instantiated in their L1. The current research attempts to investigate on the accessibility to UG by L1 Korean speaking learners of English and to explore to what extent L1 transfer influences adult L2 acquisition. The generic use of English articles have been generally under-investigated in the L2 literature, and this thesis aims to fill this gap.

It seems that research on English article acquisition has been mainly focused on the (in)definite uses of English articles (Huebner, 1985; Parrish, 1987; Thomas, 1989; Master, 1990; Robertson, 2000; Kim, 1991; Ionin and Wexler, 2003; Hawkins, 2006; Ionin et al., 2008; Trenkic, 2008, among many others), whereas relatively much less research has been conducted on the L2 acquisition of generic uses of English articles (Ionin and Montrul, 2009, 2010). Therefore, findings on the article choice of L2 learners in terms of generic sense would significantly contribute to literature on the second language acquisition.

Previous research on generics, so far, mainly shown most of its interest in the different semantics of the definite article in different languages, which are to denote maximality only (English) or both maximality and kinds (Spanish) (Ionin and Montrul, 2010, 2009). For instance, Ionin and Montrul (2009) investigated whether L2 learners can acquire different interpretations of the definite articles between English and Spanish (Ionin and Montrul, 2010, 2009). However, few studies have examined the acquisition of English genericity in more comprehensive terms.

In order to test UG accessibility, the most recent study on generic use of English articles by Ionin et al. (2011) investigated if L2 learners could distinguish between the two different types of generic (NP-level generics and sentence-level generics). However, the scope of the study of Ionin et al. (2011) was limited in that the focus of the study was only on L2 learners' ability on distinction between sentence-level generics and NP level generics. However, as we will see shortly in Chapter 2, English generics involve a number of other linguistic properties on which UG accessibility by adult

L2 learners can be tested. This is because those properties in question represent the poverty of stimulus - especially in generic NPs in different syntactic position and restriction on the semantics of nouns with ‘the’ in generic NPs. Consequently, this thesis attempts to consider multifaceted aspects of genericity in English articles, to put them to test in the context of L2 acquisition, and thus to provide a more comprehensive picture of L2 interlanguage of the generic use of English articles.

Additionally, the current thesis provides explanations for non target-like results which are to be observed in the acquisition of English articles by Korean adult learners. The English article is notorious for difficulties for L2 learners whose L1 do not have a corresponding article system (Abney, 1987; Huebner, 1985; Robertson, 2000; Ionin and Wexler, 2003; White, 2003, among many others). According to previous research, even most advanced L2 learners seem to have ongoing difficulties in the use of articles, or they cannot acquire native-like performance at all (Robertson, 2000). Therefore, it would be crucial to identify and explain source of difficulties in the domain of English article acquisition.

At the same time, there has been much emphasis on *interfaces* in the field of language acquisition studies to explain persistent optionalities in language acquisition, including first and bilingual acquisition (Sorace and Filiaci, 2006; Serratrice et al., 2009)¹. Thus, the current research investigates if the *Interface Hypothesis* (Sorace and Serratrice, 2009) can explain non target-like responses of advance L2 learners in the acquisition of English articles.

Sorace and Serratrice (2009) proposed the *Interface Hypothesis* (henceforth, IH), which argues that not all interfaces cause the same level of difficulties for bilingual and near-native L2 learners, but properties which involve grammar external domains or cognitive domains (external interface) can be more problematic than

¹The term ‘interface’ in acquisition studies are not identical to that of linguistic studies. The definitions of ‘interface’ will appear later in Section 3.3.1

those involving sub-linguistic modules (internal interface). The IH claims that syntax/discourse interface are crucial source of residual optionality which are observed in the endstate grammar of L2 learners (Sorace and Filiaci, 2006; Serratrice et al., 2009). Sorace and her colleagues mainly addressed the IH in three acquisition contexts which are bilingual acquisition, first language (L1) attrition and near native L2 speakers (Sorace and Filiaci, 2006; Serratrice et al., 2009). However, the test of the IH has been examined broadly including, advanced L2 learners but not near-native speakers (Lozano, 2009), L2 learners with low proficiency (Belletti and Leonini, 2004), heritage language learners (Montrul, 2004). Likewise, testing grounds for the IH have been extended to the various levels of L2 learners with numerous linguistic properties such as Spanish word order which are determined by lexical verb classes and discourse structure (Hertel, 2003) and discourse constraints on the realization of topic and focus (Belletti et al., 2007).

On the other hand, there has not been research on L2 acquisition of English articles regarding the IH. While generic use of English and Italian/Spanish article acquisition as internal interface was tested in the bilingual acquisition in comparison with the acquisition of distribution of subject pronouns in English and Italian/Spanish as external interface (Sorace and Serratrice, 2009), acquisition of generic use of English article uses has not been conducted in the domain of L2 acquisition. What is more, despite much emphasis on the effects of interface in L2 acquisition, most previous studies have mainly compared existing experimental research in different linguistic domains (White, 2011).

What is more, to my knowledge, no study have investigated a linguistic property that can represent both internal and external interface. The English article would be an ideal tool to test the IH because both internal interface and external interface are argued to be represented in the domain of English articles. English articles have two main uses; (in)definite uses and generic uses. As it will appear in Section 3.3.1,

current research argues that (in)definite use of English articles represents a property at the external interface and generic use of English articles involve internal interface. Thus, investigating the acquisition of English articles would provide meaningful data to test the IH as a sustainable tool to explain residual optionalities of adult L2 learners.

Furthermore, the current research attempts to investigate if naturalistic input is advantageous for adult L2 learners when they acquire English articles. The role of naturalistic input in adult second language acquisition has not been agreed (Isabelli, 2004; Rothman and Iverson, 2007). Isabelli (2004) showed evidence that naturalistic input is necessary to reset a parameter. On the other hand, Rothman and Iverson (2007) showed evidence that intermediate L2 learners can reset a parameter without naturalistic input, thus supporting that naturalistic is not privileged. As articles are one of the properties that learners show great difficulties, it would be interesting to investigate if L2 learners can perform better without naturalistic input, or if they need naturalistic input to better facilitate L2 acquisition.

1.1 Goals of this thesis

The main goal of the current thesis is to investigate the development of adult second language acquisition regarding generic uses of English articles. This study is concerned with characterising and explaining persistent non-target like behaviours which are to be observed in the adult L2 English acquisition of articles in terms of generic sense by native Korean speakers within the generative framework. Specific goals of the current thesis are as follows. Firstly, it will investigate whether adult learners can access Universal Grammar by testing poverty of stimulus effects in the domain of English article use. Secondly, to what extent the L1 has influence will be examined in the interlanguage of Korean speaking learners of L2 English. Thirdly, the current research investigates if naturalistic input would be advantageous to adult

L2 learners in the acquisition of less salient L2 features such as articles, particularly when the feature is not manifested in the learners' L1. Lastly, the current research aims to expand testing grounds of the *Interface Hypothesis* to L2 acquisition of English genericity by examining advanced Korean speaking L2 learners (Sorace, 2006; Sorace and Serratrice, 2009). This thesis proposes that (in)definite use of English articles involves *external interface*, whereas generic use of English articles represents *internal interface*.

1.2 Outline

The remaining chapters of the current thesis are organised as follows. Chapter 2 presents the theoretical background of this research. It compares cross-linguistic different properties of generic sentences between Korean and English languages. It particularly distinguishes sentence-level generics and NP-level generics following Krifka (1987). This chapter reviews various definitions of *interfaces* in the field of linguistics and clarifies the term 'interface' in acquisition studies. Then it is followed by a discussion on how the generic use of English articles represents a property at the internal interface and how the (in)definite use of English articles involves external interfaces. Chapter 3 discusses the most relevant literature on English article acquisition. It presents earlier and recent research on L2 acquisition of English article acquisition by learners with different L1 backgrounds. It also briefly provides an overview of studies on L1 acquisition of English articles in order to observe an L1 acquisition patterns on English articles. While doing so, some gap in the literature will be identified and the motivation of this research will be more clearly articulated in Chapter 3. It also includes hypotheses and predictions of the current research. Chapter 4 presents research questions of the thesis and discusses the methodologies used in this study. Chapter 5 presents review of linguistic studies of Korean genericity. In order to identify source of possible L1 transfer, an experimental study on

Korean genericity was conducted. Chapter 5 discusses results of the Korean experimental study and provides implications for the main English experiment. Chapter 6 presents the results and statistical analyses of a timed-acceptability judgment task, a translation task, and an untimed-grammaticality judgment task. In Chapter 7, the major findings observed in Chapter 6 are recapitulated and analysed in relation to the hypotheses and predictions of the current study. Chapter 7 also provides possible explanations for the unexpected participants' responses found in this experiment. In Chapter 7, as Ionin et al.(2011)'s research is one of the fewest previous studies on generic use of English article acquisition, findings from the current research will be compared to the the results from the previous research by (Ionin et al., 2011). Chapter 7 presents a summary of the major findings and concludes with some implications for future research.

Chapter 2

Genericity

In order to understand genericities in English and Korean, it would be fundamental to investigate underlying representations and interpretation of generic sentences in Korean and English. The current chapter aims to present how genericity is realized in both English and Korean sentences in terms of syntactic structures and semantic representations. In particular, the current study differentiates generic NPs from generic sentences following Krifka (1987), thus they are discussed separately. In addition, the current chapter provides discussion on how generic use of English articles involves syntax-semantics interface, whereas (in)definite use of them concerns syntax-discourse interface.

Organisation of the current chapter is as follows. Section 2.1 discusses English generic sentences and generic noun phrases. Section 2.1.1 presents basic properties of English generic sentences and their semantic representations are illustrated in section 2.1.2. In section 2.1.3, syntactic structures of generic sentences regarding different predicates are presented. Section 2.1.5 discusses basic properties of English generic NPs and it is followed by an explanation of different semantic structures such as definite singular generic NPs and bare plural generic NPs in Section 2.1.6.

While doing so, we also consider not only generic NPs in the subject position but also those in the object position. Section 2.1.4 summarises properties of English generic sentences and generic NPs.

Section 2.2 investigates Korean generic sentences and generic NPs. As the Korean topic marker *nun* is mainly responsible for Korean generics, usage of *nun* is researched in detail in section 2.2.1. It is followed by a discussion of Korean generic NPs and Korean generic sentences separately in sections 2.2.2 and 2.2.3. Section 2.2.4 discusses plurality of nouns in Korean generic sentences. Lastly, section 2.3 provides an explanation for cross-linguistic differences regarding generic reference.

2.1 English generic sentences and generic noun phrases

Genericity has been studied not only by linguists but also by philosophers during the last couple of decades. Numerous studies have revealed interesting facts on genericity and many crucial concepts were developed and established. Most importantly, Krifka (1987) made a thorough distinction between generic sentences and generic noun phrases. Let us firstly discuss generic sentences. *Generic sentences* express generalizations as opposed to *particular sentences* that state particular events. Consider the following examples in 2.1.

- (2.1) a. The sun rises in the east.
b. The sun rose in the east this morning.

(Carlson and Pelletier, 1995, p.230)

Example (2.1-a) is a generalisation that expresses regularity, whereas example (2.1-b) expresses episodic meaning. On the other hand, *Generic noun phrases* refer to ‘a kind’ as exemplified in 2.2 below.

- (2.2) a. The potato was first cultivated in South America.
b. Potatoes were introduced into Ireland by the end of the 17th century.
c. The Irish economy became dependent upon the potato.

(Carlson and Pelletier, 1995, p.2)

The underlined Noun Phrases (NPs) in (2.2-a), (2.2-b), and (2.2-c) above do not refer to some specific potato or group of particular potatoes. They rather designate the kind of potato as *Solanum tuberosum* (a scientific name for potatoes) itself. In other words, generic NPs do not refer to a particular or individual object, but refer to a kind. Of course, the two generics - kind-referring generics and characterising generic sentences¹- can occur in a single sentence as in (2.3-a) and (2.3-b).

- (2.3) a. Potatoes are served whole or mashed as a cooked vegetable.
b. The potato is highly digestible.

(Carlson and Pelletier, 1995, p.3)

The underlined subjects in (2.3-a) and (2.3-b) are kind-referring NPs and the sentences also express characteristics of the kinds of ‘potatoes’ in (2.3-a) and ‘the potato’ in (2.3-b). As we have seen in (2.3-a) and (2.3-b), generic NPs and generic sentences occur in a combined form quite often (Carlson and Pelletier, 1995).

¹The terms ‘generic sentences’ and ‘characterising generics’ both refer to the sentence-level generics, thus they will be used interchangeably. Also, the terms ‘kind-referring NPs’ and ‘generic NPs’ both refer to NP-level generics and so will be used interchangeably.

While characterising generics and kind-referring NPs are two distinct phenomenon, it is quite evident that reference to kinds and characterising sentences shares common features. In the former, we take out them from particular events and facts but in the latter one, we take out them from particular objects. What is more, one can naturally state the common rule about the specimens of a kind by asserting it for the kind itself. Nevertheless, as it turns out to be linguistically different, it is important to distinguish these two types of generic phenomena henceforth. Thus, the current research will present genericity with consideration of a distinction between characterising generic sentence and kind-referring NPs. Properties on ‘generic sentences/characterising generics’; will be first examined and it will be followed by an investigation on ‘generic noun phrases/kind-referring noun phrases’.

2.1.1 Basic properties of generic sentences

As it is briefly illustrated, *generic sentences/characterising generics* report general properties of proceeding nouns.

- (2.4)
- a. A potato contains vitamin C, amino acid, protein and thiamine.
 - b. John smokes a cigar after dinner.
 - c. John smoked a cigar last night.

Example (2.4-a) concerns the generalisation on properties of potatoes and (2.4-b) shows generalisation over events. They are called *generic sentences* or *characterising sentences* as opposed to *episodic sentences* or *particular sentences* as in (2.4-c).

In characterising generic sentences, the locus of genericity is in sentences rather than noun phrases (Carlson and Pelletier, 1995). This idea can be supported by the following arguments. Firstly, generic sentences can practically have any types of NPs including indefinites NPs with ‘a’ as in (2.5-a), definite NPs with ‘the’ as in

(2.5-b) and proper nouns as in (2.5-c) below. In addition, quantified NPs such as (2.5-d) can appear in characterising generic sentences.

- (2.5) a. A student drinks beer.
b. The student drinks beer.
c. John drinks beer.
d. Every student drinks beer.

[modified from](Carlson and Pelletier, 1995, p.8)

Since a wide variety of NPs in these generic sentences are acceptable, one cannot claim that such types of genericity are conditioned by noun phrases. Secondly, it is argued that when characterising generic sentences are marked formally with, for example, adverbs or a type of auxiliary, the generic operator is more tied to the finite verb than arguments of the verb in the sentence (Carlson and Pelletier, 1995). The following examples provide support to this claim. For instance, the marker of generalisation or characterisation is some type of auxiliary such as ‘*used to*’ or an adverb like ‘*usually*’ in English as in 2.6 below.

- (2.6) a. Kim used to smoke a cigarette.
b. Kim usually smokes a cigarette.

In some languages, genericity can be realised by using special morphological forms. For instance, an affix is required to be attached to the the main verb in Swahili and many other languages (Dahl, 1985; Carlson and Pelletier, 1995). Consider example 2.7.

- (2.7) Wanawake hu-fanya kazi ya kuchokoa pwesa.
women HABIT-do work of catching squid

'The women (generally) do the work of catching squid'

(Carlson and Pelletier, 1995, p.8)

For such reasons, one can argue that genericity arises from sentence level in characterising generic sentences. One of the most important features of characterising generic sentences is the distinction between 'habitual sentences' and 'lexical characterising sentences'. The former expresses the generalisation over events as in (2.8-a) while the latter states a generalisation over characterising properties as in (2.8-b).

- (2.8) a. Kim smokes a cigarette after dinner.
b. Kim is intelligent.

The verbal predicates of 'habitual sentences' are s(stage)-level predicates and the verbal predicates of 'lexical characterising sentences' are i(individual)-level predicates. Carlson (1977a) introduced this distinction of predicates. I-level predicates express individual properties which are permanent or tendentially stable. As Carlson (1977a) claims, there are three essential types of i-level predicates. Examples for i-level predicates can be seen in 2.9.

- (2.9) a. **Stative verbs:** know, love, hate, like (vs. hit, smoke, run)
b. **All (predicative) NPs:** be a man, be mammals
c. **Adjectives:** smart, short, red (vs. drunk)

Meanwhile, s-level predicates attribute to the property of individuals transient and episodic such as *smoke*, *play*, *available*, *drunk*. As it is discussed, i-level predicates and s-level predicates are distinct and they induce different characterising generics; lexical characterising generics and habitual generics.

So far, fundamental concepts and notions of generic sentences were covered. Now, let us examine how generic sentences can be understood and semantically analysed.

2.1.2 Semantic representation of generic sentences

This section presents a rough sketch on the basic representation of generic sentences. Lewis (1975) introduced ‘tripartite structure’ to represent the structures of quantification, researchers have applied it to represent generic sentences. That is because generic sentences are also considered as a kind of quantificational sentence (Lewis, 1975; Kamp, 1981; Heim, 1982). Let us briefly discuss the *tripartite structure*. The *tripartite structure* consists of an Operator, a Restrictor, and a Scope as in 2.10 below.

(2.10) Operator x, \dots, z [Restrictor x, \dots, z] [Scope x, \dots, z]

The operator is usually quantifier such as *most, usually, often*. The Restrictor defines the domain where the variables range and the Scope specifies the property of members of the domain defined by the Restrictor. For instance, the semantic representation of ‘most tigers are striped’ can be as follows;

(2.11) Most x [Tiger (x)] [Striped (x)]

(Leslie, 2007, p.337)

Regarding generic sentences, the generic operator ‘Gen’ occurs as an operator and binds variables. ‘Gen’ also relates the Restrictor to the Scope. Thus, a generic sentence ‘tigers are striped’ can be represented as follows;

(2.12) Gen x [Tiger (x)] [Striped (x)]

(Leslie, 2007, p.337)

The *tripartite structure* was further elaborated in the ‘Discourse Representation Theory (DRT)’ by Kamp (1981). According to the DRT, indefinite noun phrases do not possess their own quantification force. Under the DRT, the quantification force is established by the context where they occur. They can introduce a new variable into the discourse domain but they cannot be analysed as existential quantifiers.

- (2.13) a. A child always loves chocolate.
b. Every child loves chocolate.

- (2.14) a. A child is usually likes chocolate.
b. Most children like chocolate.

- (2.15) a. A child seldom likes beer.
b. Few children like beer.

The examples 2.13, 2.14, and 2.15 display that the quantificational force of indefinite singular NPs depends on the frequency adverbials like *always* as in 2.13, *usually* as in 2.14 and *seldom* as in 2.15. The Discourse Representation Structure (DRS) of (2.13-a) can be lineally demonstrated as below in 2.16.

- (2.16) **ALWAYS**_x [**child**(x)] \exists y[**chocolate**(y) \wedge love(x,y)]
↑ ↑ ↑
quantifier restriction nuclear-scope

In 2.16 DRS, *a child* and *chocolate* introduce *x* and *y* respectively. While the quantifier **ALWAYS** binds the former *a child* and assigns a universal force, the

latter *chocolate* doesn't seem to have a quantifier to find it. In such cases, existential closure binds unbound variables such as *chocolate*. The tripartite structure of 2.14 and 2.15 will be as follows, respectively.

$$(2.17) \quad \mathbf{USUALLY}_x [\mathbf{child}(x)] \exists y[\mathbf{chocolate}(y) \wedge \mathbf{like}(x,y)]$$

$$(2.18) \quad \mathbf{SELDOM}_x [\mathbf{child}(x)] \exists y[\mathbf{beer}(y) \wedge \mathbf{like}(x,y)]$$

Likewise, generic representation can be inferred. As generic sentences are considered to embed a covert quantifier such as *usually*, the generic sentence can be represented with tripartite structures.

$$(2.19) \quad \begin{array}{l} \text{a. Dogs are faithful.} \\ \text{b. } \mathbf{GEN}_x [\mathbf{dog}(x)] [\mathbf{faithful}(x)] \end{array}$$

$$(2.20) \quad \begin{array}{l} \text{a. A pig has a tail.} \\ \text{b. } [\mathbf{GEN}(x)] [\mathbf{pig}(x)] \exists y[\mathbf{tail}(y) \wedge \mathbf{have}(x,y)] \end{array}$$

As it is represented in 2.19 and 2.20, the covert generic quantifier is expressed by \mathbf{GEN}^2 . Again, otherwise unbound variables after the partitioning are bound by existential closure. So far, I have briefly introduced most basic and fundamental semantic representations for generic sentences. Let us now turn to the syntax and semantics map of generic sentences.

²It has been argued that the approximation to the semantics of the GEN operator might be analysed as a universal quantifier. For example, 'A pig has a tail' can have semantic representation of ' $\mathbf{GEN}_{[x;y]}(x \text{ is a pig } \wedge y \text{ is a tail } \wedge \mathbf{has } y)$ ' And this sentence can be given the semantics of *Every pig has a tail* and represented as $\forall x[x \text{ is a pig } \rightarrow \exists y[y \text{ is a tail } \wedge \mathbf{has } y)]$. But, it is too strong to argue GEN as a universally quantified sentence since characterising sentences do allow exceptions. For example, for the sentence 'A pig has a tail', it can be true even if there are some pigs that do not have tails for some reason. Hence, there are many ways to analyse the semantics of GEN operator such as relevant quantification, prototypes, stereotypes, modal interpretations and situations. Further explanation can be found in Carlson and Pelletier (1995)

2.1.3 Syntactic structure of generic sentences

This section discusses the underlying structure of generic sentences. In particular, it discusses the syntactic structure of generic sentences and how the syntactic structure is related to the semantic interpretation of the generic sentences.

Mapping Hypothesis (Diesing, 1995)

This section shows underlying structures of generic sentences and it also reviews interface relationship between syntax and semantics in English generic sentences suggested by Diesing (1995). Diesing (1995) suggests that “purely syntactic concerns such as word order and hierarchical structures do in fact play an important role in the process of “reading off” semantic representations of NPs from the syntactic forms of sentence” (Diesing, 1995, p.1). She demonstrates a close relationship between syntactic and semantic representations in terms of readings of bare plural NPs. Bare plurals are a unique kind of indefinite NPs which do not have an overt determiner. As Carlson (1977a) also shows, English bare plurals in sentence initial position can be interpreted either generically or existentially. See the examples in 2.21.

- (2.21) a. Brussels sprouts are unsuitable for eating.
b. Carpenter ants destroyed my viola da gamba.

[partly modified from](Diesing, 1995, p.16)

The example (2.21-a) receives a generic reading. (2.21-a) does not state any specific *Brussels sprouts*. Instead, it is a general statement that *Brussels sprouts* have an inedible property. However, the bare plurals in (2.21-b) can be read existentially. It does not state about the general property of carpenter ants. It asserts that there are some carpenter ants that destroyed my viola da gamba. For the logical

representation, Diesing (1995) assumed that in order to make generic readings, an abstract generic operator GEN should bind variables. She also suggested that like singular indefinites such as ‘a Carpenter ant’, bare plurals have variables in the logical representation. Therefore, the bare plurals in (2.21-a) and (2.21-b) have different representations as in (2.22-a) and (2.22-b), respectively.

- (2.22) a. GEN x [x is a Brussels sprout] x is unsuitable for eating
 b. \exists x is a carpenter ant \wedge x destroyed my viola da gamba

[partly modified from](Diesing, 1995, p.16)

Bare plural NPs in (2.22-a) appeared in the restrictive clause and the generic operator GEN bound it. It gives the generic interpretation of ‘brussels sprout’. Meanwhile, in (2.22-b), bare plural NP ‘carpenter ants’ is introduced in the nuclear scope and existential closure binds it. It results in the existential interpretation. Thus, (2.22-a) can be read as ‘brussels sprouts are usually unsuitable for eating’ and (2.22-b) can be interpreted as ‘there are some carpenter ants which destroyed my viola da gamba’.

However, Carlson (1977a) emphasizes that subject bare plurals cannot always allow both generic and existential interpretations. He distinguished two types of predicates which are s(stage)-level predicates and i(individual)-level predicates. He also highlights that this distinction is significant in understanding genericity. He notes that bare plural subjects of s-level predicates receive an existential reading, but bare plural subjects of i-level predicates receive a generic reading.

On the other hand, Diesing (1995) suggested that bare plural subjects with s-level predicates can receive both existential meaning and generic meaning. In fact, Diesing presents three different readings for sentences with s-level predicates but

I only discuss the relevant two readings for the sake of simplicity (following Jun, 1995). Consider the following examples.

- (2.23) a. Firemen are available.
b. $\text{GEN}_x[\text{firemen}(x)][\text{available}(x)]$
c. $\exists x[\text{firemen}(x) \wedge \text{available}(x)]$

[partly modified from](Jun, 2001, p.18)

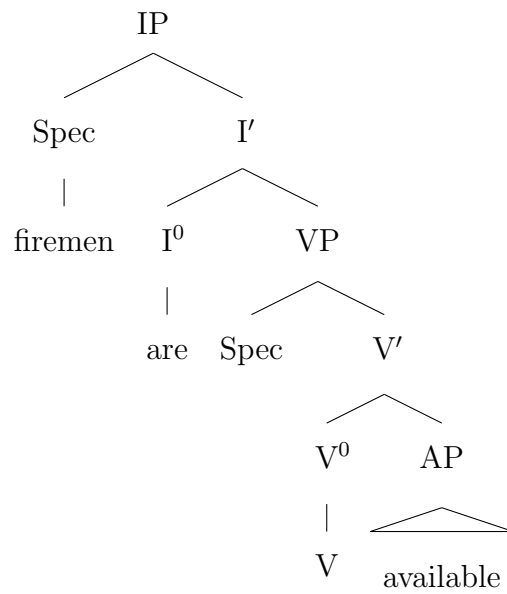
As the logical representation shows, for the s-level predicate ‘available’, the bare plural subject can have both generic and existential interpretation. In other words, in terms of generic interpretation of (2.23-b), being available is an essential and characteristic property of firemen. For the existential meaning, (2.23-c) could mean that there are typically some firemen available around here.

On the other hand, bare plural subjects with i-level predicates can only have generic readings as in 2.24 below.

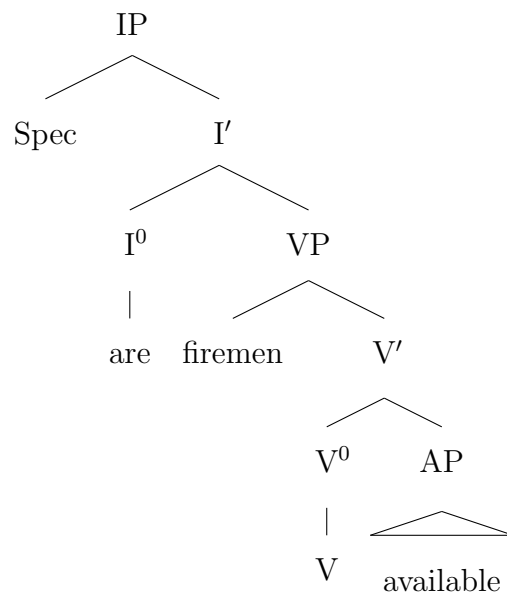
- (2.24) a. Firemen are altruistic.
b. $\text{GEN}_x[\text{firemen}(x)][\text{altruistic}(x)]$

Diesing suggested that the syntax of the sentences reflect the semantic asymmetry between s-level predicates and i-level predicates. The following two syntactic structures reflect two different readings of the bare plural subjects with s-level predicates.

(2.25)



(2.26)



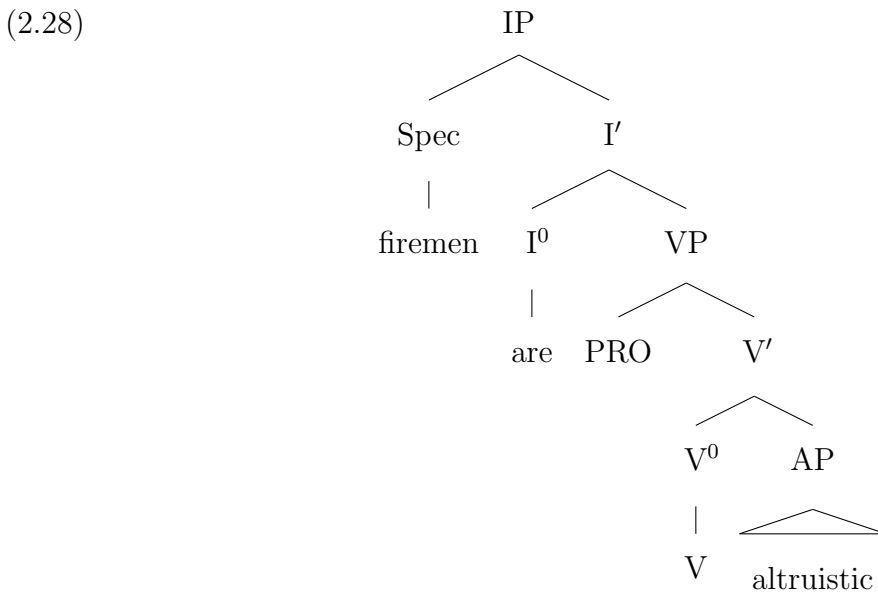
These representations are LF levels, as the mapping occurs at LF level in English. Syntactic tree 2.25 reflects the generic reading in (2.23-b) and syntactic tree 2.26 provides the syntactic structure of the existential reading in (2.23-c). In structure 2.25, the subject 'firemen' occupies the specifier of IP [Spec, IP] position. But, in 2.26, it is lowered to the specifier of VP [Spec, VP] position. Diesing suggests the following mapping hypothesis between syntactic and semantic representations.

- (2.27) a. Material from VP is mapped into the nuclear scope.
 b. Material from IP is mapped into the restrictive clause.

[taken from](Diesing, 1995, p.15)

The mapping hypothesis proposes that ‘firemen’ in (2.23-b) is mapped into the restrictive clause and ‘firemen’ in (2.23-c) is mapped into the nuclear scope. (2.23-b) can receive a generic reading from the generic operator, but (2.23-c) is interpreted existentially by existential closure.

However, for the i-level predicates, only one syntactic structure is allowed as it has only one interpretation, as in (2.24-b). The syntactic structure is represented in 2.28 below.

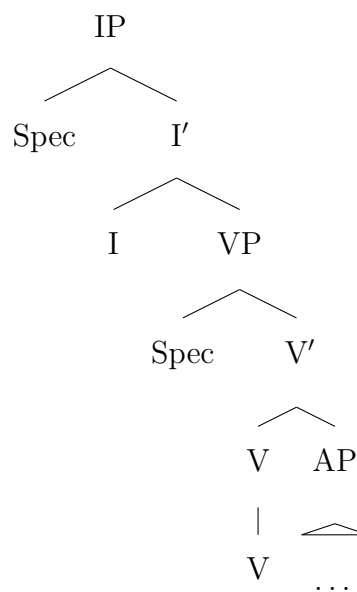


In this representation, according to the mapping hypothesis, ‘firemen’ appears in the specifier of IP position and is mapped into restrictive clause. It is interpreted generically since it has a generic operator. To sum up, the [Spec, IP] position is related to the generic reading and the [Spec, VP] position is linked to the existential

reading. S-level predicates allow both locations for the subjects. Thus, subjects with s-level predicates can receive both generic and existential readings. On the other hand, i-level predicates only allow [Spec, IP] for subject position. Hence subjects with i-level predicates only have a generic reading.

Diesing accounted for such phenomenon by the different properties of Infl associated with them. For the s-level predicates, see the tree below.

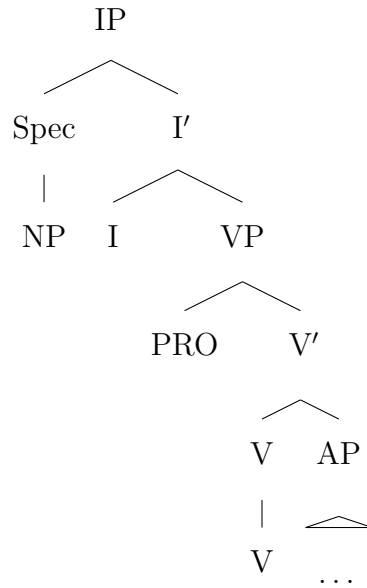
(2.29)



The Infl in s-level predicates is an unaccusative infl. Subject is base-generated within the VP [Spec, VP] and Infl does not assign a theta role to [Spec, IP]. Hence, subject NPs should raise to specifier of IP position to have case assigned, and leave a trace in the specifier of VP position. When you raise the subject to the specifier of IP position, it generates a generic interpretation of the subject NP. In addition, the subject NP in the specifier of IP position can be lowered to the specifier of VP position and it can receive existential meaning.

However, she suggests that i-level predicates have “control Infl” and it assigns theta role to specifier of IP position. Consider the following tree.

(2.30)



The subject NP is base-generated in the specifier of IP position and the theta role is directly assigned by the control Infl. The specifier of VP position is occupied by a PRO and the verb assigns a theta role to PRO. Subject NP cannot be lowered to the position of specifier of VP as it is already occupied by the PRO. Therefore, the subject NPs of i-level predicates can only appear in the restrictive scope and hence are interpreted as generic. We have now seen how bare plurals in the subject position can be interpreted differently with different types of predicates. Chierchia (1998) also shows different syntactic structures of generic sentences depending on different predicates.

I-level predicates as inherent generics

In Diesing (1995)'s 'Mapping Hypothesis' it was presupposed that s-level predicates have an extra Davidsonian argument for space-time locations. However, it was assumed that i-level predicates do not have such an argument. On the other hand, Chierchia (1998) implements Diesing's idea by arguing that all predicates including i-level ones have a Davidsonian argument ranging over occasions and eventualities. But, for the i-level predicates, they should be bound by a *generic operator*. In

this approach, i-level predicates are viewed as inherently generic. In this approach, genericity manifests itself overtly in the aspectual system of a language. For example, it is argued that in English, the simple present which is aspectually imperfective has a predominant habitual interpretation. For example, see 2.31 below.

- (2.31) a. A bird flies.
b. A bird is flying.

Consider the sentences in 2.31, (2.31-a) with imperfective present tense can have a general understanding of habitual properties. However, for (2.31-b), with the present progressive form, it is difficult to receive a habitual interpretation.³ Also, the simple past and future tenses are suggested to have natural generic interpretations as in 2.32 below.

- (2.32) a. Dodos were extinct.
b. The rhino will become extinct soon.

Some languages are argued to mark genericity by using explicit aspectual morphemes. For example, Swahili marks genericity by using a special morpheme, the verbal prefix *hu-* in characterising sentences as in 2.33 below. The example is repeated from 2.7

- (2.33) Wanawake hu-fanya kazi ya kuchokoa pwesa.
women HABIT-do work of catching squid

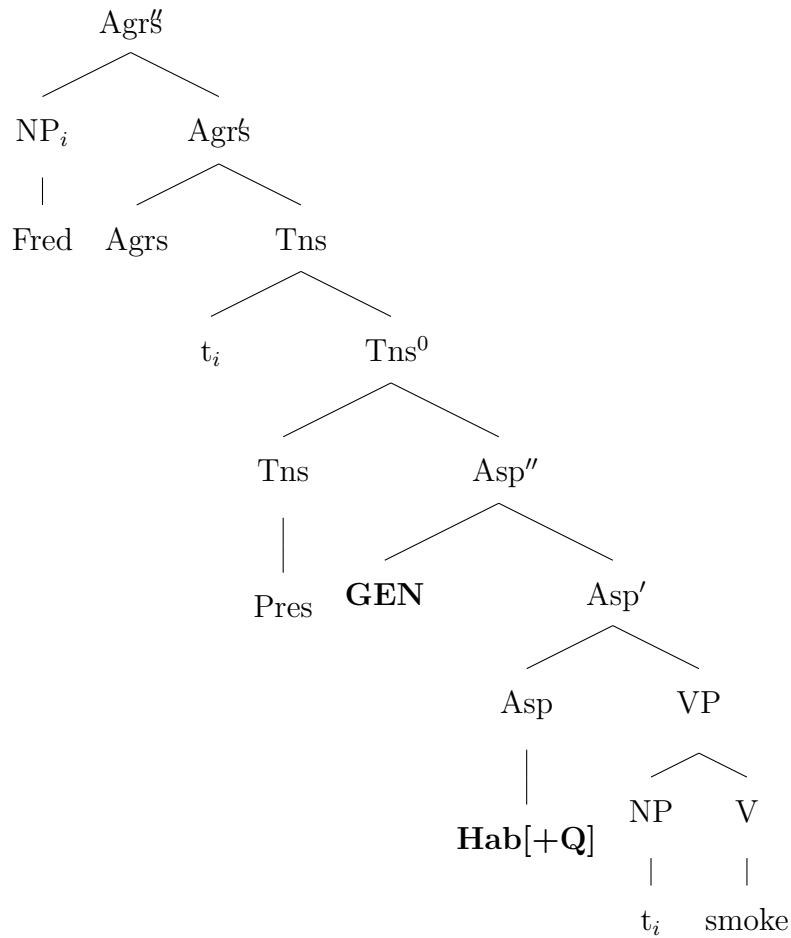
³Dahl (1995) demonstrates the general relationship between generic/episodic reading and tense and aspect systems. He argues that no overt general marker or episodic markers are found in natural languages, but prototypical generic sentences are “minimally marked” with respect to tense and aspect. In most languages, present simple tense forms are the minimally marked tense form. Hence, simple present form is mostly commonly used in generic sentences. The present tense forms are interpreted in a timeless way rather than describing direct situations. Also, the present progressive tense form is hardly used in generic sentences, but sentences like “Donkeys are becoming ever more stubborn” can be interpreted generically in comparing donkeys in the past (Ter Meulen, 1986).

'The women (generally) do the work of catching squid'

(Carlson and Pelletier, 1995, p.8)

Accordingly, it was assumed that all natural languages have a distinctive habitual morpheme (HAB), and the HAB morpheme can be taken to be a functional head in aspectual projections. This semantically relevant morpheme carries an agreement feature and it requires the Gen-operator in its specifier position. Under this hypothesis, the structure of 'Fred smokes' can be represented as in 2.34. It is a very rough sketchy tree suggested by Chierchia (1995).

(2.34)

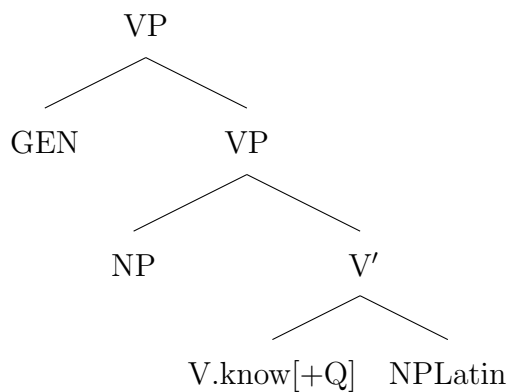


(Chierchia, 1995, p.197)

In order to pick up the habitual marker, tense, and agreement, the verb *smoke* undergoes head raising. The habitual marker is assumed to have an agreement feature +Q for quantification, and it requires the GEN feature in the specifier position.

Meanwhile, with respect to the i-level predicates, it was assumed that i-level predicates inherently contain the *HAB* morpheme in the lexicon. It means that they entail the feature [+Q] in the predicates and it requires a *GEN* operator. Therefore, if the i-level predicate, which embeds *HAB*([+Q]), cannot find the *GEN* within the immediate checking domain, ungrammaticality will arise. In other words, as it was assumed the *HAB* was lexicalised in the verbal head, i-level predicates are required to be licensed by *GEN*, and it was considered a ‘generic polarity’ item. Schematically, the syntactic structure of a VP ‘know Latin’ with i-level predicates is shown in 2.35.

(2.35)



(Chierchia, 1995, p.202)

In this section, we have seen how generic sentences are realized syntactically, and the syntactic differences between sentences with s-level predicates and i-level predicates are discussed. In the following section 2.1.4, brief summaries of English article uses in characterising generic sentences, including lexical generics and habitual generics, are presented.

2.1.4 English articles and generic sentences

This section briefly summarises English article uses in generic sentences. As was shown in the previous sections, genericity in generic sentences lies in sentences not in NPs. Therefore, basically any form of NP can occur in characterising generic sentences.

- (2.36) a. A dog barks.
b. Dogs bark.
c. The dog barks.

The examples in 2.36 are all habitual generic sentences with s-level predicates, where as the examples in 2.37 are lexical generic sentences with i-level predicates.

- (2.37) a. A dog is smart.
b. Dogs are smart.
c. The dog is smart.

In summary, the paradigm of English generic sentences can be as follows.

A) Habitual Sentences

- a) A+noun + s-level predicates
- b) Bare plural + s-level predicates
- c) The+noun + s-level predicates

B) Lexical Generic Sentences

- a) A+noun + i-level predicates
- b) Bare plural + i-level predicates

c) The+noun + i-level predicates

We have investigated the semantic and syntactic properties on characterising generics and seen the paradigm of English generic sentences. Let us now turn to discussion of the NP-level generics.

2.1.5 Basic properties of generic noun phrases

This section focuses on the basic observation on kind-referring NPs. Carlson and Pelletier (1995) capitulated fundamental properties of kind-referring NPs as follows.

- A) Nominal predicates that are linked to well-established kinds can be considered as kind-referring NPs (*the Coke bottle* vs. #*the large bottle*)⁴.
- B) When the verbal predicate occurs with kind-referring NPs, it does not necessarily have to be stative (*The donkey is becoming ever more stubborn*).
- C) Some verbal predicates such as *be extinct* or *invent* require kind-referring NPs in certain argument positions.

Observations above can reveal that kind-referring genericity is tied to NPs themselves and not to sentences. In English, the typical linguistic forms of non-taxonomic kind-referring NPs are definite singular NPs as in (2.38-a), bare plurals as in (2.38-b), mass nouns as in (2.38-c), and proper names as in (2.38-d) below.

- (2.38) a. The Panda will become extinct soon.
b. Pandas will soon become extinct.
c. Gold has the atomic number 79.
d. Ailuropoda melanoleuca (scientific name of the panda) will become extinct soon.

⁴# indicates infelicitous readings under generic senses.

(Carlson and Pelletier, 1995, p.65)

If so, it raises a question as to why only these forms are regarded as kind-referring NPs and not others. Carlson and Pelletier (1995) provide one possible explanation for this phenomenon. They hypothesise that kinds are individual entities. Thus, kind-referring NPs are NPs that introduce these individual entities. It was suggested that kind-referring terms might be semantically interpreted as proper names. Some supporting evidence was presented. For example, a conceptual relationship between kind-referring NPs and proper names was argued such that they are similar in that they are both definite and referring terms. Moreover, it was suggested that in fact, kind-referring NPs have proper names such as *Ailuropoda melanoleuca* (*scientific name of the Panda*) as in example (2.38-d) above.

Then, let us examine why kind-referring terms precisely take the forms of definite singular NPs and bare plurals. A possible explanation for this is that normally common nouns can have at least two functions. Firstly, they refer to a kind, and secondly, they refer to the extension of the set of entities. To explain more specifically, there is a realization relation R that relates kinds to their extensions. Therefore, a representation $R(x, k)$ can represent that object x belongs to the kind k . For example, common noun *panda* has two functions. Firstly, it is related to the kind *panda* and secondly it refers to the set of all pandas in extension. It was suggested that common nouns should behave as a proper name (NP) in accordance with its kind-referring function. However, according to its predicative function, common nouns should behave like the predicate N. This asymmetry between kind-referring readings and predicate readings were originally detected for in mass nouns. English mass nouns can occur in both readings.

- (2.39) a. Water is a fluid.
b. This puddle is water .

Ter Meulen (1980, 1981) noted the distinction between nominal mass terms and predicative mass terms. It seems agreeable that common nouns are primarily predicates thus the category N and for the kind-referring terms which should be the category NP, they need to be marked. This property varies in accordance with different languages.

Let us examine the English language. The fundamental syntactic difference between simple NPs such as proper nouns and common nouns is that while NPs can be directly used as arguments, Ns require appropriate determiners. But proper names with the definite article such as *The American* are commonly found. It should raise no puzzle since proper names are semantically definite. However, common nouns can be categorised into three groups. Firstly, for mass nouns, they can behave as an NP without any determiners. This is the same case with plural nouns. However, for singular count nouns they require a determiner. Hence, for common nouns to be interpreted as kind-referring terms, they are required to be transformed into the category NP. Three options were suggested to meet this requirement (Carlson and Pelletier, 1995).

- (2.40) A) If the noun is mass, it can be used directly as an NP.
B) If the noun is countable, put it into the plural form.
C) If the noun is countable, add a definite article as a determiner.

In addition, there are kind-referring NPs which have syntactically complex forms as in the examples below.

- (2.41) a. The German shepherd is a faithful dog.
 b. #The German fly is a lazy insect.

In other words, even though an NP form is syntactically complex like *The German shepherd* above, it is considered as a lexical entity. This is because the complex NP denotes kinds that are not construed from the text but well-established from the background knowledge of the speaker or hearer. In such cases, the NPs should be treated as idiomatic expressions. This means that the meaning of syntactically complex nouns cannot be construed from the meaning of each part as in (2.41-b) above⁵.

Up to now, the basic properties of kind-referring NPs in the subject position were investigated. Meanwhile, in terms of genericity, the use of kind-referring NPs shows asymmetry in different syntactic positions. In fact, with respect to genericity, usages of NPs in object position are more difficult to grasp and complicated than those in subject position. Let us examine the phenomenon of kind-referring NPs in object position. The following sentences present obvious cases of kind-referring NPs in direct object position.

- (2.42) a. The Americans invented chewing gum.
 b. The Italians improved German food quite a lot.
 c. Shockley invented the transistor/ ?transistors.
 d. The Summerians invented the pottery wheel/ ?pottery wheels.
 e. The French settlers in Mauritius exterminated the dodo/ ?dodos.

(Carlson and Pelletier, 1995, p.70-1)

The examples of (2.42-a) and (2.42-b) display that kind-referring mass nouns can occur in object position. Also, it is shown that definite countable nouns can occur in

⁵Complex NPs that denote kinds will be discussed further in Section 2.1.6.

the object position in (2.42-c), (2.42-d), and (2.42-e). However, it is maintained that bare plural NPs in the object position are not normally accepted as kind-referring after kind-requiring verbs by English speaking people, and thus they are indicated with a question mark in (2.42-c), (2.42-d), and (2.42-e). Surely, bare plural NPs in direct object position can be interpreted as NPs that denote subclasses of kinds. For example, in (2.42-c), *transistors* could refer to the subkinds of the transistor. This is the same case with the *pottery wheels* in (2.42-d) and the *dodos* in (2.42-e). These readings are regarded as taxonomic readings. Some people would interpret the bare plurals in (2.42-c), (2.42-d), and (2.42-e) as generics and insist they are not taxonomic. But, these people would probably agree that they interpreted *invented* as *constructed* and *exterminated* as *killed*. In other words, they interpreted kind-referring verbs as object-referring verbs. One should note that the phenomenon is to do with the syntactic position itself rather than the semantics of NPs. See the following example 2.43.

(2.43) Dodos were exterminated by the French settlers in Mauritius.

Example 2.43 is a passive sentence of (2.42-e) above. As it is shown, the bare plural form is much more acceptable in subject position. Therefore, kind-referring bare plural NPs can only be problematic when they occur in object position. Meanwhile, bare plural NPs are considerably better in some sentences, as shown in 2.44.

(2.44) John hates coffee/ cigarettes/ the lion.

(Carlson and Pelletier, 1995, p.71)

Bare plural NP forms are good to use for generics as exemplified in 2.44.

One of the possible explanations of the phenomena suggested by Carlson and Pelletier (1995) was that the default interpretations of bare plurals are indefinite and

the definite reading arises only in the proper syntactic environment. At least two syntactic environments are assumed to be suitable. Firstly, the subject of categorical sentences can be read as definite by being placed in the topic position, as in 2.45.

- (2.45) a. Pandas are facing extinction.
b. Pandas were roaming the camp.

(Carlson and Pelletier, 1995, p.73)

‘*Pandas*’ in (2.45-a) refer to the kind of the Panda, *Ailuropoda melanoleuca*, itself. Whereas, ‘*pandas*’ in (2.45-b) can be interpreted as some specimens of the kind. Secondly, stative verbs⁶ in object position can give kind-referring interpretation on the following NPs. Stative verbs prefer a definite interpretation of bare plurals in object position as in 2.46.

- (2.46) John hates cigarettes.

Thus, bare plurals can be interpreted as generic NPs in proper syntactic circumstances.

In this section, we have investigated the basic properties and characteristics of kind-referring NPs; bare plurals and ‘the+singular’ NPs. Also, different uses of kind-referring NPs in different syntactic positions were examined. Now, in the next section, let us discuss how two different generic NPs are semantically distinguishable.

⁶For further explanations and examples of stative verbs, see section 1.1.

2.1.6 Different semantic interpretations for kind-referring NPs; ‘bare plurals’ and ‘the+singular’

The semantic literature generally consent that the semantic interpretation between definite singular generics and bare plural generics is distinguishable (Chierchia, 1998; Dayal, 2004; Farkas and Swart, 2009). In terms of definite singular generic NPs, Carlson (1977a) originally treats the definite singular NPs as referring to a special atom k and they are kind-referring and unique. On the other hand, with respect to bare plural generic NPs, they are assumed to be involved with the ‘sum’ of their instantiations across different worlds and situations.

Regarding bare plural readings, there have been two main approaches that have developed in the literature (Krifka, 1987). One follows the argument suggested by Carlson (1977a) and Chierchia (1998) which considers English bare plurals as referring to direct kinds. The other view regards bare plurals as ambiguous between kinds and weak indefinites⁷.

In one view, Chierchia (1998) introduced the ‘down’(\cap) operation which has a function of linking properties and kinds. For example, if the property of being a dog is DOG, \cap DOG represents the corresponding kind. If d is the kind of dog, ‘ \cup ’ is the property of the DOG of being a dog. Consequently, ‘ \cap ’ and ‘ \cup ’ are links that assign kind readings from the corresponding property and vice versa.

- (2.47) a. PROPERTIES(P) \rightarrow KINDS(K)
 ‘down’ \cap
 b. PROPERTIES(P) \leftarrow KINDS(K)

⁷The weak-strong contrast of indefinite NPs can be found from Milsark (1974). While strong indefinites assume the existence of satisfying individual entities, weak indefinites do not. The contrast appears as below.

(a) Some students were reading books in the library. Others were not
 (b)*Students were reading books in the library. Others were not. (Kratzer, 1995; Diesing, 1995).

‘up’ \cup

c. Example: $\cap \text{DOG} = d \cup d = \text{DOG}$

This view was originally proposed in a previous study by Chierchia (1984) which followed a Fregean view of predication which presupposed that each property had an individual counterpart. Common nouns are associated with the individual counterparts of kinds. Hence, kinds can be considered as the predicative or ‘nominalization’ of common nouns and conversely predicative common nouns can be regarded as the ‘predicativization’ of kinds. Thus, the ‘down’ operator nominalizes and the ‘up’ operator predicativizes. In this framework, the dog-kind can correspond to the totality of dogs in the world. This kind-entity can be represented by the set of dogs and this means that kinds can be modeled as individual concepts.

In another view, bare plural constructions denote kind. However, the *kind* is a constructed one. Farkas and Swart (2007) introduced the plural sum operator ‘ \sum ’ for plural generics. The operator ‘ \sum ’ works on non-kind level entities in all different worlds and situations, and by summing them up, it creates kinds. Figure 2.48 below show the DRT representation for a generic sentence with a bare plural kind-referring NP.

(2.48) *Dinosaurs are extinct*

K

$K = \sum(\text{dinosaur}(x,w))$

Pl(K)

extinct(K)

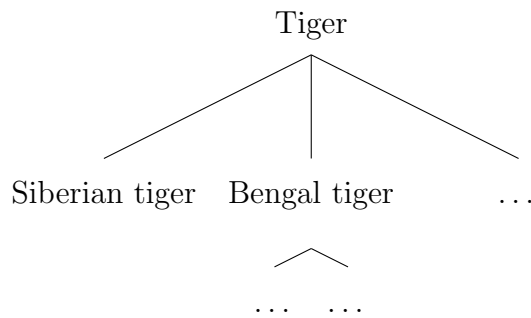
Summing up all individual dinosaurs in the world, $\sum(\text{dinosaur}(x,w))$ creates a kind-referring level of entity as in the figure above. The *K* at the highest node of lattice structure is created as a result of the application of ‘ \sum ’. It is also distinguishable

from the ordinary atomic kinds ‘*k*’. The semantics of the sum operator also consults maximality (maximal group of entities) on the bare plural nouns.

Now let us consider the interpretation of definite generic NPs. Regarding the singular definite generic NP, it has not received the same kind of attention as bare plurals. In one proposal, the definite article is treated as a formal definite marker and hence it is also compatible with names of kinds (Krifka, 1987). In this framework, the definite article is treated as an identity function and it combines with kind-referring common nouns (Krifka, 1987). The analogy is tied to proper names that require a definite article such as *the Yosemite*.⁸

Carlson (1977a) assumed that singular generics denote atomic kinds and they are realized as individuals. However, ordinary individuals are realized as stages like ‘slices’ of individuals. Atomic kinds are distinctive in that many kinds can be structured into sub-kinds as schematized in the tree below.

(2.49) The tiger and its sub-kinds



Every node in the tree can be said as an atomic kind. The one in the highest node of the tree is the most inclusive kind. As ontologically kind-level atoms exist, we should anticipate DPs can refer to them. And we can directly refer to well-established kinds as in 2.50 below.

⁸See, Krifka (1987) and Chierchia (1998) for the explanation of mass terms.

(2.50) *The tiger* is widespread.

The semantic representation of 2.50 is presented in 2.51 below.⁹

(2.51) $\exists!k(\text{tiger}(k) \wedge \text{widespread}(k))$

The semantic representation in 2.51 shows that the tiger in 2.50 represents one specific kind of entity. Including the particular entity in the highest node in 2.49, subspecies as in the submode in 2.49 can be referred to by definite singular NPs as in 2.52.

(2.52) *The Siberian tiger* is widespread.

In such a case, the NP refers to the unique atomic kinds, too. To sum up, bare plural generics and definite singular generics have different semantic interpretations. While bare plurals represent members of kinds, definite singulars can be used to refer to entity of kinds.

2.1.7 English articles and kind-referring NPs

This section briefly summarises article choices in direct kind reference. As is illustrated in previous sections, kind-referring NPs take two forms; definite singular NPs and bare plural NPs and they have two distinguishable semantic representations. It implies that bare plural generics and definite singular generic NPs are not always interchangeable. See the examples.

(2.53) a. The coke bottle has a narrow neck.

⁹I follow to Carlson's original view, for the neo-Carlsonian approach, see Chierchia (1998); Dayal (2004).

- b. #The green bottle has a narrow neck.
- c. Coke bottles have a narrow neck.
- d. Green bottles have a narrow neck.

As shown in the examples (2.53-c) and (2.53-d), bare plural NP forms are acceptable with non-well established nouns as it semantically means the sets / sums of entities of coke bottles or green bottles. However, in terms of definite singular nouns, as nouns should be a ‘kind’ or ‘well-established’ entity, (2.53-b) raises oddities. Only well established nouns or kinds can be used with the definite article ‘the’ to induce a generic interpretation as shown in (2.53-a).

2.2 Korean generic sentences and generic noun phrases

Very few studies have shown interest in the distinction between generic sentences and generic noun phrases in Korean. However, these two phenomena are clearly distinguishable and fundamental in understanding genericity. Therefore, this research will differentiate sentence level genericity from NP level genericity in investigating Korean generic sentences. Before going into greater detail on each genericity, the topic particle ‘nun’ will be studied first.

It has been widely asserted that the particle ‘nun’ plays a significant role in the presentation of genericity in Korean (Lee, 1991; Kim, 1991; Jun, 2001, among many others). Earlier studies of the Korean particle ‘nun’¹⁰ were based on discourse data. It was speculated that the particle ‘nun’ is used in contexts when speakers present information about a referent in terms of generic characteristics, as opposed to the

¹⁰‘Un’ is a phonological variation of ‘nun’. While ‘nun’ is attached to nouns that end with vowels, ‘un’ comes after the nouns that end with consonants.

use of subject particle ‘ka/i’ with contexts where speakers supply a chunk of new information (Kim, 1991, see Kim 1991).

2.2.1 Topic particle ‘nun’

The Korean particle ‘nun’ is closely related to generic sentences (Lee, 1995, 1996, among many others). ‘Nun’ is often considered to be a necessary condition for Korean generic sentences¹¹. The topic particle ‘nun’ has two main functions. It functions as either a thematic marker¹² or a contrastive marker.

- (2.54) a. Na-nun khi-ka khuta.
 I-TOP height-NOM tall
‘I am tall.’
- b. Yaku-nun caymi-issta.
 baseball-TOP exciting
‘Baseball is exciting’

The particle ‘nun’ in 2.54 is an example of the thematic topic particle. However, when there are some contrasts, particle ‘nun’ behaves as a contrastive marker as in 2.55 below.

- (2.55) a. Na-nun khi-ka khu-ciman, nay dongsayng-un khi-ka
 I-TOP height-NOM tall-but my sister-TOP height-NOM
 cakta.
 short
‘I am tall, but my sister is short.’
- b. Yaku-nun caymi-iss-ciman, chukku-nun caymi-epsta.
 baseball-TOP exciting-but football-TOP exciting-not
‘Baseball is exciting, but football is not’

¹¹Jun (2001) distinguishes focused generics and non-focused generics and argues that in focused generics, subject marker ‘i/ka’ can also appear in generic sentences. However, as this research is not concerned with focused/non-focused generic sentences, I will only regard topic marker ‘nun’ as a generic particle. Furthermore, ‘nun’ is the most generally accepted particle for generic sentences.

¹²Here, the thematic marker is not concerned with ‘theta-role’ but it is rather concerned with semantic relations of theme-rheme.

Unless there is something to be contrasted with, ‘nun’ usually functions as a thematic marker as in 2.54. On the other hand, only nouns that are already registered in the context can follow thematic ‘nun’.

- (2.56) a. Ku yeca-nun ecey kukcang-ey kassta.
 that/the woman-TOP yesterday theatre-to went
 ‘The woman went to the theatre yesterday.’
- b. Sumi-nun chayk-ul illko-issta.
 Sumi-TOP book-ACC reading
 ‘Sumi is reading a book’

In (2.56-a), as a demonstrative ‘ku’ is used with noun, *ku yeca* (‘that/the woman’) implies that it is already mentioned before. Thus, ‘nun’ occurs naturally with *ku yeca*. Likewise, *Sumi* in (2.56-b) is a proper name and it is obvious that someone who is named *Sumi* exists. Therefore, ‘nun’ is used after the proper noun *Sumi*. Uses of ‘nun’ in the following examples in 2.57 cause oddities in the sentences.

- (2.57) a. ?Manhun salam-un ecey kukcang-ey kassta.
 Many people-TOP yesterday bookstore-to went
 ‘Many people went to the bookstore yesterday.’
- b. ?Ilbu salam-un chayk-ul illko-issta.
 Some people-TOP book-ACC reading
 ‘Some people are reading a book’

The sentences in 2.57 sound unnatural. That is because *manhun* (many) in (2.57-a) and *ilbu* (some) in (2.57-b) are not introduced in previous discourse. If the thematic ‘nun’s in 2.57 are replaced by the subject marker ‘ka’/‘i’¹³, the sentences improve.

In addition, ‘nun’ is also used after kind-referring noun phrases.

¹³‘Ka’ is a subject marker in Korean and ‘i’ is a phonetic variation of ‘ka’. While, ‘i’ follows consonants, ‘ka’ comes after vowels.

- (2.58) a. Kay-nun cicnunta.
 dog-TOP bark
 ‘The dog barks./Dogs bark.’
- b. Sakwa-nun vitaminc-ga phungbuhata.
 apple-TOP vitaminC-NOM contain
 ‘The apple contains vitamin c./Apples contain vitamin c.’

As in (2.58-a) and (2.58-b), ‘nun’ can appear after kind-referring NPs. Concepts of generic NPs are regarded to exist in the permanent registry of context. Hence, they do not have to be reintroduced in the context again.

To sum up, ‘nun’ has two functions; *nun* as a contrastive marker and *nun* as a thematic marker. Contrastive *nun* is used to denote some contrasts between nouns. Thematic *nun* follows NPs that are concerned with old information. In other words, thematic *nun* is preceded by noun phrases that already exist in the discourse domain¹⁴. ‘Nun’ as a generic marker can be understood as a kind of ‘thematic’ marker.

2.2.2 Korean generic NPs

Korean generic NPs in subject position

Let us examine Korean generic NPs first. I’ll mainly follow the argument of Lee (1991). According to Lee (1991), there are two major types of generic NPs in Korean. Firstly, Korean generic NPs are characteristically marked by a particle ‘nun’ after bare singular nouns as in the examples (2.59-a) and (2.59-c) below.

- (2.59) a. Kay-nun cic-nun-ta.
 Dog-GEN bark-PRE-DEC

¹⁴‘Nun’ is also used in characterising generic sentences and this will be further researched in following sections.

'The dog barks: Dogs bark'

- b. Kay-tul-un cic-nun-ta.
Dog-PLU-GEN bark-PRE-DEC.
'Dogs bark'
- c. Kay-nun cecmekitongmwulita.
Dog-GEN mammal-be-DEC
'The dog is a mammal: Dogs are mammals'
- d. Kay-tul-un cemeki-tongmwuli-ta.
Dog-PLU-GEN mammal-be-DEC
'Dogs are mammals.'

Secondly, it is suggested that sentences with plural NPs in subject position are also accepted as a generic expression even if it is somewhat unnatural as in (2.59-b) and (2.59-d) (Lee, 1991).

Meanwhile, according to Nemoto (2005), only plural NPs concerned with humans can have generic readings, as in (2.60-a), but non-human plurals NPs cannot have generic readings, as in (2.60-b).

- (2.60) a. Sinsa-tul-un suknyeolul wihae munul yeoleo junda.
gentlemen-GEN lady for door open-DEC
'Gentlemen open doors for ladies'
- b. Chaeksang-tul-un tari-ka nea-gae-da.
Desk-PLU-GEN leg-SUB four-CL-DEC
'Desks have four legs'

However, Kim (2005) argues that all animate plurals NPs can express generic interpretation as in 2.61.

- (2.61) Saja-tul-un wihumha-da.
Lion-plural-GEN dangerous-DEC

As is shown above in 2.60 and 2.61, animacy seems to have a certain effect on the plurality of NPs. However, it is not clear to what extent animacy influences on the

use of plurality of nouns. Thus, in order to investigate the role of animacy in the choice of generic NPs in Korean, a Korean experiment is implemented (cf., Chapter 5). This issue will be further addressed in Section 2.2.4.

Korean generic NPs in object position

We have already seen that, in English, uses of generic NPs show asymmetry in different syntactic positions. The English examples of 2.42 are repeated in 2.62 below.

- (2.62) a. The Americans invented chewing gum.
 b. The Italians improved German food quite a lot.
 c. Shockley invented the transistor/ ?transistors.
 d. The Summerians invented the pottery wheel/ ?pottery wheels.
 e. The French settlers in Mauritius exterminated the dodo/ ?dodos.

In Korean, when generic NPs occur in the object position, in order to mark case ‘nun’ is deleted and the accusative marker ‘lul’ is attached after the bare singular nouns or bare plural nouns. Consider the following Korean examples in 2.63 which are equivalent to the English examples in 2.62.

- (2.63) a. Mikukin-i chewingkkeom-ul balmyeng-hass-ta.
 American-SUB Chewing-gum-ACC(GEN) invent-PAST-DEC
 ‘The Americans invented chewing gum’
 b. Italiain-i dokilumsik-ul hyangsangsikh-yess-ta.
 Italian-SUB German-food-ACC(GEN) improve-PAST-DEC.
 ‘The Italians improved German food’
 c. Syokuli-ka transistor-lul balmyeong-hass-ta.
 Shockley-SUB transistor-ACC(GEN) invent-PAST-DEC
 ‘Shockley invented the transistor’
 d. Sumayruin-i nokro-lul balmyeong-hass-ta.
 Summerians-SUB potterywheel-ACC(GEN) invent-PAST-DEC

‘The Summerians invented the pottery wheel’

- e. Phurangsujeongchakmin-i dodosay-lul myeljongsikye-ss-ta.
French-settlers-SUB dodo-ACC(GEN) exterminate-PAST-DEC
‘The French settlers exterminated the dodo’

For the examples in 2.63, NP forms in the object position are the same as those in the subject position, except the accusative marker ‘lul’ is attached instead of ‘nun’. Generic NPs in object position do not display a different form from object referring NPs. The following sentence 2.64 exemplifies the object referring NPs in object sentences with accusative marker ‘lul’.¹⁵

- (2.64) Apeji-ka sinmun-ul ilkusye-ss-ta.
Father-SUB newspaper-ACC read-PAST-DEC
‘My father read a newspaper’

However, only generic NPs in object position can be topicalised and attached to ‘nun’ in subject position. When object referring NPs are topicalised, the sentence sounds odd.

- (2.65) a. Chewinggum-un Mikukin-i balmyeng-hass-ta.
Chewing-gum-TOP American-SUB invent-PAST-DEC.
b. ?Sinmun-un apeji-ka ilkusye-ss-ta.
Newspaper-TOP Father-SUB read-PAST-DEC.

The sentence in (2.63-a) can be changed into (2.65-a) without causing any unnaturalness of the sentences. However, (2.65-b) sentence with object referring NPs sounds odd. Hence, even though both generic NPs and object referring NPs in object position have uniform surface form, they have difference in terms of semantics. Now, let us examine whether Korean generic NPs in object position are affected by

¹⁵‘Ul’ is a phonetic variation of ‘lul’. While ‘lul’ follows vowels, ‘ul’ appears after consonants.

preceding verbs like in English. Recall that in English, bare plural NPs are not always acceptable as generic NPs after kind-requiring verbs. In contrast, bare plurals are acceptable in object positions after stative verbs as in the examples below 2.66.

- (2.66) a. French settlers exterminated ?dodos/the dodo.
 b. Hyunmi hates cats.

Consider the corresponding Korean examples in 2.67 and 2.68.

- (2.67) a. Purangsu jengchakmin-i dodo-lul myelcongsikyeo-ssta.
 French settlers-NOM dodo-ACC exterminate-DEC
 b. Purangsu jengchakmin-i dodo-tul-ul myelcongsikyeo-ssta
 French settlers-NOM dodo-PLU-ACC exterminate-DEC

- (2.68) a. Hyenmi-ka koyangi-lul silhehan-ta.
 Hyunmi-NOM cat-ACC hate-DEC
 b. Hyenmi-ka koyangi-tul-ul silhehan-ta.
 Hyunmi-NOM cat-PLU-ACC hate-DEC

In 2.67 and 2.68, both bare plural and bare singular nouns are used in Korean sentences with kind-requiring verbs and stative verbs. What is important is that the choices of generic NPs in object position are not restricted by the preceding verbs in Korean.

2.2.3 Korean characterising generic sentences

Paradigms of Korean generic sentences

Korean generic sentences mainly have two following forms.

- (2.69) a. NP - nun + i-level predicate

- b. NP- nun + s-level predicate

The following show example sentences for (2.69-a).

- (2.70) a. Kay-nun chongmyenghata.
 dog-GEN intelligent
 ‘*The dog is intelligent./Dogs are intelligent./A dog is intelligent*’
- b. Koyangi-nun moksumi ahopgayta.
 cat-GEN lives nine
 ‘*The cat has nine lives/Cats have nine lives./A cat has nine lives.*’

Examples in (2.70-a) and (2.70-b) are generic sentences as apposed to particular sentences¹⁶. Moreover, they are lexical characterising generics since the i-level predicate is used. The following sentences in 2.71 are example sentences for (2.69-b).

- (2.71) a. Kay-nun ciconunta.
 dog-GEN bark
 ‘*The dog barks./Dogs bark./A dog barks*’
- b. Koyangi-nun sayngsen-ul meknunta.
 cat-GEN fish-ACC eat
 ‘*The cat eats fish./Cats eat fish./A cat eat fish.*’

Sentences in (2.71-a) and (2.71-b) are interpreted as generic sentences. Both sentences are habitual generics as s-level predicates are used.¹⁷

So far, we have considered two types of Korean characterising generic structures. Similar to the case of generic NPs, it seems that the topic particle ‘nun’ is a necessary condition for Korean generics. What is more, both bare singular forms and bare plural forms of NPs can be combined with particle ‘nun’ in characterising generics.

¹⁶‘Particular sentences’ are used as opposed to generic sentences. In other words, they can be understood as non-generic sentences.

¹⁷Some might argue that two readings are possible from each sentence in 2.71. For example, (2.71-a) can be read as that barking is a general or habitual property of the dog kind. (2.71-a) could be understood as a contrastive reading. However, in order for the sentences in 2.71 to be read contrastively, it requires a counter part of contrast.

Semantic representations of Korean generic sentences

Apparently in both generic NPs and generic sentences, particle *nun* is always attached to the NPs. Therefore, one might assume that the Korean language does not separate generic NPs from generic sentences. In fact, very little research has focused on distinguishing these two different genericities. Therefore, this section will briefly investigate the semantic representations of generic NPs and generic sentences in Korean.

The topic particle *nun* is a necessary condition for Korean generic NPs and generic sentences. In other words, *nun* always appears after generic NPs and in generic sentences. Therefore, many Korean linguists regard ‘nun’ as a generic quantifier and take a quantificational approach to represent Korean generics (Lee, 1992, 1989, among many others). In the quantificational approach, it is argued that the topic particle *nun* introduces generic forces and the subject particle *ka* introduces existential forces. Under this line of approach, generic sentences are a certain kind of generalisation over generic NPs in the sentence. *Nun* is responsible for generic readings of the preceding NPs as well as the sentence in which it appears. On the other hand, *ka* is responsible for existential readings of the preceding NPs and the sentences where it occurs.

- (2.72) a. bare NP + nun = generic interpretation
b. bare NP + ka = existential meaning

However, this approach cannot differentiate genericity of NPs from genericity of sentences. Hence, an alternative approach is suggested by Jun (2001) and it distinguishes two different genericities; generic NPs and generic sentences.

The alternate approach is to see the topic particle ‘nun’ as a restriction-indicator (Jun, 2001). Topics are regarded as belonging to the restriction of semantic tri-

partite structure. As *nun* is a topic marker, it is expected that materials that are marked by *nun* are partitioned into the restriction. See the examples below.

- (2.73) a. Kay-nun cicnunta.
 dog-GEN bark
 ‘*Dogs bark*’
 b. GEN_x[dog(X)][bark(X)]

- (2.74) a. Kay-nun chongmyenghata.
 dog-GEN intelligent
 ‘*Dogs are intelligent*’
 b. GEN_x[dog(X)][intelligent(X)]

The sentence 2.73 is a habitual generic sentence with an s-level predicates and the sentence 2.74 is a lexical characterising sentence with an i-level predicate. In both generic sentences, generic NPs which are marked by *nun* have a generic interpretation. They are partitioned into the restriction where underlined above. Thus *nun* is named as a restriction-indicator. The role of *nun* as a restriction indicator becomes more clear in the sentences like 2.75 and 2.76.

- (2.75) Typhoons arise in this part of the Pacific.

- (2.76) A computer computes the daily weather forecast.

(Carlson and Pelletier, 1995, p.24)

These examples are taken from Carlson and Pelletier (1995). These are characterising sentences with two possible generic readings as shown in (2.77-a)/(2.77-b) and (2.78-a)/(2.78-b), respectively.

- (2.77) a. Typhoons in general have a common origin in this part of the Pacific.
 b. In this part of the Pacific arise typhoons.

- (2.78) a. Computers in general have the task of computing the daily weather forecast.
 b. The daily weather forecast is computed by a computer.

[partly modified from](Carlson and Pelletier, 1995, p.24)

As shown above, the two readings are regarded as the natural interpretations of the sentences in 2.75 and 2.76, respectively. However, (2.77-a) and (2.78-a) are less favoured readings and pragmatically sound unnatural. For (2.77-a), genericity is assigned to a subject *typhoon*. However, in (2.77-b), a generic property is assigned to the locative phrase *in this part of the Pacific*. Likewise, (2.78-a) describes the generic property of the subject *computer*. However, (2.78-b) is a description of an object *the daily weather forecast*. Their semantic representation can be illustrated as in 2.79 and 2.80 below, respectively.

- (2.79) a. GENx[typhoon(x)] \exists y[this part of pacific(y) \wedge arise in(x,y)]
 b. GENx[this part of pacific(x)] \exists y[typhoon(y) \wedge arise in(x,y)]

- (2.80) a. GENx[computer(x)] \exists y[daily weather forecast(y) \wedge compute in(x,y)]
 b. GENx[daily weather forecast(x)] \exists y[computer(y) \wedge compute in(x,y)]

These sentences in 2.77 and 2.78 are paraphrased into Korean. Unlike English, Korean sentences are not ambiguous at all as exemplified in 2.81 and 2.82.

- (2.81) a. Taypung-un thaypyengyang i ciyek-eyse palsaynghanta.
 Typhoon-GEN pacific this part-in arise-DEC

‘Typhoons in general have a common origin in this part of the Pacific.’

- b. Thaypyengyang i ciyek-eyse-nun taypung-i palsaynghanta.
 pacific this part-in-GEN typhoon-NOM arise-DEC
‘In this part of the Pacific arise typhoons.’

- (2.82) a. Computer-nun ilkiyeypo-lul chukjenghanta.
 computer-GEN weather-forecast-ACC compute-DEC
‘Computers in general have the task of computing the daily weather forecast.’

- b. Ikiyeypo-nun computer-ka chukjenghanta.
 weather-forecast-GEN computer-NOM compute-DEC
‘The daily weather forecast is computed by a computer.’

The Korean sentences which correspond to 2.75 and 2.76 are not ambiguous. The possible two generic interpretation are distinguished by the different position of the topic particle *nun* as in 2.81 and 2.82. Most of all, the semantic structures of the generic sentences in 2.79 and 2.80 can be matched to the Korean sentences in 2.81 and 2.82. For example, compare the semantic structure in (2.79-a) to the Korean generic sentence in (2.81-a). The constituent that precedes *nun* is partitioned into the restriction in the semantic representations. It is the case with (2.79-b) and (2.81-b), (2.80-a) and (2.82-a), and (2.80-b) and (2.82-b). So far, we have seen how Korean generic sentences are semantically represented. In the next section, detailed discussion on plurality in Korean genericity will be presented.

2.2.4 Plurality of nouns in Korean genericity

Since the form of the noun phrase is crucial in understanding genericity, this section investigates the usages of the plural marker in the Korean language. It aims to investigate whether generic interpretations are affected by the plurality of NPs.

Plural marking in Korean

There is no doubt that the Korean language is a generalized classifier language. In this type of language, bare noun phrases require a classifier to be used with quantifiers or numerals. Chierchia (1998) claims that, in generalized classifier languages, all nouns are mass and no singular/plural distinction is found. However, recent studies revealed counter evidence to his proposal. For example, some studies have shown that plural marking does exist in generalized classifier languages and sometimes plural marking is obligatory according to the context (Kim, 2005; Nemoto, 2005). In order to help understanding of plurality in Korean NPs, consider the examples 2.83.

- (2.83) a. Suji-nun ecey chingu-lul manna-ss-ta.
Suji-TOP yesterday friend-ACC meet-PAST-DEC
'Suji met (a/the) friend(s) yesterday'
- b. Suji-nun ecey chingu-tul-ul manna-ss-ta.
Suji-TOP yesterday friend-PLU-ACC meet-PAST-DEC
'Suji met (the) friends yesterday'

From the example in 2.83, one might think that plural marking in Korean is not obligatory. To explain more specifically, *chingu-tul* ('friends') in (2.83-b) should be interpreted as plural. Meanwhile, even though *chingu* ('friend') does not carry an overt morpheme *tul*, it can be interpreted as plural in context, as shown in (2.83-a).¹⁸

However, in some contexts, bare nouns without a plural marker must be read as singular. Hence, in such cases, plural marking is obligatory to denote the plurality of nouns. Let us consider the following examples in 2.84 below.

- (2.84) a. Suji-nun i/ku chingu-lul manna-ss-ta.
Suji-TOP this/that friend-ACC meet-PAST-DEC
'Suji met this/that friend yesterday'

¹⁸In Korean, interpretations of bare nouns can be inferred from context.

- b. Suji-nun i/ku chingu-tul-ul manna-ss-ta.
 Suji-TOP this/that friend-PLU-ACC meet-PAST-DEC
 ‘Suji met these/those friends yesterday’

In 2.84 nouns occur with the demonstrative marker *i* (‘this’) and *ku* (‘that’). In this case, *chingu* in (2.84-a) must be interpreted as a singular noun.

As we have seen in this section, there is a clear distinction between singular and plural nouns in Korean. Then, let us examine if this distinction arise in the interpretation of generic NPs / generic sentences in Korean.

Plural marker ‘tul’ and animacy in generic sentences

This section discusses interpretation of bare plurals and bare singulars in generic sentences in Korean. Bare singular nouns are always accepted as kind-referring interpretations with particle ‘nun’. As it was presented in the previous section, the most common form of generic noun phrase is ‘bare singular NP+nun’. The examples of 2.59 are repeated below.

- (2.85) a. Kay-nun cic-nun-ta.
 Dog-GEN bark-PRS-DEC
 ‘The dog barks: Dogs bark’
- b. ?Kay-tul-un cic-nun-ta.
 Dog-PLU-GEN bark.
 ‘Dogs bark’

In contrast, availability of kind readings of bare plural NPs in (2.85-b) are disputable. While many linguists acknowledge the use of bare plurals as generic NPs (Lee, 1995, 1996, 1991, 1989), some linguists challenge the idea that bare plurals can be interpreted as generic NPs in Korean (Kwon and Zribi-Hertz, 2004; Nemoto, 2005; Kim, 2005).

According to Kwon and Zribi-Hertz (2004), ‘*tul*’ marked NPs in Korean denote an “atomized (not collective), closed (extential) set of entities”, rather than an “open, intentional class where additional members can be added” (p.151). Consequently, they claim that Korean NPs which are marked by *tul* disallow generic readings as in (2.86-b) below.

- (2.86) a. Panda-nun cecmeki-tongmwul-i-ta .
 Panda-GEN mammal-COP-DEC
 ‘The panda is a mammal’/ ‘Pandas are mammals’
- b. ?Panda-tul-un cecmeki-tongmwul-i-ta .
 Panda-PLU-GEN mammal-COP-DEC
 ‘The panda is a mammal’/ ‘Pandas are mammals’

Meanwhile, the relationship between *tul* and *animacy* has been proposed. Like English, uses of the plural marker *tul* are not necessarily restricted to nouns referring to humans in the Korean language. However, a recent study reveals a relationship between *tul* and *animacy* (Nemoto, 2005; Kim, 2005).

Song (1997) closely investigated the use of *tul* and animacy. According to her, *tul* is used mostly with human nouns and less frequently with non-human animate nouns. For the inanimate nouns, *tul* is hardly used. However, another study shows no significant effect of animacy between animals and humans in producing the plural marker (Suh, 2007). Meanwhile, it is notable that these studies do not particularly concern the production of *tul* in generic senses.

As was briefly mentioned in the previous section, a few studies have discussed the plural marker and animacy in generic interpretation (Nemoto, 2005; Kim, 2005). Kim (2005) claims that only human NPs can have a plural marker in generic readings. On the other hand, Nemoto (2005) points out that all animate NPs can be attached with *tul* for generic interpretation.

‘Tul’ in generic NPs and ‘tul’ in generic sentences

Among very few semanticists who study the relationship between plurality and generic sentences, Kwak (2003) claims that uses of the plural marker *tul* are different between generic NPs and generic sentences. She argues that only bare singular NPs can be interpreted as generic NPs with particle *nun*.

- (2.87) a. Kamca-nun nammi-eyse cheum caypaytoyesta.
potato-GEN SouthAmerica-LOC first cultivated
‘Potatoes were first cultivated in South America’
- b. ?Kamca-tul-un nammi-eyse cheum caypaytoyesta.
potato-PLU-GEN SouthAmerica-LOC first cultivated
‘Potatoes were first cultivated in South America’

It is claimed that kind predicate *ceum caypaytoyesta* (‘first cultivated’) only takes the bare singular *kamca* (‘potato’) as its argument. Bare plural *kamcatul* (‘potatoes’) is considered to be not suitable for kind predicates.¹⁹ However, in characterising sentences, both bare singulars and bare plurals are allowed to occur in generic sentences.

- (2.88) a. Kongryong-un ketayhayssta.
dinosaur-GEN huge
‘Dinosaurs were huge’
- b. ?Kongryong-tul-un ketayhayssta.
dinosaur-PLU-GEN huge
‘Dinosaurs were huge’

As in 2.88, both *kongryong* (‘dinosaur’) and *kongryongtul* (‘dinosaurs’) are compatible with generic sentences.

¹⁹One could argue that when the noun is animate, it would sound much more natural than (2.87-b). For example, *kongryong-tul* ‘dinosaurs’ in *kongryong-tul-un myelconghayssta* ‘Dinosaurs are extinct’ would sound natural. But, it was argued that *kongryong-tul* ‘dinosaurs’ was not interpreted as a whole kind of dinosaurs. It was rather interpreted as a number of different species of dinosaurs. In other words, *kongryongtul* refers to a plural entity of several species.

To sum up this section, the interpretation of Korean bare plural NPs as generic is rather complicated. That is because the generic interpretation seems to be affected by several factors such as animacy and kinds of predicates. Meanwhile, no study has yet focused on the influence of animacy and kinds of predicates comprehensively. Hence, it is not an easy task to conclude the compatibility of bare plural NPs in generic sentences. Therefore, in order to understand Korean genericity more clearly, an experiment on the acceptability of Korean generic sentences including bare plurals as well as bare singulars was conducted. It will be discussed further in Chapter 5.

2.3 Cross-linguistic accounts for genericity

As we have seen earlier in this chapter, it appears that genericity is represented differently in Korean and English. Then, let us now discuss what is universal across languages and what contributes to the cross linguistic differences regarding genericity. Since generic sentences and generic NPs are distinguishable, these two genericity will be discussed separately. Section 2.3.1 presents accounts for cross linguistic differences in generic sentences and Section 2.3.2 discusses those in generic NPs.

2.3.1 Account for cross-linguistic differences in generic sentences

This section discusses what universal properties are involved in generic sentences in natural languages. As it was discussed in Section 2.1.3 earlier, English generic sentences have a habitual morpheme (HAB) and they are presented either distinctively as in s-level predicates or embedded in lexicon as in i-level predicates (Chierchia, 1998). Furthermore, it was argued that the HAB morpheme requires Gen-operator in its immediate checking domain (Chierchia, 1998). In fact, Chierchia (1998) argues

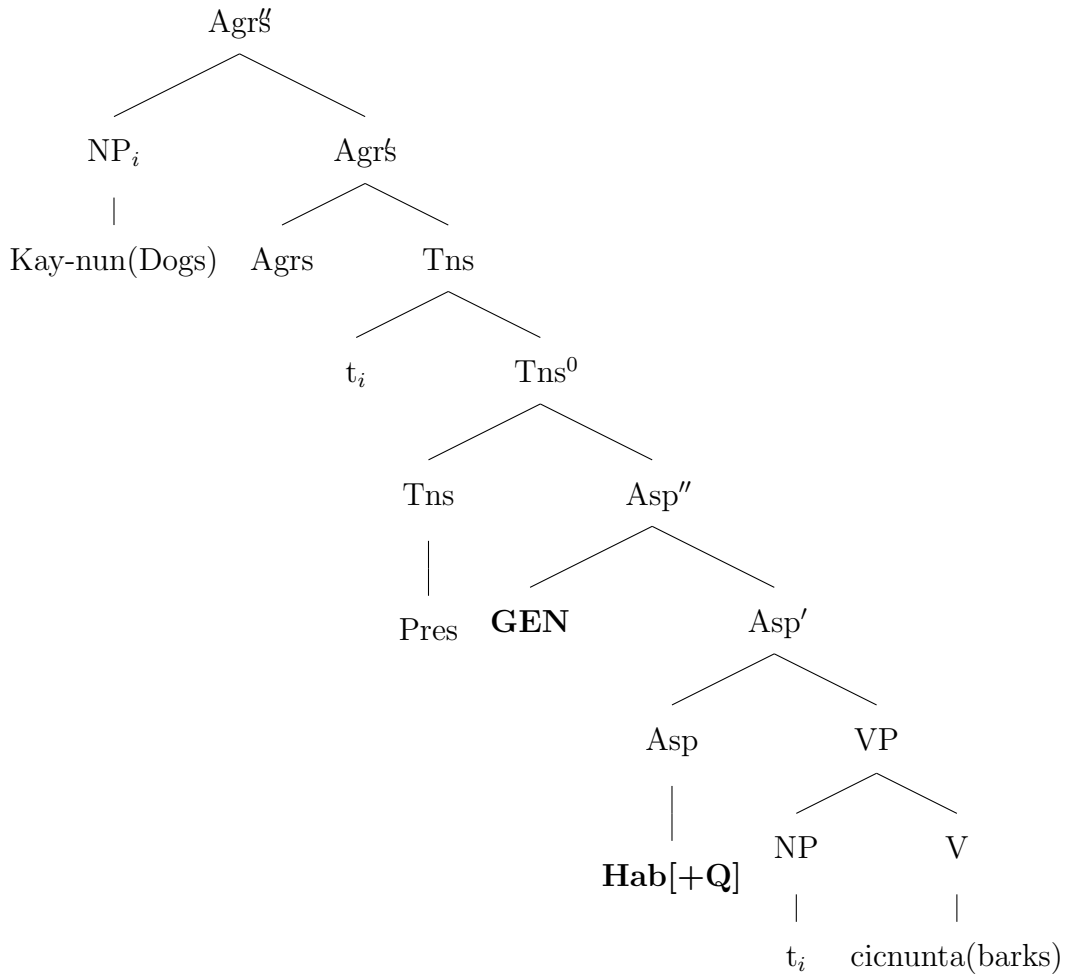
that all natural languages have habitual morpheme in their aspectual projections. For example, Swahili language supports this argument as it marks genericity with explicit aspectual morphemes. The example 2.89 is repeated from 2.33.

- (2.89) Wanawake hu-fanya kazi ya kuchokoa pwesa.
women HABIT-do work of catching squid
'The women (generally) do the work of catching squid'

(Carlson and Pelletier, 1995, p.8)

Accordingly, it can be inferred that Korean language also has HAB morpheme in their aspectual projections as in other languages such as English (see, tree 2.34) and Swahili (see, example 2.89). Korean generic sentence 'Kay-nun cibun-ta ('Dogs bark')' can be represented as in 2.90, following syntactic structures for English suggested by Chierchia (1995).

(2.90)



Likewise, it seems to be a universal property that all natural languages have a HAB morpheme in their aspectual projections and the HAB morpheme triggers characterising interpretation in all languages. Thus, Korean learners should not have difficulties with acquiring syntactic structures of generic sentences.

However, what makes differences between different languages in generic sentences seem to be a distribution of nouns in the subject position. For instance, regarding English generic sentences, a range of NP forms can be used in English including indefinite singular, definite singular, and bare plurals. As it was repeatedly discussed, not only generic NPs (definite singular and bare plural NPs) but also indefinite NPs (indefinite singular) can occur in generic sentences as genericity rises from sentences.

On the other hand, as a classifier language, nominal forms in Korean are rather simpler. For instance, for Korean language, there seems to be no distinction between plural and singular nouns for any NPs. That is to say that, in Korean, both bare singular nouns and bare plural nouns can be always used in generic sentences.²⁰ Compare the English and Korean generic sentences in 2.91 and 2.92.

- (2.91) a. A dog is a faithful animal.
 b. The dog is a faithful animal.
 c. Dogs are faithful animals.

- (2.92) Kay-nun/Kay-tul-un chungseongshimiganhan dongmul-ita.
 Dog-GEN/DOG-PLU-GEN faithful animal-DEC
 ‘A *dog*/*The dog*/*Dogs* is/are (a) *faithful animal(s)*.’

As shown in the English example 2.91, a range of NPs can be used in generic sentences and they have different semantic representations(c.f., Section 2.1.2). To explain briefly, indefinite singular generics (a+singular) is a generalisation over an individual NP. For generic NPs(the+singular and bare plural), ‘the+singular’ generic NPs denotes entity of kinds, whereas ‘bare plural’ generic NPs mean sets or sums of entities. Likewise, different types of NP are used in English generic sentences. On the other hand, as shown in the Korean example 2.92, bare singular and bare plural NPs can be used interchangeably in Korean generic sentences. In other words, ‘kay(dog)’ and ‘kay-tul(dog-PLU)’ can be always used in Korean generic sentences.

Consequently, it appears that cross-linguistic differences between languages regarding generic sentences come down to the NP forms. In other words, it appears that

²⁰While a few researchers argue that only bare singular NPs are eligible for generics, most of literature agree that both singular and plural NPs are equally good for generics and they can be used interchangeably in Korean generics.

cross-linguistic differences arise regarding the morphological differences in genericity.

Korean expresses both sentential and NP genericity with bare nouns (bare singular and bare plural), thus no differences on the morphological marking between sentence-level genericity and NP-level genericity. In contrast, in English, different types of NPs are used in different genericity. For instance, ‘a+singular’ NPs can be only used in sentence-level genericity, whereas ‘the+singular’ NPs and ‘bare plural’ NPs can be used to refer NP-level genericity. Therefore, in the following section 2.3.2, semantic accounts of cross-linguistic differences regarding generic NPs will be discussed.

2.3.2 Account for cross-linguistic differences of generic NPs

One influential proposal that captures differences of generic reference between language groups is that of Chierchia (1998). He suggested the existence of a ‘Nominal Mapping Parameter’ and framed the empirical observation between different languages in the distribution of definite articles with singular, plural count nouns and mass nouns. According to the NMP, natural languages can be divided into three groups in accordance with the different ways of referring to kinds. Nouns can be employed in both argument and predicate positions as exemplified in 2.93.

- (2.93) a. John is a doctor
b. A doctor is usually busy.

For example, ‘a doctor’ can be a predicate in (2.93-a) and ‘a doctor’ can be an argument in (2.93-b) when it refers to kinds. The NMP governs the mapping of the

syntactic category of noun phrase onto its semantic interpretation. In other words, cross-linguistic uses of nouns as predicates or arguments are constrained by the language specific setting of NMP as [+/- argument] and [+/- predicate]. In principle, if we combine these two features, four combinations are possible: [+argument, +predicate], [+argument, -predicate], [-argument, +predicate], and [-argument, -predicate]. However, the last combination [-argument, -predicate] is in fact impossible as nouns cannot be mapped into neither arguments or predicates. Hence, only three settings are considered in NMP.

Romance languages such as Italian, French and Spanish fall into the [-argument, +predicate] setting. In these languages, bare NPs are by default all predicates and they cannot be arguments, only DPs can be arguments. Therefore, D position is obligatory and it results in extensive use of overt articles.

In contrast, in a [+argument, +predicate] language such as English and the other Germanic languages, bare NPs can play a dual role as an argument and predicate. However, bare NPs can only be arguments when they are used to refer kinds. In order to have a specific interpretation, they require an overt determiner as in English or through a type-shifting operation when determiners are not available.

The different article uses between Romance languages like French and Germanic languages like English can be articulated as follows. For the definite article in English, it lexicalises the concept of maximality. In other words, the definite article only refers to the maximal element from the set indicated by the NP. For example, for the NP ‘the lions’ in 2.94 below, it must refer to the maximal set of lions in the given discourse.

(2.94) The lions are dangerous. (*generic reference, specific reference)

(Ionin and Montrul, 2009, p.150)

On the other hand, the definite article in Romance languages lexicalises the concept of both maximality and kind-denoting reference. That is to say that definite articles in Romance languages not only refer to the maximal element from the set indicated by the NP but also refer to the kind whose elements share the property indicated by the NP. For example, ‘los leones’ in 2.95 can denote both the maximal set of lions in the discourse and the kind of lions.

- (2.95) Los leones son peligrosos.
the-pl lions are dangerous
‘*The lions are dangerous.*’ (specific reference, generic reference)

(Ionin and Montrul, 2009, p.150)

However, in theory, it is difficult to exclude a generic interpretation with definite plurals NPs in English. One might wonder what blocks the definite article ‘the’ from lexicalising both kind-reference and maximality. One possible solution to the issue is suggested by Chierchia (1998), *Avoid Structure Principle*. In this principle, it is predicted that when a bare NP and a DP share the same interpretation, the simpler structure which is a bare NP is selected. Therefore, only ‘bare plurals’ NPs are chosen for generic reference, but not ‘the+plural’ NPs.

Finally, languages such as Chinese, Japanese, and Korean have the setting of [+argument, -predicate]. In these languages, it is predicted that nouns refer to kinds, thus bare count nouns can occur as arguments without any restrictions. For example, sentences like ‘Boy loves girl’ are acceptable in such sets of languages. It is argued that in such languages, all nouns are mass nouns and plural marking does not exist at all. Furthermore, it is suggested that this NMP settings can be also characterised as having the presence of a classifier system and no plural morphology.

Contrary to the prediction of Chierchia (1998), there is a evidence that bare and definite plurals can have both generic readings, in German (Krifka et al. 1995) and Brazilian Portuguese (Schmitt Munn, 1999). Thus, Dayal (2004) presents a different argument from Chierchia (1998). While Dayal (2004) adopts Chierchia's semantic framework, he does not agree with the *Avoid Structure Principle*. In fact, Dayal poses a challenge to the *Avoid Structure Principle*. According to Dayal, there is a scale in definiteness. Languages can choose to lexicalise only the interpretation of maximality on the definite article like in English. Or, languages can also choose to lexicalise not only the reading of maximality but also the reading of kind-reference as in Spanish. Some languages lexicalise neither maximality or kind-reference (Russian, Korean and other languages with no articles).

So far, we have discussed semantic account of the cross-linguistic difference in generic reference. Meanwhile, the discussion above refers only to the use of 'definite' articles with plural NPs. However, it is obvious that the definite article 'the' in English is clearly used for generic reference with singular NPs. Even though Chierchia (1998) and Dayal (2004) did not mention 'the+singular' NPs in their semantic framework, it is natural to regard 'the+singular' as generics based on the meaning of 'the' in English. Recall that singular generics ('the+singular' NPs) denote atomic kinds and they are realised as individuals (Carlson, 1977a). In other word, assuming that the definite article 'the' in English denotes 'maximality' meaning, it would be logical to consider that 'the+singular' NPs can denote kind as it can be interpreted as a 'maximal group of entity of kinds'.

2.3.3 Summary

This chapter discussed the linguistic features of genericity in both English and Korean languages. It specifically showed how generic sentences were represented in both languages. Basic properties of generic sentences and generic NPs were

presented, respectively, in both languages. In addition, the semantic representation of the generic sentences and NPs were also discussed.

Chapter 3

Literature on the English article acquisition

There have been a number of studies on the acquisition of English articles by first and second language learners for the last two decades (Huebner, 1985; Parrish, 1987; Ionin and Wexler, 2003; Ionin et al., 2009; Ionin and Montrul, 2009; Ionin et al., 2009; Slabakova, 2006). The current chapter reviews literature on the acquisition of English articles by first and second language learners.

It first reviews studies that investigate acquisition patterns by L1 learners. In particular, some L1 acquisition studies have shown interest in the role of pragmatics in the acquisition of English generics. Thus, the current chapter also reviews to what extent pragmatics influences the L1 acquisition of English generics. It is important to investigate the role of pragmatics as in the current research it has been maintained that English generics involve internal interface (syntax-semantics), but not pragmatics. Suggestive roles of pragmatic influence in L1 acquisition studies propose evidence that ‘generics’ might not be internal interface, but external interface if learners are dependent on ‘pragmatic’ knowledge.

Regarding second language acquisition studies, studies on the (in)definite use of English articles and generic use of English articles are both presented. It includes (in)definite article acquisition studies to investigate acquisition patterns by L2 learners and L1 influence on acquisition is also discussed. In addition, acquisition studies on generic articles by various groups of learners are reviewed regarding issues of L1 transfer and UG accessibility by adult L2 learners. Furthermore, this chapter clarifies what ‘interface’ means in second language research and reviews the ‘Interface Hypothesis’.

On the basis of a literature review, this section will address a gap found in the literature and present the motivation of the current research.

The organisation of this chapter is as follows. In section 3.1, L1 acquisition studies regarding English articles will be reviewed. Section 3.2 reviews a series of the most representative studies on acquisition of L2 English articles. In section 3.4, L2 research discussed in section 3.2 is summarised. Section 3.3 introduces the ‘Interface Hypothesis’. Section 3.3.1 clarifies what ‘interface’ means in second language acquisition research and section 3.3.2 reviews the ‘Interface Hypothesis’. Section 3.3.3 provide linguistic evidence on how English generic articles are claimed to involve syntax-semantics interface and (in)definite articles involve syntax-discourse interface. In addition, section 3.4 discusses motivation of the current research based on the literature. Finally, section 3.6 presents the hypotheses and predictions of the current study.

3.1 Studies on the acquisition of English article by first language learners

While the current research focuses on the acquisition of English articles by second language learners, acknowledging L1 acquisition patterns of English articles could be

meaningful in many ways. Firstly, it would be worthwhile to review L1 research as it reveals acquisition patterns of English generic articles. Secondly, by investigating L1 acquisition patterns one can find differences and similarities between the two acquisition processes. Consequently, reviewing L1 studies can be informative in interpreting L2 acquisition patterns. Thus, in the current section, the two most representative and relevant empirical studies on article acquisition by first language learners are reviewed.

As we have seen in chapter 2, generic noun phrases (henceforth, GNP) are represented in several different forms in English including bare plurals (e.g., Dogs are a faithful animal), definite singulars (e.g., The bat lives in caves), and indefinite singulars (e.g., A male goose is called a gander). All NPs commonly refer to a kind or can be used in generic sentences. It is normal that children are exposed to a number of GNPs from a very young ages by their parents' speech (Prasada, 2000). However, little is known about how children could figure out GNPs refer not only to particular objects, but also to more abstract kinds as a whole. Matching form to sense is a complex feature of language. In the acquisition of vocabulary, researchers widely believe that children partly make use of the contextual knowledge when they solve the mapping problems of matching form to sense (Gillette et al., 1999). The following review of L1 acquisition studies will also concern to what extent 'contextual knowledge' or 'pragmatic cue' affect children's development of English generic sentences.

First, the study of Perez-Leroux et al. (2004) focuses on the the acquisition of the definite article *the* by Spanish and English learners. According to Perez-Leroux et al. (2004), definite determiners can have similar syntactic distributions cross-linguistically, but can map into overlapping but different semantic spaces.

To be more specific, Perez-Leroux et al. (2004) compares Spanish and English L1 acquisition of generic interpretation. The basic generalisation is that Romance

languages, including Spanish, do not allow bare plural NPs in subject position as exemplified in (3.1-b) below. However, English does allow bare plural NPs in subject position as in (3.1-a). These NPs show generic interpretation in English. Conversely, while Spanish allows generic interpretation with definite plural NPs as in (3.1-d), English disallows it as in (3.1-c).

- (3.1) a. Zebras have stripes.(kind)
b. *Cabras tienen rayas.
c. The tigers eat meat. (object¹/*kind)
d. Los tigres comen carne. (object/kind)

It is suggested that, in English, one possible way to explain the reason why definite articles do not show generic reading as in (3.1-c) is because existence of bare plurals as a generic reading blocks the plural definite from being interpreted as generic in English (Chierchia, 1998). On the other hand, for Romance languages, as bare plural forms are ungrammatical, the definite noun expands its range of interpretation to bare plurals. More importantly, following Chierchia (1998), it was assumed that, basically, definite article ‘the’ has the same meaning of ‘kinds’ in both English and Spanish. However, in English it cannot be interpreted as kinds only because the bare plural blocks the interpretation of definite plurals as generic².

Based on the linguistic assumptions above, Perez-Leroux’s study examines the development of the acquisition of the definite article by both English and Spanish learners. Firstly, it was hypothesized that children in both English and Spanish

¹‘Object’ is a semantic notion which describes ontological status of the referent. ‘Object’ does not have anything to do with ‘object position’ as a syntactic position. The term ‘object’ can be understood as opposed to the notion of ‘kind’.

²See Chierchia (1998) for a more detailed analysis.

will allow generic interpretations of the definite plural because the article ‘the’ encodes kinds. Secondly, the acceptance rates of generic interpretation for the definite plural is predicted to be different between two languages. As only English allows bare plural generics in subject position, lower rates of generic interpretation for the definite plural in English than Spanish is expected. Lastly, it was argued that genericity has a close relationship not only with the form of NPs but also with other properties such as predicates and various tense forms. It was assumed that generic sentences are mostly in present form, thus tense forms would have an impact on the generic interpretation. Therefore, it was hypothesized that learners would correlate generic interpretations more with present tense than with past tense.³

To test the hypotheses, pre-school aged children in Canada and the Dominican Republic participated in the experiments. In order to test children’s knowledge on generic readings of definite plurals and bare plurals, the subjects were presented with a story followed by questions containing bare plurals and definite plural NPs. The stories included atypical characters such as ‘spotted zebras’ and ‘vegetarian tigers’. The example 3.3 presents a story and questions employed in this experiment.

(3.3) Example of an English story and questions (present tense)

- a. Story: Zippy the zebra and Suzy the zebra are spotted. The giraffe wonders why they look different. Now let me ask you some questions.
- b. Immediate Question: Do the zebras have spots?
Delayed Question: Do zebras have stripes?

[partly modified from](Perez-Leroux et al., 2004, p.4)

³Perez-Leroux assumed that generics are associated with present simple tense. However, as we have seen in Chapter 2, past tense generics and future tense generics do exist. Consider the following examples. They are repeated from the previous example 2.32.

- (3.2) a. Dodos were extinct.
b. The rhino will become extinct soon.

The target answer for the immediate question, ‘do the zebras have spots?’, would be ‘yes’ as definite plurals are not kind-referring in English. For the delayed question, ‘do zebras have stripes?’, the correct target answer would be ‘yes’ as bare plurals are kind-referring in English. In the Spanish experiment, the same format of the task was given in Spanish.

In addition, in order to investigate the role of tense in the interpretation of generics, a variant form of story was given to the subjects. The stories were presented in the past tense.

(3.4) Example of English story and questions (past tense)

- a. Story: once upon a time there were two spotted zebras. They were really funny and the giraffe loved to play with their spots. Now I am going to ask you questions about the zebras.
- b. Immediate Questions Do the zebras have spots?
Delayed Question: And what about the zebras? Did the zebras have stripes?

[partly modified from](Perez-Leroux et al., 2004, p.7)

In both questions, ‘definite plural’ NPs are used as subjects but tense forms are different. The target response for the immediate question would be ‘YES’ and the target response for the delayed question would be ‘NO’. In the Spanish experiment, the same format of the task was given in Spanish.

The results of the study supported the first hypothesis by showing interpretation of definite NPs as generic in both languages. In addition, as expected, nearly 100% of Spanish learners interpreted definite NPs as generic but English children showed lower accuracy rates on the interpretation of definite plurals than Spanish children. The last hypothesis was also supported by the tests as past tense in the story seemed

to have a certain effect on the generic interpretation. Both groups of children showed an overall effect of past tense narratives by reducing the proportion of generic responses when they were presented with past tense stories. Thus, the result suggests that children are affected not only by NP forms but also by other properties such as past tense forms in interpreting generics. In fact, Gelman and Raman (2003) suggest that pragmatics would have an impact on the generic interpretation.

According to Gelman and Raman (2003), identifying an utterance as generic is difficult for children as mapping between formal and semantic cues are complex. In other words, for English generics, no direct one-to-one mapping between form and meaning is possible. It is argued that to identify the generic sentence, morphosyntactic cues, pragmatic cues and world knowledge are required. To explain more, firstly, morpho-syntactic cues are to do with the use of determiners. For instance, in English, generics can be encoded with definite singular NPs as in (3.5-a) below, indefinite singular NPs as in (3.5-b) , and bare plurals as in (3.5-c) (Lyons, 1977). Consider the following example sentences.

- (3.5) a. The bird is a warm-blooded animal.
b. A cat has nine lives.
c. Dinosaurs are extinct.
d. The bird is flying.
e. A cat caught two mice.
f. There are dinosaurs in that museum.

[partly modified from](Gelman and Raman, 2003, p.309)

As it is shown, NPs in (3.5-a), (3.5-b) and (3.5-c) with generic meanings are not distinguishable from their counterpart in (3.5-d) , (3.5-e) and (3.5-f) . At least four morpho-syntactic cues are suggested to help the learner identify an utterance as

generic or non generic: determiners, number, tense and aspect. Meanwhile, even if those cues are relevant to judging genericity in English, other cues can help to identify generic sentences as not all languages encode definiteness, plurality and tense obligatorily (Gelman and Tardif, 1988).

Secondly, as one of the most important cues to identify genericity, pragmatic cues are to do with the information that reaches beyond the linguistic level. For example, information from prior sentences may affect the identification of genericity. See the following sentences.

- (3.6) a. “These are my tapirs. They like to eat grubs”
b. “This is a tapir. They like to eat grubs”

(Gelman and Raman, 2003, p.309)

One central type of pragmatic cue is relevant with anaphoric reference as in (3.6-a). ‘They like to eat grubs’ is the very same sentence in both examples (3.6-a) and (3.6-b). As the preceding sentence in (3.6-a) implies an obvious referent for the plural pronoun, example (3.6-a) induces non-generic reading. On the other hand, ‘they’ in (3.6-b) does not have an immediate referent and so implies a generic reading. Even though the two sentences are exactly the same, children must learn that the first one refers to the immediate reference and the latter one refers to the inferred class.⁴

Lastly, world knowledge⁵ is relevant to the generic meanings. That is because world knowledge tells children which properties, events and states concern generics,

⁴Example 3.6 mainly focuses on the interpretation of the pronoun ‘they’. Thus, one should note that this type of sentence is not directly relevant to the current research. The current research deals with ‘generic NPs’ and ‘characterising generic sentences’.

⁵Gelman and Raman did not define what ‘world knowledge’ means. However, what is important is that ‘world knowledge’ in this study is prompt knowledge and it does not involve any discourse knowledge.

and which concern individuals. For example, ‘being extinct’ is a state that only refers ‘kinds’ as one individual cannot extinct. As it is explained, determining that an utterance is ‘generic’ or ‘non-generic’ requires ample factors by adult English speakers. Thus, to acquire generic interpretation, children will face a daunting task.

Despite the complicated inductive procedures that generics present to children, many research results show that they actually begin to use generic sentences in the early preschool years (Gelman et al., 2000; Pappas and Gelman, 1988). Even children as young as 2 can produce generics with some frequency and it rapidly increases between 2 and 3 years old. Hence one can say that generic interpretation is acquired quite early on.

However, data so far does not explicitly show whether children were showing clear relevance to a semantic distinction between generic and non-generic NPs. One might suggest that a child would use world knowledge to determine a generic sentence. Or, alternatively, they could make use of pragmatic information such as contextual knowledge to identify generic sentences. Thus, the study of Gelman and Raman (2003) questions whether children are limited to world knowledge when identifying genericity or if they use pragmatic cues. Specifically, the study tries to find out if they can identify generics correctly when world knowledge information is kept constant and only linguistic form and contextual cues are available. In addition, it questions if children can employ linguistic information in distinguishing generics from non generics. To be more specific, the focus is on two types of linguistic cues: formal cues and pragmatic cues. Formal cues involve the existence of the definite article ‘the’ as in (3.7-a) and (3.7-b) and pragmatic cues involve anaphoric reference as in (3.7-c) and (3.7-d).

(3.7) a. What color are birds? (Generic)

- b. What color are the birds? (Non-generic)
- c. Here's a bird, what color are they? (Generic)
- d. Here's a bird, what color is it? (Non-generic)
- e. Here are two birds, what color are they? (Non-generic)

(Gelman and Raman, 2003, p.311)

To answer the hypotheses, two studies were carried out with various age groups including 2, 3 and 4 year olds, and adult. In study 1, in order to investigate the involvement of linguistic cues such as existence of 'the' in the acquisition of generics, a simple yes/no question task was given to the subjects. In this task, participants were presented with a picture including atypical or unusual characters. For example, a picture of two giraffes with short necks which is not usual as giraffes typically have long necks. Then the participants were asked to answer simple questions such as 'do giraffes have long necks?' or 'do the giraffes have long necks?'. The prediction was that if existence or non-existence of the definite article 'the' signals genericity of the NP, participants would answer 'yes' to the question 'do giraffes have long necks?' where 'the' is not present and 'no' to the question of 'do the giraffes have long necks?' where 'the' is present.⁶ According to the results, despite the pictures which pull non-generic readings, young children groups of 2, 3, and 4 years old appeared to use linguistic cues to differentiate generic NPs from non-generic NPs.

In study 2, in terms of generic interpretation, sensitivity to pragmatic information was tested. According to Gelman and Raman (2003), mothers often utter generic sentences using bare plural NPs in a single instance context. For example, mothers often produce sentences like 'they like to eat acorns' pointing to one squirrel (Pappas and Gelman, 1988; Gelman and Raman, 2003). In this study, it was assumed

⁶It was argued that in both conditions, world-knowledge is the same. In other words, children know that giraffes generally have characteristics having long necks. In other words, world-knowledge would not affect to the children's behaviour in the experiment.

that the combination of a single referent and bare plural NP forms indirectly signify generic readings as in (3.7-c) above. On the other hand, the combination of single referent with a singular NPs or a plural referent with plural NPs would indirectly suggests non-generic readings as in (3.7-d) and (3.7-e) above, respectively. The prediction was that the mismatch situation (single referent and plural NP) should induce generic readings, but the match situation (either single referent and singular NP, or plural referent and plural NP) should produce non-generic readings. Question sentences such as (3.7-c), (3.7-d) and (3.7-e) were given to the participants after a picture which included atypical characteristics such as a 'pink cloud'. The results of study 2 appeared to be inconclusive. Children aged 3 and 4 years old showed sensitivity to the mismatches and matches of the sentences. For instance, questions containing bare plural forms such as 'what color are they' with a picture containing a single apple yielded a generic interpretation. However, for 2 year olds, pragmatic cues did not have any effect on their responses. When 2 year olds were given questions like 'what color are they', they gave the same answers regardless of the different picture prompts, such as pictures with 1 single apple or those with 2 apples. Thus it was argued that 2 year olds only pay attention to the linguistic forms and pragmatic cues are ignored. Therefore, for study 2, it was concluded that children are not entirely dependent on pragmatic knowledge but rather they make use of linguistic cues to decide generic interpretation.

To sum up the study of Gelman and Raman (2003), overall research results suggest that children can build generic proposition on the basis of ample linguistic input from very early ages and their knowledge is not restricted to world knowledge. According to the results from study 1, children showed clear dependency on linguistic cues in determining generic interpretation. On the other hand, according to the results from study 2, children appeared to be not entirely dependent on the use of pragmatic cues in generic interpretation.

So far, the study on article acquisition by first language learners has been reviewed. According to the studies above, children can understand generic sentences from an early age based on sufficient linguistic input. In addition, children's knowledge of genericity has proven to be not entirely dependent on the contextual cues since children were more sensitive to linguistic cues. In other words, interpretation and use of generic sentences by children were proven to be largely dependent on an internal component of language. The fact that children were sensitive to linguistic cues can provide an evidence that supports the claim that genericity involves 'internal interface' and this is what underpins my hypothesis.

3.2 Studies on the acquisition of English article by second language learners

Most studies on second language article acquisition have so far focused on aspects of (in)definiteness. Investigation into the acquisition of generic articles has not been very popular in the past and second language researchers started to show interest in generic articles recently (Ionin et al., 2011). Despite the fact that the current research focuses mainly on generic article acquisition, this section reviews the literature of article acquisition studies not only about genericity but also about (in)definiteness. This section reviews studies on the indefinite article 'a', definite article 'the', and zero article because it would be informative to understand L2 learners' development on (in)definite use of articles. The current section firstly reviews two representative earlier studies on English article acquisition by second language learners. Then, the current section reviews the 4 most recent and representative L2 English article acquisition studies.

3.2.1 Earlier studies of the second language acquisition in terms of English articles

Let us consider the two earlier studies on English article acquisition by second language learners (Huebner, 1985; Parrish, 1987). The two studies are chosen and reviewed because they firstly introduced the important concepts of English articles to acquisition studies such as Specific Referent and Hearer Knowledge. Furthermore, the two studies present a good overview on the acquisition of English articles by L2 learners.

Let us consider the study of Parrish (1987) first. Parrish (1987) collected data from a 19-year-old Japanese girl. The subject had been living in the United States for only three weeks when data collection started. Although she had received English instruction for 6 years before she arrived in the states, she was assessed as a beginner. Parrish (1987) collected data on the use of articles such as ‘the’, ‘a’ and ‘zero articles (ϕ)’.

Parrish (1987) adopted two binary feature distinctions for the data analysis of the study, specific referent and hearer knowledge, which were suggested by Bickerton (1981). Specific referent (SR, henceforth) is associated with noun phrases that refer to a specific entity. Hearer knowledge (HK, henceforth) is related to the noun phrase that is already known from the context or mentioned earlier to the reader or listener. By combining these two features, 4 types of categories were made and they are presented in 3.8 with examples.

(3.8) a. [-SR], [+HK] : **Generics (Definite, indefinite, zero article)**

The lion is a beautiful animal.

A lion has a busy tail.

Dogs are faithful

- b. [+SR], [+HK]: **Definite article**

Unique referent: The Pope

Physically present referent: Go ask the guy over there.

Previously mentioned referent in the discourse: So he married a woman from England. Yes the woman's from London.

- c. [+SR], [-HK] : **Indefinite, zero article**

First mention of NP that is assumed not known to hearer

Oh, I have a car. We can take the car.

- d. [-SR], [-HK] : **Indefinite, zero article**

Do you have a dime?

(Parrish, 1987, p.4)

Data was collected from a couple of tasks such as ‘storytelling’ and ‘description of a place’ every ten days for four months. Parrish extracted contexts from the production data where native speakers have used a determiner. After that, she classified the contexts in accordance with different combinations of the two features [\pm Specific Referent] and [\pm Hearer Knowledge] as shown in 3.8. Then she compared the number of tokens with that of native speakers.

There are several notable points about the results. At first, the subject showed omission of articles in a number of cases (52.3%). Secondly, in the contexts of [+SR, -HK], there were some cases where the subject over-generalised ‘the’ to contexts where native speaker would not have used ‘the’.

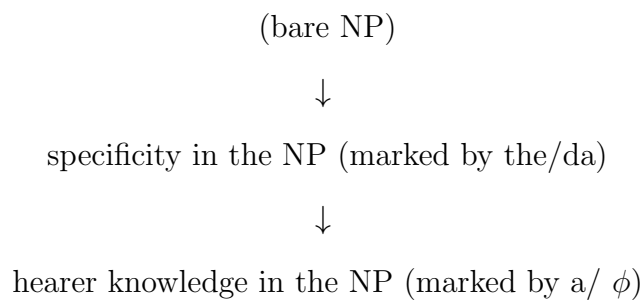
The suggestion from the results is that ‘the’ is used to mark NPs with specific reference rather than hearer knowledge. Also, suppliance of the indefinite article ‘a’ in obligatory contexts is far lower than that of the definite article ‘the’. It was concluded that acquisition of the indefinite article ‘a’ emerges later than acquisition of the definite article ‘the’. In addition, use of zero articles is widely shown and appears to function as a default article.

Similar patterns of the use of ‘the’ and ‘a’ from Parrish (1987) were also found from the Huebner (1985)’s study. Huebner (1985) conducted a longitudinal study for one year. The subject was a Hmong speaker from Laos who was acquiring English in an untutored setting in the United States. 20 months later, a follow-up study was conducted.

Data was collected from free conversation every three weeks in the one year study. Initially, the informant showed contrast between ‘ ϕ ’ and ‘da’ (a phonological approximation to the native ‘the’) but not ‘a’ and ‘the’. After 6 weeks later, the informant overused ‘da’ in all contexts. Meanwhile, from about week 21, the subject began to stop using ‘da’ in [-SR -HK] contexts and finally dropped ‘da’ in [+SR -HK] contexts in week 27. In other words, the subject started to drop ‘da’ in contexts where a native English speaker would have used ‘a’. Huebner found in the follow up study that ‘a’ had begun to be produced in the [+SR -HK] contexts afterwards. Consequently, the study of Huebner (1985) reveals the same results found in Parrish (1987). In other words, second language learners overuses the definite article ‘the’ in indefinite context to denote specificity and the indefinite article ‘a’ is acquired later than the definite article ‘the’.

To sum up the two earlier studies, even though the informants from Parrish’s study and Huebner’s study do not show equal proportions of article use in each context, their acquisition patterns appeared to be quite similar. ‘Da’ or ‘the’ is used predominantly in [+SR +HK] contexts, but it is also used in [-HK] contexts where native

English speakers would not use ‘the’. Meanwhile, both subjects used ‘a’ much less frequently than ‘the’. Similar results were also found by Anderson (1978). In the study, it was found that ‘a’ was used less frequently in appropriate contexts than ‘the’ by Spanish speakers learning English. The literature proposes that acquisition of the English article system occurs incrementally. The procedure is suggested as follows based on the empirical studies (Huebner, 1985; Parrish, 1987; Anderson, 1978).



Whether the acquisition pattern above is related to systematic grammar building / developmental processes or is the effect of L1 influence should also be examined. In fact, there are a number of studies that support L1 influence on the acquisition of DPs (Makino, 1980; Wakabayashi, 1997). In the study of Makino (1980), the performances of Japanese informants were compared to that of Spanish informants. It was found that Japanese learners performed more accurately compared to Spanish speakers on possessive -*’s*. The results suggest the a role for L1 influence on grammar building. That is because the Japanese language has a ‘D morpheme’ that marks the same relationship as a possessive ‘s’ in English as in 3.9.

- (3.9) Tookyoo-no hoteru (Japanese)
Tokyo-Gen hotels
‘*Tokyo’s hotels*’

(Hawkins, 2001, p.246)

In contrast, in Spanish, possession is realised by a syntactic construction that is equivalent to English of-possessives as in (8).

(3.10) Los hotels de Madrid (Spanish)
The hotels of Madrid

(Hawkins, 2001, p.246)

Other evidence of L1 influence comes from Wakabayashi (1997). He compared two groups of advanced English learners from Japan and Spain. Test items include marking of the plural on the N and the use of 'a' in a [-HK] context. It was concluded that Japanese learners were less accurate on detecting ungrammaticality of missing plural markers and 'a' in [-HK] context than Spanish learners. The reason is said to be because Japanese does not have a D-operator. In other words, for Japanese learners to use 'a' appropriately, they have to acquire the specification of English D from the beginning.

L1 influence on the representation of functional categories of L2 grammar is also found in the study by Parodi et al. (2004). In acquiring German overt determiners, speakers of Romance languages and speakers of Korean and Turkish are compared. In Romance languages, article use is obligatory, whereas in languages including Korean and Turkish, articles are not required. The results of the study revealed that Romance speakers showed faster establishment of D in German than Korean and Turkish speakers. This is consistent with the role of L1 influence. Consequently, the L1 seems to influence the acquisition of functional category D, thus one should consider possible L1 influences in terms of English article acquisition.

The sequence of DP development that discussed in section 3.2.1 clearly shows similarities to that of English IP as Hawkins (2001) also argues. For instance, for the IP, learners start with bare V and its projection to VP. It is suggested that, like the structure development of IP, development in DP acquisition occurs incrementally.

Learners start from bare NP and its projection to DP. Also, according to the empirical data presented in the earlier section, it was found that ‘the’ emerges earlier than ‘a’.

Furthermore, two possible theoretical reasons for the earlier emergence of ‘the’ can be suggested as follows. Firstly, ‘the’ takes minimally restricted complements. In other words, ‘the’ NP can either be count or non-count, singular or plural. In contrast, ‘a’ is used in only limited conditions for countable singular nouns. Secondly, frequent use and early emergence of ‘the’ seems to mark the specificity of the accompanying NP ([+HR]). Specificity marking is said to be a local modification in contrast to definiteness which involves the D-Operator. Therefore, it was suggested that L2 learner’s knowledge of DP might develop incrementally as it appears to do in the acquisition of IP (Hawkins, 2001).

3.2.2 Recent studies of the second language acquisition of English articles

This section reviews a series of more recent literature on article acquisition by second language learners. Firstly, the studies of L2 English article acquisition in terms of (in)definiteness are summarised. It is worthwhile to illustrate the studies on the definiteness here, because ‘(in)definiteness’ features of English articles are relevant to the current study as the acquisition of definiteness will be compared to that of genericity later in testing the ‘Interface Hypothesis’. In addition, it would be meaningful and informative to examine L2 acquisition patterns in (in)definite article use in analysing L2 data collected in the current research. It will be followed by a presentation of studies on the L2 article acquisition of English generics. This section finishes by summarising the literature and more clearly presenting the context where the current research was motivated.

Researches on English (in)definite articles

Ionin and her colleagues have carried out a number of studies on the article acquisition on definiteness (Ionin and Wexler, 2003; Ionin et al., 2009, among many others). Firstly, Ionin and Wexler (2003) questioned the possibility of acquisition of parameter values which were not presented in the first language by adult L2 learners. Their study mainly examines L2 learner's acquisition abilities in terms of a semantic parameter named the Article Choice Parameter. To begin with, different parameter settings of lexical specification are introduced in article use. To explain more about the article semantics, it was assumed that article choices are operated by a binary parameter and it determines the distribution of articles. The binary parameters are as follows: a definiteness setting and a specificity setting. In the former setting, articles are distinguished on the basis of (in)definiteness. Meanwhile, in the latter setting, articles are distinguished on the basis of specificity (Ionin et al., 2003). For example, it is proposed that in a language like English, articles encode the feature [+definite] and [-definite]. However, in a language like Samoan, articles encode the feature of [+specific] and [-specific].

Based on the assumption that articles can be determined by definiteness or specificity cross-linguistically, it is proposed that in the absence of such features in learners' L1, L2 learners cannot know which article setting is proper for the English language. Therefore, it is presumed that the learners would fluctuate between two settings until sufficient input lead them to set the appropriate parameter value Fluctuation Hypothesis (Ionin, 2003). In the Fluctuation Hypothesis, it is predicted that L2 English learners would fluctuate between the definiteness setting and specificity setting. Hence, L2 learners are expected to undergo a fluctuation period and use 'the' in [-definite, +specific] contexts as well as definite contexts and 'a' in [+definite, -specific] contexts as well as indefinite contexts.

To test the Fluctuation Hypothesis, Korean and Russian learners of English were compared. Both Korean and Russian do not have articles. Thus it was assumed that results would not be affected by L1 transfer. Two tasks were employed, a “forced-choice elicitation task” and a “production test”. The Fluctuation Hypothesis was supported by the results from the two tests. To be more specific, both Korean and Russian groups of learners displayed misuse of articles in the experiments. The results of the written elicitation data revealed overuse of the definite article ‘the’ with [-definite, +specific] contexts and the overuse of the indefinite article ‘a’ with [+definite, -specific] contexts. This can be explained by the uses of ‘the’ with the ‘specific’ feature. Hence it was concluded that the errors made by L2 learners were not random but rather clearly showed fluctuation between the definiteness setting and specificity setting, thus showing evidence of accessibility to the universal semantic parameter by L2 learners.

In another study, Ionin and her colleagues tested the effect of age in article acquisition (Ionin et al., 2009). One of the major questions in the subject of second language acquisition is whether adults and children acquire a second language in the same manner. The study of Ionin et al. (2009) examined acquisition patterns between child and adult L2 English learners from the same L1 background. Particularly, the study tested acquisition of English articles by Russian learners of English whose L1 lacks articles.

It was hypothesized that if the acquisition patterns between child and adult groups appear to be the same or similar to each other, it would suggest that the process of acquisition between adults and children is the same regardless of the age of acquisition. Hence, it could provide evidence for the role of UG in second language acquisition. To test the hypotheses, child and adult learners of L2 English participated in the experiment. Also, similar age groups of English controls were tested. A written article elicitation task was given to each group. The participants were

given a blank in target sentences and it was to be filled with any lexical item such as ‘the’ or ‘a’.

Overall accuracy rates of both the child and adult learner groups were similarly high. However, their usage patterns of articles appeared to be different. Adult L2 learners make the specificity distinction in both indefinites and definite, whereas child L2 learners make the specificity distinction only in indefinites. Only childrens’ patterns are consistent with the native speakers’ responses, thus only children showed target-like patterns. Therefore, one could suggest that children can access the semantic universals of UG because children showed same usage patterns of articles as English native speakers. In addition, in the interpretation of the adult pattern, it is suggested that adult learners use explicit knowledge based on the implicit semantic knowledge.

To sum up the studies discussed on English (in)definite article acquisition, it seems that learners whose L1 lacks an article system undergo difficulties in using ‘the’ correctly in ‘definite’ contexts. In other words, learners seem to overuse and over-accept ‘the’ in ‘specific’ contexts as well as ‘definite’ contexts. In this section, we have reviewed 2 studies on the acquisition of English (in)definite articles. The next section will review L2 acquisition studies of English generic articles.

Research on generic use of English articles

Let us now consider a series of studies on the acquisition of English generics. Firstly, Slabakova (2006) attempts to find relationships between input, Universal Grammar and role of native language. Her study tests purely semantic properties which are not apparently related to its syntactic trigger; the Bare Noun (BN)/Proper Name (PN) parameter (Longobardi, 1991, 1994, 2001, 2005). The semantic side of the parameter involves English and Italian mass or bare plural (BNs) nouns and they have the same syntactic form. However, they have different interpretations. On

the other hand, the syntactic part of the parameter concerns proper names (PNs) and they show constant meaning but different word order in different languages. Longobardi (1991, 1994, 2001, 2005) argues that this variation between English and Italian can be explained by the BN/PN parameter. To be more specific, it is discussed that English and Italian share the same syntactic forms and distribution but differ in available interpretations in terms of Bare Noun construction. Consider the examples in 3.11 below.

- (3.11) a. White elephants will undergo the Final Judgement tomorrow at 5. (Ex/Gen)
- b. Elefanti di colore bianco passerano il Giudizio Universale
 Elephants of color white undergo-FUT the Final Judgment
 domani alle 5. (Ex/ #Gen)
 tomorrow at 5.
'White elephants will undergo the Final Judgement tomorrow at 5.'
- c. Large cats think very highly of themselves (Distr/Kind).
- d. Gatti di grossa taglia hanno un'alta opinione di se stessi.
 Cats of large dimensions have high opinion of self
 (Distr/ #Kind)
'Large cats think very highly of themselves'

(Slabakova, 2006, p.501)

To be more specific, it is suggested that bare nouns in English display both existential and generic interpretations as in (3.11-a) and distributive and kind as in (3.11-c). Meanwhile, bare nouns in Italian pronounce only existential interpretations as in (3.11-b) and distributive interpretations as in (3.11-d). Therefore, available interpretations build a superset-subset relationship with English as superset and Italian as subset.

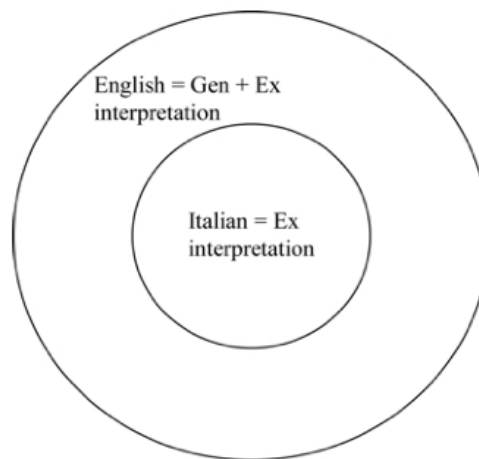
On the other hand, in the Proper Name construction, proper nouns hold a constant meaning cross-linguistically but they are expressed with different word order as in 3.12 below. Consider the examples in 3.12 below.

- (3.12) a. Ancient Rome/ *Rome ancient was destroyed by the barbarians.
 b. Roma antica/ *Antica Roma fu distrutta dai barbari.
‘Ancient Rome was destroyed by the barbarians.’

(Slabakova, 2006, p.502)

Consider the following figure for the subset-superset relationship between English and Italian.

Figure 3.1: Subset-superset relationship between Italian and English



The Subset Principle can predict that it would be easier for Italian speakers to learn English interpretations, because they can receive positive evidence. Meanwhile, for the English learners of Italian, it poses a poverty of stimulus situation since they have to learn the unavailability of one interpretation which is a contradiction from their native grammar. Thus, it would be the more difficult direction of semantic acquisition. Under these assumptions, in this bidirectional study, three predictions were posed.

Firstly, for English speaking learners of Italian, despite the perceivable problem mentioned above, restructuring of the parameter will help learners to overcome the poverty of stimulus problem. In other words, syntactic knowledge of Proper Name

and Adjective word order will result in the awareness that one of the L1 interpretations is missing in the L2. Secondly, for Italian speaking learners of English, the acquisition process is an expansion of the native grammar. They have to add the interpretation that is not presented in their L1. Therefore, one can expect that positive input would trigger the acquisition process which involves an extension of the grammar. Thirdly, it is said that even though the BN/PN parameters are not related superficially, they are underlyingly unified. Therefore, it was claimed by Slabakova (2006) that L1 Italian learners' interlanguage might reflect knowledge on both semantic interpretations and syntactic movement. If the two properties cluster, we should find acquisition of correct interpretations (BN) and noun movement (PN) at the same time. In the mean time, it has been argued that the syntactic property is more salient in input and explicitly taught, whereas the semantic property is not very clear and not taught in classrooms. Thus, it was assumed that acquisition of syntactic knowledge will proceed semantic knowledge (Slabakova, 2006). Therefore, it was predicted that if subjects who know the semantic property do not know the syntactic property, it would provide counter-evidence for the clustering effects.

To test the hypotheses, a Truth Value Judgement Task (TVJT) and a Grammaticality Judgement Task (GJT) were conducted. According to the results, the first prediction was supported by showing correct interpretation of Italian bare nouns by the majority of English adult learners. For the second prediction, as was expected, Italian learners of English behaved correctly in interpreting English bare nouns. Finally, the last prediction on the clustering effect in second language acquisition was weakly supported. In the direction of L1 English-L2 Italian which was predicted to be the more difficult direction, the majority of learners successfully acquired both the syntactic and semantic side of the parameter. However, in the L1 Italian-L2 English direction, about half of the subjects showed the acquisition of syntax first.

In conclusion, the study by Slabakova (2006) supports the engagement of UG in adult second language acquisition by investigating POS effects in English L1-Italian L2 direction. In other words, since the syntactic properties and semantic properties are related, a visible syntactic property can facilitate the knowledge of semantic properties despite the poverty of stimulus problem. The results of the study also support the parametric restructuring.

Ionin et al. (2009) also attempt to examine the acquisition of the English article in relation to the ‘generic reference’. It focuses on the bidirectional studies between Spanish speaking learners of L2 English and English speaking learners of Spanish. Within its domain, three main issues are addressed in the study as follows: influence of L1-transfer, recovery from L1-transfer and learning vs. unlearning.

Ionin et al. (2009) test different interpretations of articles in two languages. Interpretation of ‘definite plurals’ are different between English and Spanish. In English, bare plurals have generic readings whereas definite plurals have only specific readings. However, unlike English, bare plurals are ungrammatical and definite plurals have both generic and specific readings in Spanish. In other words, in English, the definite article lexicalises maximality only. The definite article denotes the maximal element referred by the NP in the discourse, thus inducing specific readings. However, in Spanish, the definite article lexicalises both maximality and kind-reference (definite article denotes kind). These phenomena in English are exemplified in example 3.13 below.

- (3.13) a. Lions are dangerous. [\checkmark generic reference, *specific reference]
b. The lions are dangerous. [*generic reference, \checkmark specific reference]
c. These lions are dangerous. [*generic reference, \checkmark specific reference]

(Ionin and Montrul, 2009, p.150)

As it is exemplified in (3.13-a), ‘bare plural’s in English state about lions in general. In contrast, (3.13-b) with a definite plural, does not state about lions in general. The available reading from (3.13-b) is some distinguishable lions. For example, ‘the lions in the zoo’ are dangerous as in (3.13-c) with a demonstrative plural. However, (3.13-a) cannot have a specific meaning. Bare plurals in English cannot refer to specific references.

Unlike English, Spanish shows a different interpretation of the definite article ‘the’ as exemplified in 3.14 below.

- (3.14) a. *Leones son peligrosos.
 lions are dangerous
‘Lions are dangerous.’
- b. Los leones son peligrosos.
 the-pl lions are dangerous
‘The lions are dangerous.’ [✓ generic reference, ✓ specific reference]
- c. Estos leones son peligrosos.
 these lions are dangerous
These lions are dangerous. [*generic reference, ✓ specific reference]

(Ionin and Montrul, 2009, p.150)

Bare plurals in subject position are ungrammatical in Spanish as shown in (3.14-a). However, definite plural nouns have both specific and generic readings as in (3.14-b). It can be compared to demonstrative plurals that only allow specific readings as in (3.14-c).

Based on the linguistic assumptions above, superset-subset relationship was suggested as a Spanish superset and English subset.

Three research questions are posed in this study. Firstly, it attempts to test whether Spanish speaking learners of English and English speaking learners of Spanish transfer the interpretation of definite plurals from their L1 to their L2. Secondly, it tries to investigate if recovery from L1 transfer of the target form-meaning mapping is easier in the English → Spanish direction than Spanish → English direction. That is because unlearning one meaning of a property is more difficult than adding one meaning by superset-subset relation. Thirdly, it tests if, for Spanish speaking L2 English learners, the availability of bare plurals with generic readings in English trigger the unlearning of generic readings of definite plurals.

To answer the three research questions, a bidirectional study was carried out. More precisely, two studies are conducted: namely the English study and the Spanish study. Various proficiency groups of each languages participated in the tasks such as an Acceptability judgment task and a Truth-value judgment task. All tasks were placed online and administered on a computer.

In terms of the first research question, the result shows evidence of transfer in the interpretation of definite plurals in both Spanish and English groups. Spanish speaking learners of English of lower proficiency with less naturalistic input often allowed a generic interpretation for definite plurals. In addition, English speaking learners of Spanish in lower proficiency level disallowed a generic interpretation for definite plurals.

Also the results answer research question 2. The recovery from L1-transfer is revealed to be easier in the English → Spanish direction as was predicted based on the subset principle. More specifically, in the Spanish → English direction, only the learners in higher proficiency groups show native-like performance. On the other hand, in the English → Spanish direction, even lower proficiency groups of learners show native-like performance compared to their counterparts. One might say that unlearning the generic reading in English is harder than learning it in Spanish.

For the last research question, the availability of ‘bare plurals’ with a generic reading in English input does not trigger the unlearning of generic readings of definite plurals. Spanish speaking learners of English in the lowest proficiency group correctly accepted bare plurals with a generic interpretation but incorrectly accepted definite articles as generics. For the high proficiency groups, even though they were not statistically different from native speakers, their performance was not target like.

In another study, Ionin and Montrul (2009) examined acquisition of English articles in terms of generic interpretation by adult second language learners. The study aims to test universal knowledge that the determiner ‘the’ encodes only maximality but not kind-reference.⁷

This research ultimately tries to examine whether there is a parallel between the L1 acquisition of English by English children and the L2 acquisition of English by Korean adult learners. It was suggested that while the English L1 acquisition of young children and the L2 acquisition of Korean adults is obviously different, the two populations appear to have common steps. Acquisition processes are assumed to be similar because both groups start out with no articles and should learn how articles are employed not only in generic senses but also in non-generic senses. Thus, it was expected that both groups would show similar types of errors based on UG.

Languages with articles vary in their interpretation of bare plurals as it was illustrated in examples 3.13 and 3.14 above (Ionin and Montrul, 2009). For example, Germanic languages including English allow a generic interpretation with bare plurals. Meanwhile, Romance languages like Spanish encode generic interpretations with definite plurals.

⁷For a more specific illustration of maximality and kind-reference, see the example 3.13 and 3.14.

It is argued that for languages which do not employ articles at all such as Korean, the distinction between bare plurals and definite plurals does not arise. According to Ionin and Montrul (2009), bare plurals in Korean have a generic meaning or alternatively, bare singulars can be generic as well. Therefore, for Korean learners to acquire the English generic interpretation, they have to first learn that English has articles. Second, they have to decide whether the English definite article 'the' encodes only definiteness, or kind-reference as well. Also, it is maintained that these learning steps are common both to L1 and L2 acquisition of English.

To find out the parallel between L1 and L2 acquisition, previous L1 studies were also discussed in the paper. The results from the previous L1 studies were not conclusive but most importantly it was revealed that many young English acquiring children allowed a generic interpretation with definite plurals as in Spanish language. In addition, some of them also accepted a specific interpretation with bare plurals. Thus, in the study of Ionin and Montrul (2009) it was similarly expected that adult Korean speaking learners of English would make both types of errors which appeared in L1 acquisition if they can access UG. Meanwhile, it was maintained that there should be a chance that Korean learners would allow generic interpretations of definite plurals if they are sensitive to the cross-linguistically different semantics of determiners. If adult Korean learners show similar results to those of English L1 children, a common developmental procedure can be assumed between L1 and L2 acquisition.

A Truth Value Judgement Task (TVJT) and an Acceptability Judgement Task (AJT) were conducted. According to the group results, overall accuracy of adult Korean learners of English in deciding interpretation of bare and definite plurals was not as high as English adult controls. However, according to the individual analysis, they showed target-like patterns 58% of the time. Those learners who do not fall into target like behaviour pattern do so in two ways. 8 learners (12%)

misanalysed bare plurals as specific which was argued to be consistent with L1 transfer. 15 learners (22%) erroneously allowed definite plurals as generics. The overall results of the tests revealed suggestive evidence that some Korean adults made errors in the interpretation of generics with definite plurals. Therefore, one might suggest that parallels exist between L1 and L2 acquisition, thus a common ‘developmental process’ was found between L1 and L2 acquisition.

The most recent study of Ionin and Montrul (2010) is to observe the role of native language and recovery from L1 transfer in the syntax-semantics domain. In particular, this study examines the second language acquisition of articles concerned with the interpretation of plural noun phrases. As it was repeatedly described earlier in examples 3.13 and 3.14, interpretations of bare plurals can vary in accordance with languages. In other words, in languages like English, bare plurals can have generic readings whereas in languages like Spanish, definite plurals can express generic readings.

The study of Ionin and Montrul (2010) compares the behaviour of Korean speakers with no article in their L1 and Spanish speakers with articles in their L1 but a different interpretation. It attempts to observe whether low proficiency groups of L1-Spanish and L1-Korean learners of English transfer the interpretation of definite plurals and bare plurals based on their L1. Moreover, it also observes whether both Spanish and Korean learners are able to recover from the L1 transfer by testing more advanced proficiency groups.

To test the hypothesis, a Truth Value Judgment Task (TVJT) and an Acceptability Judgment Task (AJT) were conducted. Subjects in Spanish and Korean were matched for similar proficiency and showed similar levels in terms of overall article accuracy. For the lower proficiency Korean and Spanish groups, the results show clear differences between Korean and Spanish speakers. In interpreting definite plurals, Korean learners were significantly better than Spanish learners. Spanish

learners incorrectly allowed a generic interpretation with definite plurals as they would do in their L1. For the bare plurals, Spanish speakers were more accurate than Korean speakers by correctly interpreting bare plurals as generics. However, the Korean learners sometimes judged bare plurals as specific, as argued to be consistent with Korean L1 property. In other words, it was claimed that Korean bare plurals can be interpreted as specific as well as generic.

For the advanced proficiency groups, both Spanish and Korean speakers showed evidence of recovery from L1 transfer. Among these advanced speakers, Korean speakers all interpreted bare plurals as generic and only a small number of the Spanish learners read definite plurals as generic. To sum up, native language certainly plays a role in the acquisition of articles in terms of genericity. In the meantime, the results of Korean and Spanish learners of English suggest that transfer can be recovered in accordance with proficiency.

Most recently, Ionin et al. (2011) differentiated the two different generics which are generic sentences and generic NPs. As in this study, Ionin et. al (2011) also acknowledged different semantic representations between ‘bare plural’ generics and ‘the+singular’ generics. Furthermore, Ionin and her colleagues also distinguished sentence level-generics (characterising generics) from NP-level generics (kind-referring NPs). See the following examples in 3.15.

- (3.15) a. Lions are dangerous.
b. The lion is dangerous
c. A lion is a dangerous animal.

In their research, it was assumed that three different use of NPs in English generics including kind-referring NPs as in (3.15-a) and (3.15-b) and characterising generic sentences as in (3.15-c). It was assumed that these NPs are not interchangeable.

In other words, ‘lions’ in (3.15-a) and ‘the lion’ in (3.15-b) are kind-referring NPs (NP-level generics), whereas ‘a lion’ in (3.15-c) can occur only with characterising generic sentences. Their study investigated Russian and Korean speakers whose L1s do not have articles. It tested if learners show sensitivity to the two different genericities; NP-level generics vs. sentence level generics. A written acceptability judgment task was carried out and the results suggested that both Korean and Russian learners were sensitive to the different genericity in English. Both Russian and Korean learners of English showed target-like results with interpretations of bare plurals and indefinite singular generics. However, results on the interpretation of definite singular generics were not target-like. Regarding this study of Ionin et al. (2011), more detailed discussion will appear in the following section 3.4. The next section will summarise studies that we have discussed so far.

3.2.3 Summaries of L2 literature

A series of acquisition studies of English articles were reviewed (Ionin and Wexler, 2003; Ionin et al., 2009; Ionin and Montrul, 2009; Ionin et al., 2009; Slabakova, 2006; Ionin and Montrul, 2010). The first two studies reviewed here were concerned with the acquisition of English article semantics regarding definiteness and specificity settings. The first study tested Ionin’s Fluctuation Hypothesis by investigating acquisition patterns of L2 learners whose L1 does not have an article system such as Korean and Russian learners of English. It was found that erroneous behaviour of Korean and Russian learners were not random and they fluctuate between definiteness and specificity settings which were based on a universal semantic parameter.

In addition, Ionin et al. (2009) compared acquisition patterns between child and adult L2 acquisition. It was hypothesized that if child and adult L2 acquisition show similar patterns, it would suggest a role of Universal Grammar in L2 acquisition. It was reversely suggested that if the two groups display different patterns, it would

provide evidence that the age factor plays a role in the acquisition of the English article, thus preventing adult L2 learners from accessing UG. In the results, even though the two groups showed similar overall accuracy rates, patterns between the groups appeared to be distinguishable. While adult L2 learners made the specificity distinction in both indefinite and definite contexts, child L2 learners made the specificity distinction in only with indefinites. Hence, child L2 acquisition patterns appeared to be more target-like. In sum, it was suggested that while children could access the semantic universals of UG, adult learners relied more on explicit knowledge based on their implicit semantic knowledge. In other words, role of ‘explicit’ strategies in adult SLA was emphasized in this study.

Then, a series of L2 acquisition studies in terms of generic reference were discussed (Ionin and Wexler, 2003; Ionin et al., 2009; Ionin and Montrul, 2009; Ionin et al., 2009; Slabakova, 2006; Ionin and Montrul, 2010). As it was already summarized above, most of the studies so far have been to do with the interpretation of bare plurals and definite plurals by L2 English learners. A study of Slabakova (2006) examined generic reference in a bidirectional study of L2 English learners of Italian and L2 Italian learners of English. She focused on the acquisition of ‘bare plurals’ that could have both generic and existential meanings in English, but only allowed existential reading in Italian. The results of her study found a role of L1 transfer and also recovery from transfer in both directions of studies. Meanwhile, despite the research (Slabakova, 2006) shows excellence in researching the role of L1 transfer and UG accessibility, it had a limitation that it only observed interpretation of bare plurals but not other generic NPs such as ‘the+singular’.

Building on the previous works, Ionin and Montrul (2009, 2010) included the interpretation of definite plurals as well as bare plural NPs in their study. Their study mainly aims to test the universal knowledge whether the definite article ‘the’ encodes only definiteness as in English or whether the definite article encodes both

definiteness and kind-reference as in Spanish. The first study of Ionin and Montrul (2009) examined whether there were parallels between child L1 and adult L2 acquisition. It was suggested that even though the two groups were obviously different, in fact the two populations shared the same learning steps. That is to say that both groups started with no articles in the beginning and should learn how articles are used. Hence, it was suggested that the two populations would show similar patterns. The results supported the hypothesis as L2 Korean adult learners showed a similar pattern to that of earlier L1 studies.

Most recently, Ionin and Montrul (2010) conducted a study to test L1 transfer and the possibility of recovery from L1 transfer. They tested two different groups of English learners; Spanish and Korean. The Spanish language has an overt article system but differs in interpretation with English whereas Korean does not have overt articles at all. This study also tested the interpretation of bare plurals and definite plurals. It compares L2 Spanish and L2 Korean learners of English with low and high proficiency groups respectively. The results clearly showed that L1 transfer obviously played a role in the interpretation of definite plural NPs and bare plurals in both groups. Additionally, it also confirmed that recovery from L1 transfer was possible by presenting data showing that higher proficiency groups of both Spanish and Korean learners showed more target-like performance than lower proficiency groups.

3.3 The acquisition of English article uses and the Interface Hypothesis

The Interface Hypothesis has received much attention in explaining persistent target variant responses by language learners. The current study attempts to test the Interface Hypothesis in the acquisition of English genericity. This section firstly

discusses what the ‘interface’ means according to Chomsky (1995) and clarifies its uses in second language research. The current section also discusses about the ‘Interface Hypothesis’ suggested by Sorace and Serratrice (2009). Lastly, this section displays the interface relationship of article uses in English. In other words, it shows evidence for generic use of articles as ‘internal interface’ and (in)definite use of articles as ‘external interface’.

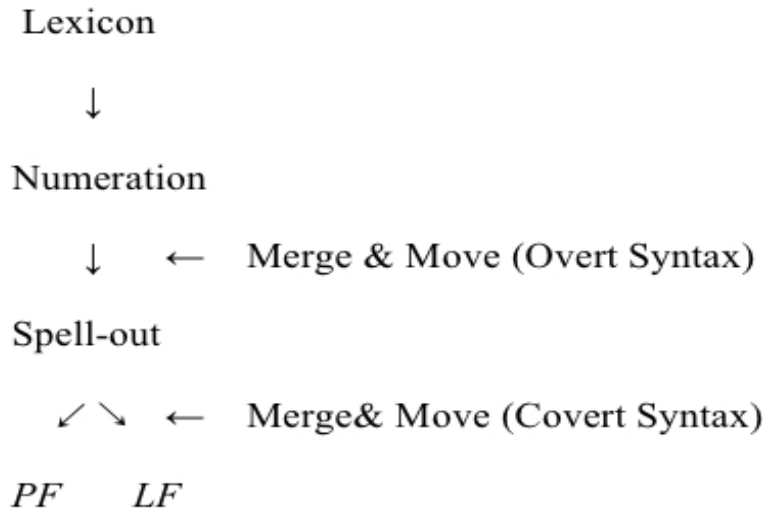
3.3.1 Definitions of interfaces

Before going into greater detail about the current research on interfaces, some clarification of the term ‘interface’ is required as it has been used in various ways within linguistic and acquisition theories. Interfaces are sometimes understood as levels of representation themselves. Or, alternatively, they are understood as certain points of mapping between levels of representations. The view on interfaces is yet far from agreement. The perspectives can be varied depending on the comprehension of the term ‘interfaces’ in the literature of L2 acquisition.

The term ‘interface’ was introduced by Chomsky in the Minimalist Programme. According to Chomsky (1995), the framework of the Minimalist Programme consists of lexicon, numeration, spell out and the two interface levels which are PF and LF as illustrated in Figure 3.2.

Under this framework, at first lexical items are selected into numeration from the lexicon (list of all the lexical items) along with their morphological information and constructs LF and PF representation via derivational procedure (Adger, 2003). After that, selected words in numeration are combined together to construct syntactically grammatical linguistic structure through the computational system. At the level of spell-out, derivations of LF and PF diverge and phonological features descend to the PF and semantic features to the LF. The computational step from the numeration into the spell-out level is called Overt Syntax, since selected words

Figure 3.2: The minimalist framework



are apparently moved during the checking process. However, the computational process from the spell-out level to the LF level is called Covert Syntax since only relevant features are deemed to be moved to check. As Figure 3.2 shows, interfaces refer to a Logical Form (LF) and Phonetic Form (PF) and they are regarded as linguistic levels of representation. Their function is to interface with grammar external cognitive systems. LF interfaces with the conceptual-intentional (CI) system (meaning) and PF interfaces with the articulatory-perceptual (AP) system (sound).

On the other hand, it is not clear whether L2 acquisition researchers have a sense of LF and PF in their mind. In fact, researchers have not asserted that LF and PF are problematic in acquisition as such. What is more, if we assume that LF is a universal property that is uniform for all languages, difficulties are not anticipated in this level. In fact, one cannot acquire levels of representation as they are already part of the grammatical device that is endowed by Universal Grammar. L2 learners should acquire linguistic properties relating to interfaces, but this does not entail that they need to acquire the interface itself (Bhagia and Ritchie, 2009). Nonetheless, the difficulty or ease of acquiring properties involving interfaces are often spelled out in language acquisition literature somewhat misleadingly.

It seems that the term ‘interfaces’ in L2 research is widely perceived as interaction or mapping between linguistic modules or representations. Mapping between linguistic modules or representations always involve interfaces between those levels of representations. For instance, the syntax of a sentence should be mapped on the semantics and it is namely the syntax and semantics interface. Likewise, the syntax of a sentence also has to map to the discourse and it is the syntax and discourse interface. Therefore, one can say that what has to be acquired is proper mappings and it can result in difficulty with some types of interfaces (Lardiere, 2000). Incorporating different linguistic modules can cause mapping problems.

Jackendoff (2007) argues that regarding LF and PF only as interfaces is an oversimplification and he instead suggests a ‘parallel architecture’. In his proposal, there are interface rules which connect between different levels or types of representations. This view seems to be parallel with the perspective that regards interfaces as points of mapping between different representations (Slabakova, 2008).

Furthermore, it appears that there is no consent on whether certain interfaces are part of the computational system and if so where (Reinhart, 2006). For instance, according to the minimalist approach, discourse or pragmatics are not included in the computational system. These fields are rather considered as properties that exist outside of the grammar. In other words, they are not regarded as parts of computational system but instead accommodated in conceptual structure. These systems could be sub-categorised into subsystems that interface with the grammar (Reinhart, 2006).

On the other hand, some researchers maintain that some phenomena concerning the syntax/discourse interface are, in fact, represented in the mental grammar. For example, according to Rizzi (1997), CP can be divided into various categories such as FocusP or TopicP (Belletti, 2004).

As we have seen, it is controversial that whether certain interfaces are part of the computational system (if so where) or not. However, what is important here is that second language learners have to acquire a proper mapping (interface) between linguistic modules or representations.

3.3.2 Introduction to the Interface Hypothesis

Contemporary acquisition studies have maintained and empirically supported the claim that interfaces are particularly vulnerable in language acquisition including L1, bilingual and especially L2 acquisition (Platzack, 2001; Montrul, 2004; Sorace, 2000, 2003, 2004, 2006; Serratrice et al., 2009; Paradis and Navarro, 2003; Valenzuela, 2006).

There have been a number of studies emphasising that the difficulties of second language acquisition lie in the interfaces. Particularly, there has been increasing emphasis on internal interfaces and external interfaces. To explain more, links within the language system itself are termed as internal interfaces (syntax-semantics, syntax-morphology, morphology-phonology, etc.). On the other hand, external interface is defined as a link between linguistic modules with other aspects of world knowledge and cognition (grammar-discourse, grammar-pragmatics). In recent language acquisition research including first language acquisition, second language acquisition, or bilingual acquisition, there has been equal stress on interfaces (Serratrice et al., 2009; Ramchand and Reiss, 2007; Platzack, 2001; Montrul, 2004; Sorace, 2000, 2003, 2004, 2006; Serratrice et al., 2009; Paradis and Navarro, 2003; Valenzuela, 2006; Tsimpli and Sorace, 2006). Specifically, the focus has been on whether interface properties are more difficult to acquire or subject to more persistent problems than those concerning non-interface domains, for instance narrow syntax.

Many studies on interfaces in L2 acquisition have addressed the nature of the end-state grammar of highly proficient L2 learners and compared their performance in accordance with various kinds of interfaces. It has been refined by Sorace and her colleagues and termed as the ‘Interface Hypothesis’ (Sorace and Filiaci, 2006). Originally, the hypothesis compares pure syntax to interface syntax and it was argued that acquiring pure syntax can be less problematic than interface syntax (Sorace and Filiaci, 2006; Sorace, 2006).

Meanwhile, a more recent version of the ‘Interface Hypothesis’ is different to the original one. In fact, a more recent version of the ‘Interface Hypothesis’ compares internal interfaces to external interfaces (Sorace and Serratrice, 2009; Bhagia and Ritchie, 2009). It proposes that external interfaces bring about greater difficulties than internal interfaces. It was argued that “structures requiring the integration of syntactic knowledge and knowledge from other ‘external’ domains require more processing resources than structure requiring only syntactic knowledge” (Sorace and Serratrice, 2009, p.199) based on some experimental studies (Slabakova, 2008; Tsimpli and Sorace, 2006). Therefore, one might suggest that structures involving internal interfaces would be less problematic to acquire than external interfaces for second language learners.

3.3.3 Acquisition of mappings in terms of English generic article and (in)definite article

The current study argues that the ‘Interface Hypothesis’ can be tested within the acquisition of English articles. English articles mainly denote (in)definiteness and genericity. The current study argues that the article usage of (in)definiteness involves mappings between discourse and syntax, thus external interface. On the other hand, article uses of genericity is claimed to be involved with semantics and syntax and that is internal interface. Therefore, we can examine whether adult

L2 learners show more difficulties when the property concerns mappings between discourse and syntax than those between semantics and syntax.

Genericity as internal interface

Characterising generics

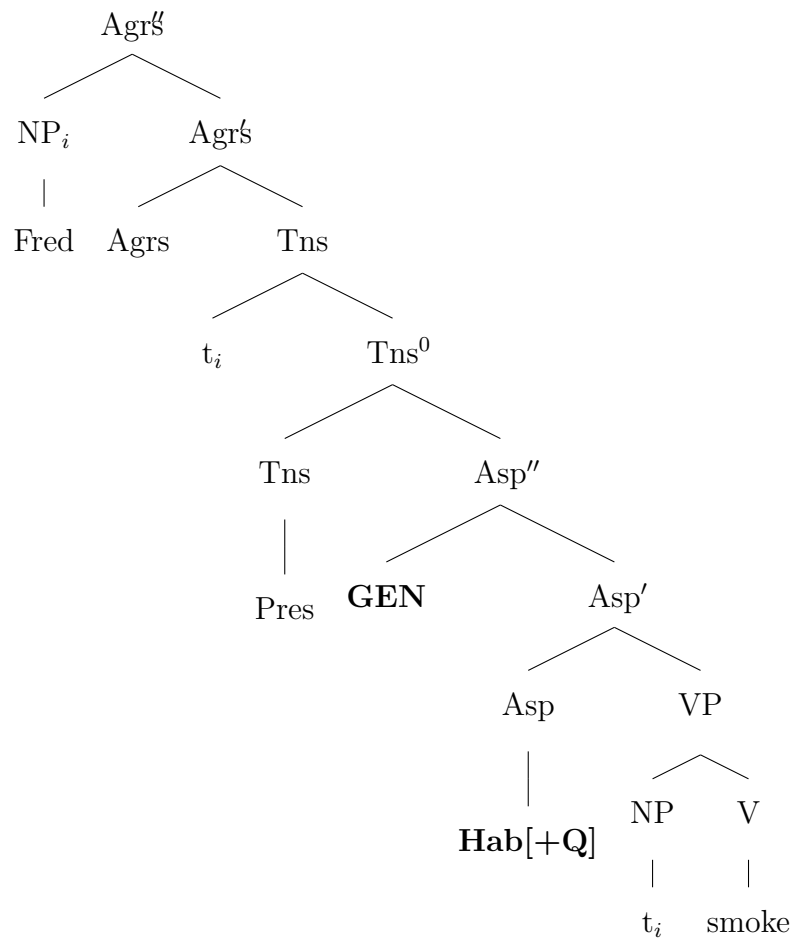
This section will investigate how article uses of genericity can be assumed as involving internal interface. Let us first focus on the sentence-level generics (characterising generics). First of all, as we have already seen in section 2.1.3, Diesing (1995) showed interface relationship between semantics and syntactic structures in the interpretation of bare plurals in the ‘mapping hypothesis’ (cf., Section 2.1.3). Consider the following examples in 3.16.

- (3.16) a. Dogs are intelligent.
b. Dogs bark.

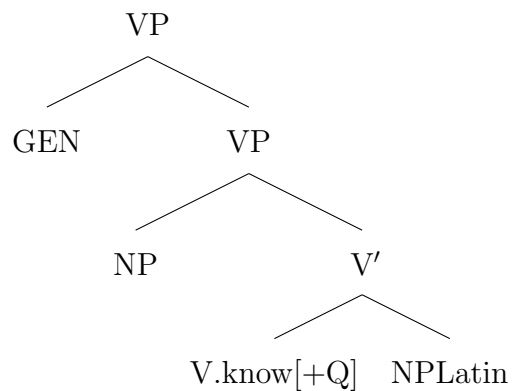
Following the mapping hypothesis by Diesing (1995), ‘dogs’ in (3.16-a) can only have a generic reading since ‘intelligent’ is an i-level predicate. On the other hand, ‘dogs’ in (3.16-b) can have two types of reading; generic reading and existential reading. For example, (3.16-b) can be interpreted as 1) dogs generally bark and 2) there are some dogs that bark.

Furthermore, as we have already seen, Chierchia (1998) presented distinctive syntactic structures for characterising generic sentences in accordance with the type of predicates. Syntactic trees for s-level generic sentences and i-level generic sentences are repeated below in 3.17 and 3.18, respectively.

(3.17)



(3.18)



Syntactic tree 3.17 shows the structure of the English sentence; 'Fred smokes'. It is a habitual generic sentence with s-level predicate. 3.18 displays part of the syntactic structure-'know Latin'- with i-level generic sentence. The important aspect here

is the hierarchy of projections. Whether the predicate is i-level or s-level, the projection of GEN/HAB is completed in predicate levels, and they are already generic sentences regardless of the type of noun. In such case, both generic NPs (i.e., the+singular and bare plural) and non-generic NP (i.e., a+singular) are allowed in characterising generic sentences because genericity is located in the sentences.

Consequently, it can be argued that the semantics of sentences can decide the acceptability of preceding nouns. In other words, if the sentences are characteristics of the preceding subject nouns, a range of NPs are allowed as shown in 3.19.

- (3.19) a. A dog is a faithful animal.
b. The dog is a faithful animal.
c. Dogs are faithful animals.
d. *A dodo is extinct.

In 3.19 underlined sentences present characteristic features of the subject 'dog'. Thus, 'a dog', 'the dog', and 'dogs' are all acceptable in characterising generic sentences. On the other hand, 'a dodo' is not acceptable in (3.19-d) because verbs like 'extinct' require only kind-referring NPs. Furthermore, even proper nouns can occur in characterising generics as in 3.20.

- (3.20) Fred smokes.

Example 3.20 describes the habitual property of smoking of the subject Fred. As we have seen, a range of NPs are allowed in the subject position of characterising generics because genericity lies in sentences. On the other hand, when predicates are not characterising but kind-requiring verbs such as 'extinct', only kind-referring NPs can be acceptable in the subject position as in (3.19-d).

Kind-referring/Generic NPs

Now, let us discuss the syntax-semantics interface relationship regarding generic NPs. Unlike characterising generic sentences, in kind-referring NPs, genericity rises from the NPs themselves as discussed in section 2.1.5.

Kind-referring/generic NPs seem to be independent from sentences or sentence structures as genericity is tied to NPs themselves. The syntax and semantics relationship can be found in the use of definite article ‘the’ vs. bare plural NP in generic terms. The semantics of nouns in NPs can influence the use of the definite article ‘the’. It was previously discussed that only well-established entities or kinds are felicitous to be used with definite article ‘the’, whereas bare plural generics do not receive such semantic restrictions on the use of nouns. Consider example 3.21.

- (3.21) a. The coke bottle has a narrow neck.
b. Coke bottles have a narrow neck.
c. #The yellow bottle has a narrow neck.
d. Yellow bottles have a narrow neck.

In (3.21-a), use of ‘the’ does not raise any oddities as the noun of *coke bottle* is a well-established entities. On the other hand, as exemplified in (3.21-c), ‘the yellow bottle’ is odd because *yellow bottle* is not a well-established noun. On the other hand, bare plural generic forms are not affected by the semantics of nouns at all as exemplified in (3.21-d). Therefore, one can argue that semantics of nouns are related to the morphosyntactic features in English regarding generic NPs.

Meanwhile, recall that generic NPs can occur not only in subject position but also in object position. While the choice of subject generic NPs do not receive any restrictions, interpretation of object generic NPs can be determined by preceding verb types in English.

- (3.22) a. French settlers exterminated the dodo/?dodos.
b. Cats hate dogs

In (3.22-a), the predicate is a kind-predicate and it requires kind-referring NPs as argument. However, while bare plural forms are proper generic NPs, it is not perfectly acceptable in object position as in (3.22-a). However, with stative verbs, bare plural forms can be interpreted as generic NPs. One cannot claim that the phenomenon is caused by the semantics of nouns because *dodos* does not raise oddity in the subject position as in 3.23.

- (3.23) Dodos are exterminated by French settlers.

Therefore, this different interpretation on bare plurals can be accounted for by the syntactic position. According to Carlson and Pelletier (1995), bare plurals are indefinite as a default interpretation and definite readings of bare plurals arise only in some syntactic environments. In other words, the syntactic environments decide the interpretation of bare plurals. Carlson and Pelletier (1995) suggested that there are at least 2 syntactic positions.

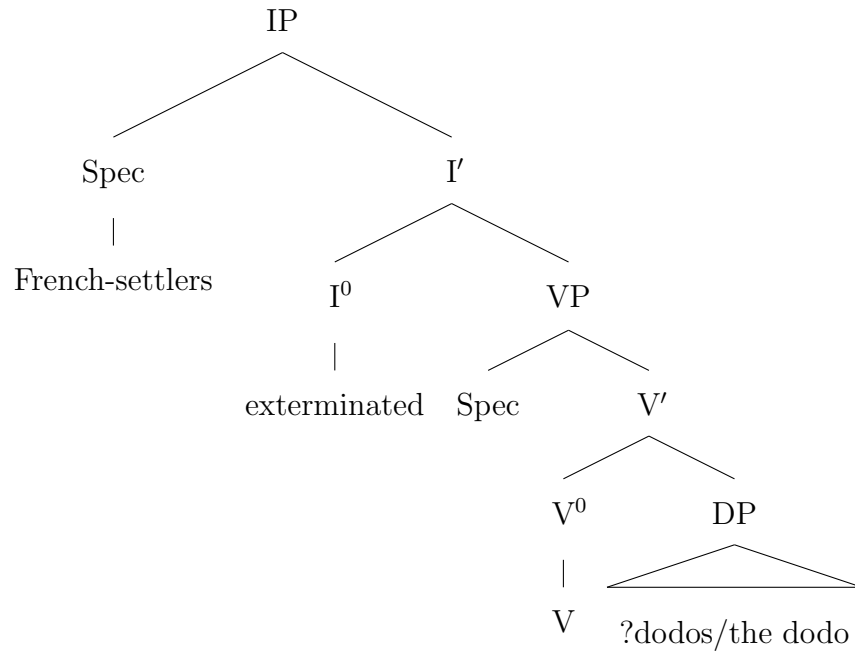
- (3.24) a. Dinosaurs are facing extinction.
b. John hates cigarettes.

Firstly, subject position of categorical sentences can be interpreted as definite as in (3.24-a), and thus as generic by being placed in the topic position. Secondly, object position of stative verbs were suggested. It is argued that stative verbs prefer a definite interpretation of following bare plurals in object position, as in (3.24-b).

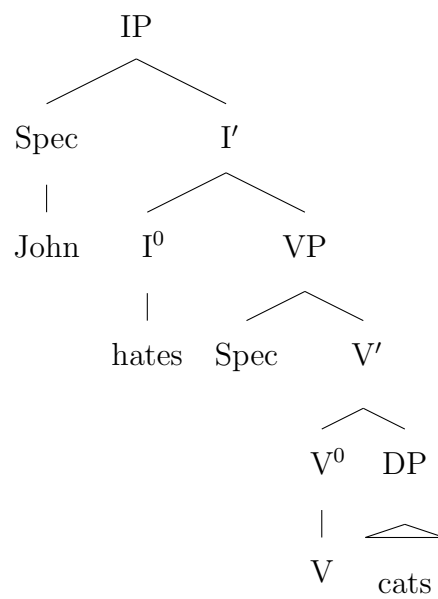
Furthermore, a possible reason why the interpretation of bare plurals receives restrictions only in object position could be explained by the hierarchy of syntactic

structures.

(3.25)



(3.26)



3.25 is the syntactic tree for a sentence that contains a kind-requiring verb and its argument in object position. 3.26 is the syntactic tree for a sentence with a stative verb and kind-referring NP in object position. As the syntactic trees in 3.25 and 3.26 display, subject NPs are rather independent from the VP below, thus subject interpretation does not receive any restrictions from the verb below. On the other hand, object NPs are below the VP and closely linked to the verb. Thus, one can argue that object argument can be interpreted in accordance with the preceding verbs. So far, we have discussed the syntax-semantics relationship in terms of genericity. As has been shown, it is clear that the interpretation of generic NPs is not restricted by language external systems such as discourse.

(In)definite use of English articles as external interface

Let us now discuss why (in)definite use of English articles are regarded as external interface. It is assumed that internal interfaces involve sub-linguistic modules, whereas external interfaces concern cognitive domains that are external to the core computational system. It is widely held that the English article ‘a’ encodes indefiniteness and ‘the’ encodes definiteness. Ionin et al. (2004) define definiteness as follows.

“If a Determiner Phrase (DP) is [+definite], then the speaker and the hearer presuppose the existence of a unique individual in the set denoted by the NP”

(Ionin et al., 2004, page5)

In other words, if the NP appears in a certain sentence where the NP has been introduced to the hearer in previous discourse, the NPs are regarded to be ‘definite’,

and reversely if certain entities have not been mentioned previously and are thus new to the hearer, they are ‘indefinite’. Definiteness is expressed by the article *the* and indefiniteness is marked by the article *a* in English. See the example below.

(3.27) I saw a dog. I gave the dog some food.

In the first sentence, *dog* was first mentioned and there is no presupposition that a dog exists, thus, indefinite article ‘a’ was used. In contrast, in the second sentence, the hearer already knows the existence of a particular dog which has just been mentioned. Therefore, the definite article ‘the’ was used in the second sentence.

The discussion on the use of articles regarding (in)definiteness show that the (in)definiteness of nouns decide employment of English articles. In other words, in deciding ‘a’ or ‘the’, discourse knowledge is involved which is external to sub-linguistic systems. Therefore, learners should refer to their pragmatic/discourse knowledge to use correct (in)definite articles.

3.4 Motivations for the current research

By reviewing a series of previous L2 acquisition studies on article acquisition, a number of gaps were identified in the literature. This section will discuss limitations found from the previous studies, thus providing motivation for the current research. Three main issues that will be discussed in this section are as follows. Firstly, some linguistic assumptions made on Korean generic sentences appeared to be problematic. They should be re-examined and readdressed. Secondly, in terms of semantic distinctions, to my knowledge, so far the focus has been limited to the interpretation of bare plurals and definite plurals. However, one should closely observe more linguistic phenomena in relation to generic reference. Lastly, in the previous literature (Ionin et al., 2009), it was suggested that adult second language

learners might have used explicit strategies in the experiment, thus showing different patterns to the child learners. Therefore, in order to investigate adult learners' acquisition patterns, it would be necessary to disentangle acquired knowledge from strategy based knowledge (explicit knowledge). Let us deal with these three issues in the following sections.

3.4.1 Revisiting Korean linguistic assumptions

In terms of linguistic assumptions on Korean generics in earlier studies, some of them need to be revised since they are not entirely correct. Let us first examine what assumption was made on Korean generic references in the study of Ionin and Montrul (2009, 2010).

It was assumed in the study of Ionin and Montrul (2009, 2010) that, in Korean, a standard way to express generic reference was to use 'bare NPs' including 'bare singular NPs' and 'bare plural NPs' (Nemoto, 2005).

Ionin and Montrul followed the linguistic assumption that Korean NPs including bare singulars and bare plurals could also be used in specific readings when they were used anaphorically as in (3.28-c) and (3.28-d) below following Nemoto (2005) and Kim (2005). Also, in Ionin and Montrul's study, it was agreed that both generic and anaphoric interpretations were available to bare NPs by native Korean informants. Meanwhile, Korean speaking informants in their study preferred generic readings in (3.28-a) and (3.28-b).

- (3.28) a. Saja-nun wihumha-ta
 lion-GEN dangerous-DEC
Lions are dangerous / ?The lion is dangerous. [\checkmark /generic, \checkmark //?specific]
- b. Saja-tul-un wihumha-ta
 lion-PLU-GEN dangerous-DEC
Lions are dangerous / ?The lions are dangerous. [\checkmark /generic, \checkmark //?specific]

- c. Ku saja-tul-un wihumha-ta.
that lion-PLU-GEN dangerous-DEC
Those lions are dangerous. [*generic, ✓ specific]
- d. Ku saja-nun wihumha-ta.
that lion-GEN dangerous-DEC
Those lions are dangerous. [*generic, ✓ specific]⁸

(Ionin and Montrul, 2010, p.5)

Consequently, the previous study assumed that Korean bare NPs may have both generic and definite interpretations. Under this assumption, it was supposed that Korean speakers should unlearn the definite reading in bare plural NPs.

However, as it was repeatedly emphasised in Chapter 2 earlier, genericity in Korean is not induced from nouns themselves. Generic readings come from the particle ‘(n)un’ as in (3.28-a) and (3.28-b). Likewise, the specific reading of (3.28-c) also results from the demonstrative ‘ku’ rather than NP itself. In (3.28-c), one might speculate that (3.28-c) can be interpreted as generic because particle ‘(n)un’ is used. However, particle ‘nun’ has several functions including ‘contrastive marker’ as in (3.28-c). See chapter 2 for a more detailed explanation on the function of the particle ‘nun’.

However, in the study of Ionin and Montrul (2009, 2010), it was regarded that bare NPs could have both generic and specific readings. This assumption is not incorrect but not faultless. Even though it is true that bare NPs can be used in both generic and specific readings, genericity or specificity does not result from the NP itself. Thus, it would be misleading to interpret that the reason why Korean learners accepted bare plurals as specific was based on the L1 transfer and, at the

⁸Example (3.28-d) was not presented in the study of Ionin and Montrul (2010) but it is now added to show that Korean bare singular forms can appear in specific sentences with a demonstrative ‘ku’ (that) in Korean.

same time, to interpret Korean adult learner's behaviour that accepted bare plurals as generics as resulted from the effect of the native language, too.

As Korean NPs themselves are not responsible for functional roles such as representing genericity or specificity, it would not be entirely adequate to account for the role of L1 transfer by examining only English 'bare plural NPs'. In other words, in order to find the role of L1 transfer, it would be more appropriate to compare bare plurals to the different types of NPs in generic sentences such as 'the+singular' generic NPs, rather than focusing on one type of NP such as bare plurals as done in previous studies (Ionin and Montrul, 2009, 2010). Therefore, the current research will explore L1 influence by investigating various types of NPs which can be used in English genericity including 'the+singular' NPs, 'bare plurals', and 'a+singular'⁹. Furthermore, as will be discussed in the following section, investigation on more generic NPs can provide evidence for the accessibility of Universal Grammar to adult L2 learners.

3.4.2 More linguistic properties to test accessibility to Universal Grammar

As we have seen in the previous section, most research on article acquisition has focused on 'bare plural' generics and cross-linguistic interpretation of 'the+plural' NPs. However, recall that not only 'bare plurals' but also 'definite singulars' can have generic reference in English as discussed in Chapter 2. We have discussed in Chapter 2 that generics with 'definite singular' and generics with 'bare plurals' have a different source (Dayal, 2004). To recapitulate, according to the semantic literature, English definite singular generics are different from bare plural generics (Dayal, 2004)¹⁰. While the generic reading of bare plural NPs originate from

⁹'A+singular' is not a kind-referring NP but it can be used in characterising generic sentences.

¹⁰See Chapter 2 for more detailed discussion on the difference between definite singular generics and bare plural generics.

a semantic operation of kind formation, singular definite NPs (the+singular NPs) denote taxonomic entities (Dayal, 2004). For example, ‘lions’ in English denotes entire kind members of lions. However, ‘the lion’ in (3.29-a) denotes the taxonomic group of ‘lion’. For evidence of the distinction, consider the following sentences in (3.29-b) and (3.29-c) from Dayal (2004).

- (3.29) a. The lion is a dangerous animal.
b. Those are lions and these are lions too.
c. # That is the lion and this is the lion too.

(Dayal, 2004, p.431)

Suppose that there are two groups of lions, for example, in two cages in the zoo. (3.29-b) sentence can be reiterated as “Those are members of the kind ‘lion’, and these are members of the kind ‘lion’ too. (Ionin and Montrul, 2010, p.432). However, this reading cannot arise in (3.29-c) as ‘the lion’ interpreted as ‘the species of lion in a taxonomic sense’. In addition to that, definite singular generics have more semantic constraint. According to a number of semanticists (Carlson, 1977a, among many others), for the singular NPs with the definite article, the nouns or nominal constituent must be semantically associated with a ‘well-established kind’. Consider the examples in 3.30 below. The examples are partly modified from Carlson and Pelletier (1995).

- (3.30) a. The Coke bottle has a narrow neck. (generic)
b. ?? The green bottle has a narrow neck. (#generic)
c. Coke bottles have narrow necks. (generic)

d. Green bottles have narrow necks. (generic)

(Carlson and Pelletier, 1995, p.11)

The example (3.30-a) can represent the generic properties of the kind ‘coke bottle’, but (3.30-b) cannot be normally read as a general statement about the kind ‘green bottle’. However, bare plural forms have generic interpretations without any restrictions as in (3.30-c) and (3.30-d). To sum up, plural generics denote kinds without any restrictions and also allow for the interpretation of the members of the kind. On the other hand, singular definite NPs are restricted to taxonomic readings where they can only denote species or well-established kind. Hence, testing the subtle restriction on the use of nouns can also contribute to the involvement of UG in second language acquisition.

Meanwhile, very little second language research has investigated on those features; bare plurals vs. the+singular as generics and subtle semantic restriction on the choice of NPs with ‘the’. What is more, as we have seen from the Chapter 2, there are different types of genericity; generic NPs and generic sentences. Very few studies have been conducted into the distinction of different generic sentences by L2 learners (Ionin et al., 2011). In fact, while Ionin et al. (2011) differentiated different types of genericity, their research was limited to the “sensitivity” of learners to different generics. In other words, they only examined if learners could differentiate ‘generic NPs’ from ‘generic sentences’. Thus, more detailed and comprehensive examination is required. For instance, by examining acquisition phenomenon, L1 transfer and UG accessibility can be consulted.

Furthermore, as was discussed in the previous chapter 2, the interpretation of bare plurals varies in accordance with syntactic environments. For instance, interpretation of bare plurals in object position receives restriction from the type of preceding

verb. Thus, one way to test UG involvement would be to examine L2 learners performance in comparison with that of native speakers. If L2 learners show similar sensitivity to NP selection as the native speakers in accordance with different preceding verbs, it would suggest involvement of UG in adult acquisition of English generic articles. Involvement of UG regarding interpretation of bare plurals can be explained in relation to the poverty of stimulus.

Therefore, the current research will include more linguistic properties to test L1 transfer and accessibility of UG to adult L2 learners. In terms of generic NP forms, not only 'bare plural forms' but also 'the+singular forms' will be investigated in this research. In addition, regarding syntactic positions of generic NPs, both subject position and object position will be examined. Furthermore, based on the revised linguistic assumptions on the Korean language, a new interpretation of the previous study will be provided in comparison with the results obtained from the current research.

3.4.3 Implication for methodology

In the previous study of Ionin et al. (2009), it was argued that adult second language learners use explicit strategies in the task, whereas child learners do not use it. Thus, it would be crucial to exclude explicit strategies in testing learners' knowledge, in order to investigate on adult L2 learners acquisition phenomenon. Therefore, the current study attempts to develop test instruments which can disentangle explicit and implicit knowledge, employing both explicit and implicit tasks following a psychometric study of Ellis (2005b). Rationale for the task choices are discussed in greater detail in section 4.3.

3.5 Possible acquisition problems of the current research

In the current Chapter 3, we have reviewed previous L1 and L2 research on the acquisition of English articles mostly regarding genericity, and identified a gap in the literature. In the meantime, recall that in Chapter 2, we discussed genericity in both the English and Korean languages. Based on the literature reviewed in Chapter 2 and Chapter 3, the current section predicts possible difficulties faced by Korean L2 learners in acquiring English generics. The current section also presents predictions and hypotheses of the current research.

As was discussed in Chapter 2, one can assume that the distinction between sentence-level genericity and NP-level genericity is a linguistically universal phenomenon. In other words, any language can express habitual generalisation on events (sentence-level genericity) and kinds (NP-level genericity). As was previously presented, both types of genericity are found in both the Korean and English languages.

On the other hand, they use different morphology in the expression of genericity. Korean, as an articleless language, uses bare nouns with particle ‘(n)un’ for both NP-level genericity and sentence-level genericity. However, English has different uses of articles in different types of genericity. For example, the indefinite article ‘a’ cannot appear in NP-level genericity in English. It can only appear in the sentence-level genericity. This section will present predictions of possible acquisition problems based on the linguistic background discussed in the previous chapters.

3.5.1 Generic sentences and possible acquisition problems

The structure of English generic sentences and Korean generic sentences were discussed in Chapter 2, respectively. Let us recall the paradigm of generic sentences in

both languages here. The comparison of generic sentence structure between English and Korean is summarised in Table 3.1 below.

Table 3.1: Generic sentence structure of English and Korean

	Habitual Sentence	Lexical Characterising Sentence
English	A+NP Bare Plural + S level Predicates The+NP	A+NP Bare Plural + I level Predicates The+NP
Korean	Bare singular ?Bare Plural + <i>nun</i> +S level Pred.	Bare singular ?Bare Plural + <i>nun</i> +I level Pred.

As Table 3.1 above represents, while Korean does not use any articles¹¹, a series of NPs with or without (in)definite articles are possible in English characterising generic sentences. That is because the locus of genericity is not in the NPs but in the predication in characterising generic sentences. Therefore, in order for Korean L2 learners to acquire English characterising generics, they should learn that the generic interpretation is derived from the sentential level. In particular, if they have acquired characterising generics, they should be able to realise that the indefinite article ‘a’ is only compatible with characterising generic sentences but not kind-referring NPs.

Regarding bare plural forms, given that the bare plural form is the most commonly used form in English for generics, it was mentioned that the bare plural form is the generic NP form with the most rich in input to learners (Downing and Locke, 2006). Furthermore, as bare plural forms are also used in Korean generic sentences as generics, it can be expected that Korean L2 learners would not show much difficulty with bare plural NPs.

¹¹While bare plural NPs tend to be generally accepted as generic NP nouns attached with particle ‘*nun*’ in Korean, some linguists argue that uses of the Korean bare plural are affected by their animacy (Nemoto, 2005; Kim, 2005). Thus, bare plurals are marked with a question mark. The eligibility of bare plurals as generic NPs in Korean will be discussed in more detail in Chapter 4.

For the ‘the+singular’ forms, it can be predicted that learners would find this structure more difficult to acquire than ‘bare plural forms’. That is because, the generic definite singular form is not used as often as bare plurals in English. Therefore, learners would receive limited amount of input in terms of definite singular forms in comparison with input of bare plurals. Furthermore, as Korean does not use articles at all, Korean learners would be predicted to show difficulties with ‘the+singular’ NPs as generics.

Regarding ‘a+singular’ forms, while Korean singular nouns are used as generics, Korean does not require the indefinite article ‘a’ for singular nouns. In addition, Korean learners should acquire that ‘a+singular’ forms are eligible in the subject position of characterising generics because the locus of genericity is in sentences. Furthermore, recall that in the literature review on earlier studies of SLA regarding English articles, correct use of ‘a’ appeared later than ‘the’ and this result leads to the prediction of relative difficulties with the acquisition of article ‘a’.

3.5.2 Generic NPs and possible acquisition problems

Let us now compare different representations of generic NPs in English and Korean and predict possible acquisition difficulties. Generic NP forms in English and Korean are compared in Table 3.2.¹²

Table 3.2: Generic NPs of English and Korean

	English	Korean
Generic NP Forms	Definite Singular NP	Bare Singular
	Bare Plural NPs	?Bare plural NP

The above mentioned forms are generic NP forms in both languages. However, as discussed previously in Chapter 2, generic NPs can appear not only in the subject

¹²Bare plural NPs are marked with a question mark for the same reason as discussed in the previous footnote 11.

position but also in the object position in sentences in both languages. As we can see from the table above, in general, bare plural forms should not be problematic for L2 learners as they can denote generic reference both in Korean and English. In the meantime, recall that generic NPs receive different restrictions according to their syntactic position in English but not in Korean. Therefore, generic NPs in different syntactic positions will be discussed separately.

Firstly, for the generic NPs in subject position, certain verbs, for example, kind-requiring verbs such as *extinct* require only kind-referring NPs as their subject. In other words, only ‘the + singular NP’ and ‘bare plural NP’ can produce generic meanings in the subject position. It also implies that the ‘a + singular NP’ forms cannot be used in the subject position of kind-requiring verbs. While sentence level genericity and NP-level genericity are not morphologically marked in Korean, they are morphologically marked in English. ‘A+singular’ forms can occur only with characterising generic sentences. Thus, Korean learners should be able to differentiate two different genericities and employ appropriate articles accordingly. In other words, they should be able to reject ‘a + singular NPs’ with kind-referring predicates as they are not generic NPs.

In addition, recall that definite singular and bare plural forms have different semantic representations, and thus have different restrictions in selecting nouns as discussed in Chapter 2. That is to say, in definite singular generic NPs, the nouns employed should be well-established entities or species/kinds. On the other hand, as bare plural generic NPs are regarded as sums of individuals, they do not necessarily need to be well-established or species/kinds. These subtle semantic distinctions could pose difficulties to the learners. See the examples below in 3.31.

- (3.31) a. The Coke bottle has a narrow neck.
b. #The green vegetable contains vitamin C.

- c. Coke bottles have narrow necks.
- d. Green vegetables contain vitamin C.

Bare plural generic forms are not sensitive to the semantics of nouns as in (3.31-c) and (3.31-d), whereas ‘the+singular’ generic forms are sensitive to the semantics of nouns used as in (3.31-a) and (3.31-b). On the other hand, such subtle semantic distinctions are not represented in the Korean language. Therefore, Korean learners are expected to have difficulties with this subtle semantic restriction of nouns in English.

As was briefly mentioned before, unlike kind-denoting NPs in subject position, those in object position receive restrictions (Carlson and Pelletier, 1995) (see chapter 2 for a more detailed discussion). For example, certain kinds of verbs such as *exterminate* require only kind-referring NPs as an object, as in examples 2.42 in chapter 2, partly repeated as 3.32 below.

- (3.32) a. The Summerians invented the pottery wheel/ ?pottery wheels/ #a wheel.
 b. The French settlers in Mauritius exterminated the dodo/ ?dodos/ #a dodo.
 c. John hates cigarettes / the cigarette/ #a cigarette.

Verbs such as *invent* and *exterminate* should be followed by kind-denoting terms as in the examples above. Meanwhile, bare plural forms are not normally accepted in the direct object position as in (3.32-a) and (3.32-b). However, bare plural NPs are better in object position when the NPs are followed by ‘stative verbs’ as in (3.32-c). To sum up, kind-referring NPs in object position are more complicated than those in subject position. These restrictions are not represented in the Korean language. Therefore, Korean learners of English appear to be faced with a complicated task.

To bring together, it can be expected that bare plural forms would be acquired more easily than other types of NPs regarding kind-denoting terms, as it is most similar to the ‘Korean NP + generic particle’ combination. However, employing bare plural forms can be infelicitous in object position in cases like (3.32-a) and (3.32-b). Thus, it would be a difficult task for Korean learners of English to correctly disallow bare plurals in sentences like (3.32-a) and (3.32-b).

3.5.3 Definite plurals and acquisition

Now let us consider definite plural NPs. Unlike other languages such as Spanish, English definite plurals do not have generic readings as in (3.33-b). In addition, definite plural NPs are not compatible with characterising generic sentences either as in (3.33-a) below.

- (3.33) a. # The dogs are smart. (Characterising Sentences)
b. # The dodos are extinct. (Characterising Sentences)

As the definite article ‘the’ carries a maximality meaning in English, definite plurals ‘the dogs’ in (3.33-a) and ‘the dodos’ in (3.33-b) are interpreted as a specific maximal group of dogs and dodos in the discourse, respectively.

Therefore, Korean L2 learners should learn that the English definite article ‘the’ denotes maximality not kinds. In other words, they should be able to reject definite plural NPs as kind-referring NPs. In addition, they should also learn that definite plural forms are not used in characterising generics either.

3.5.4 Summary

So far we have seen possible acquisition difficulties in accordance with different sentence types which are characterising generic sentences and generic NPs. In the

following section, more specific hypotheses and research questions of the study are presented.

3.6 Research questions and hypotheses of the study

Let us now present the research questions and formulate hypotheses based on the literature review.

3.6.1 Accessibility to Universal Grammar

Research Question 1: Can adult Korean speakers successfully access Universal Grammar? To be more specific, do adult Korean speaking learners show similar patterns of English article choices to those of native controls in deciding kind-denoting NPs in object position? Additionally, can they acquire subtle semantic restrictions on the use of nouns with the definite article ‘the’?

For the last several decades, generative linguists have been interested in the mismatch between primary linguistic data and the subtle and complex knowledge that children ultimately attain in their L1. In other words, the input children receive underdetermines the grammar that children produce. It is referred as *the logical problem of language acquisition* (Chomsky, 1986, 1995). Many linguists have made an effort to account for the child’s successful acquisition of their first language despite inconsistent and incomplete input. The complete acquisition of grammatical knowledge without available input is called as *poverty of the stimulus* (henceforth POS). The majority of generative linguists believe that POS provides incontrovertible evidence that supports nativism which argues that linguistic ability is genetically endowed. Under this view, children are born with the language acquisition

device (LAD). Universal Grammar (UG) is proposed as part of a biological endowment and it genetically provides invariant principles and variable parameters. Thus, UG can be an explanation of how learners can acquire properties of grammar which go far beyond the input they receive.

As much research has proven, the outcomes of first language (L1) acquisition and second language (L2) acquisition are different. For L1 acquisition, children normally achieve perfect L1 mastery, whereas L2 acquisition can be characterised by variation and optionality. Thus, the availability of UG for adult L2 acquisition is still an ongoing debate. Full Access approaches argue that adults continue to have accessibility to UG despite possible interference such as L1 transfer. UG Full Access proponents believe that exposure to target input triggers the acquisition of grammatical properties. They maintain that the target-variant response of L2 learners are caused by processing difficulties and adult L2 learners underlying syntactic representations are fundamentally target-like (Ladriere, 1998; Schwart, 2003). The proponents of full accessibility to UG by adult L2 learners maintain that the *logical problem of language acquisition* and *POS* can be extended to adult L2 acquisition (White, 2003). Thus, the demonstration of a POS effect in adult L2 acquisition provides incontrovertible evidence of UG accessibility.

In English genericity, there are some features which pose POS problems. Recall that bare plurals are not always interpreted as generics in object position. Interpretations of bare plurals are restricted by the preceding verbs. See example 3.34 below.

- (3.34) a. French settlers exterminated the dodo, #dodos.
b. Cats like dogs.

Dodos in (3.34-a) is not always judged as generic by native speakers. However, *dogs* in (3.34-b) is always interpreted as generic. This distinction is very subtle and

no direct input tells learners not to interpret ‘bare plurals’ as generic after kind-requiring verbs. In addition, the subjects were never taught about the restriction of NP choices in object position. Furthermore, such a distinction does not arise in learners’ L1 language. Thus, the acquisition of generics can represent a poverty of stimulus problem.

Therefore, it can be hypothesised that despite the POS problem, if the subjects show native like patterns in judging bare plural NPs in object position with different types of verbs, it would provide evidence of accessibility to Universal Grammar.

One additional way to test UG involvement is to investigate the subtle semantic distinction between bare plural generic NPs and definite singular generic NPs. Learners do not have evidence for the subtle semantic distinction between bare plural generics and definite singular generics. In other words, no input directly tell learners about the distinction. Furthermore, the subtle semantic distinction is not represented in the learners’ L1 and learners are not explicitly taught in the classroom. Thus, poverty of stimulus effect can only account for the acquisition of the subtle semantic distinction of bare plural generics and definite singular generics in English. Thus, if Korean L2 learners show target-like performance in the distinction between bare plural generics and definite singular generics, it would suggest the involvement of UG in adult second language acquisition.

3.6.2 Role of L1 influence

Research Question 2: Do adult Korean speakers display L1 influence in acquiring generic articles in English, even though they are advanced-learners?

This study investigates the effect of L1 transfer and recovery from it as the learners are exposed to ample positive input. I hypothesize that if Korean learners of English produce bare singular forms in a production task, it would suggest the effect of L1

transfer. However, if Korean learners in England¹³ show less errors in producing bare singular forms, it would suggest the role of positive input in adult second language acquisition.

One might recall that ‘bare plural’ forms are commonly used as generic NPs in both Korean and English, thus one can expect best performance with ‘bare plural’ forms compared to ‘a+singular’ or ‘the+singular’ forms. This assumption is not unreasonable. However, recall that ‘bare plural’ generic forms have the most frequent input in English as well. Therefore, in order to investigate the role of L1 transfer, dissociation between the effect of frequent input and the role of L1 transfer is required.

The role of L1 transfer becomes clearer when we consider bare plurals in object position. Recall that in object position after kind-requiring verbs, bare plurals are not always acceptable in English (Carlson and Pelletier, 1995). Furthermore, the learners’ L1 does not have such subtle distinction regarding the interpretation of bare plurals in accordance with preceding verbs. Therefore, there is no a priori reason for Korean learners to allow bare plurals in object position unless they follow their L1. Thus, if learners accept bare plurals after kind-requiring verbs, it would support for L1 transfer.

Furthermore, as we will see shortly in Chapter 4, a translation task (production task) is implemented together with judgment tasks in this research. The translation task primes subject into L1 transfer, as the stimuli sentences are in Korean. Thus, L1 transfer can be more closely examined by the results obtained from the translation task.

¹³In the experiment, two groups of Korean learners participated. One group was recruited from Korea and they had never been to exposed to English speaking countries. The other group was recruited from England and they have been living in England for more than 3 years. Further information on the subjects is discussed in Chapter 5.

3.6.3 Role of naturalistic input

'*Input*' for second language researchers has been an important matter for a long time. However, how exactly input affects second language acquisition has been inconclusive (Piske and Young-Scholten, 2009). Considering '*input*' as primary data which is crucial for learners to acquire target features, it would be logical to assume that exposure to naturalistic input would be beneficial for L2 learners. Given more positive evidence of less salient linguistic properties, naturalistic input is proven to be advantageous for second language learners to reset parameters such as the null subject parameter (Isabelli, 2004). However, more recent research by Rothman and Iverson (2007) suggests that increased exposure to naturalistic input does not guarantee parameter-resetting, thus extended exposure to naturalistic input is not advantageous to the learners, at least in the acquisition of the null subject parameter (Rothman and Iverson, 2007). In the study of Rothman and Iverson (2007), learners who had not been exposed to naturalistic input could successfully reset the null-subject parameter. The English article is regarded as one of the most difficult properties to acquire for language learners, especially those whose L1 does not have articles. Furthermore, the English article is not explicitly taught at all to Korean learners and they are not very salient in the input.

The current research aims to provide empirical evidence for the role of naturalistic input in terms of acquisition of English generic articles. In the current research, two Korean groups of English learners were recruited; Korean learners of English in Korea and Korean learners of English in the U.K. The subjects in Korea (henceforth, KK) have never been exposed to English speaking countries, where as the subjects in the U.K. (henceforth, KE) have been exposed to an English speaking environment for more than 5 years on average.

Research Question 3: Do naturalistic input facilitate L2 generic article acquisition?

Thus, it can be hypothesized that if KE perform considerably better than KK with English generics including ‘a+singular’, ‘the+singular’, and ‘bare plural’s, it would provide evidence for role of naturalistic input regarding generic article acquisition. Conversely, if KE and KE do not show any significant differences, it would reversely suggest that naturalistic input is not necessarily advantageous for L2 adult learners.

3.6.4 Testing the Interface Hypothesis

Research Question4: Can the ‘Interface Hypothesis’ be supported regarding acquisition of English articles? Do adult Korean learners find more difficulties with articles in (in)definite uses than those in (non)generic sentences?

As we have already seen in Chapter 2, the ‘Interface Hypothesis’ predicts that not all interfaces are equally problematic to L2 learners (Serratrice et al., 2009; Sorace and Serratrice, 2009). They suggested that ‘internal interface’ which involves interface between sub-linguistic domains are less difficult to acquire than ‘external interface’ which involves the interfaces between linguistic modules and extra-linguistic modules such as pragmatics/discourse. As discussed in Chapter 2, it is argued in this research that article use in (in)definiteness involves the syntax and discourse interfaces hence external interface. Article uses in (non)genericity involves the semantics and syntax interfaces hence internal interfaces. Therefore, one can hypothesize that if Korean L2 learners show more difficulties with articles in terms of (in)definiteness than genericity, it would provide evidence to support the ‘Interface hypothesis’.

3.6.5 Summary

The chapter reviewed a selection of relevant L1 and L2 acquisition research in the acquisition of English articles. Based on the literature review, a gap in the literature was identified and motivation for the current research was discussed. While there has been a large quantity of research on L2 article acquisition, very few studies

has been done regarding English generic article acquisition. So far, only Ionin and Montrul (2010) and Ionin et al. (2011) have researched English generic article acquisition but with limited scope as identified in section 3.4. Thus, research on more linguistic phenomena regarding English generics would be essential to L2 acquisition research as discussed in section 3.4.3. Additionally, it is also claimed that some linguistic assumptions about the Korean language in previous studies are not entirely correct. Furthermore, a limitation on the experimental choices were found from previous research. Lastly, building on previous findings research questions and the hypotheses of the study were presented in section 3.6.

Chapter 4

Data and methodology

This chapter reports experimental methods that test the acquisition of English articles by Korean adult learners of English. The experiment was designed in an attempt to examine acquisition phenomena by L2 Korean learners regarding English generics. The experimental study was conducted to examine whether Korean L2 learners whose L1 lacks articles could successfully acquire English article uses for generics, and were thus able to provide appropriate articles in different generic sentences - generic NPs (NP level generics) and characterising generics (sentence level generics). Furthermore, the experimental study also tests if ample naturalistic input would be advantageous for L2 adult learners in learning English articles. In designing methodologies, explicitness and implicitness of tasks have been taken into consideration, thus both explicit and implicit tasks were employed so as to distinguish implicit knowledge from explicit knowledge. Overall 3 tasks were employed which are a timed-acceptability judgment task, a translation task and an untimed-grammaticality judgment task.

The current chapter is organised as follows. Section 4.1 spells out the specific research questions of the study concerning the acquisition of English articles in

relation to genericity. Section 4.2 presents information about subjects who participated in the current experimental study. Justification of the task selection in this research is presented in 4.3. Details of the experimental method that is used with both experimental groups and control groups is presented in 4.3. Section 4.4 presents procedures of the current experiment. In the following section 4.5, data analysis methods are presented. Finally, section 4.6 briefly discusses the results of a pilot study conducted prior to the main experiments.

4.1 Research questions

In order to address previously posed hypotheses, the study will conduct a timed-acceptability judgment task, a translation task and a grammaticality judgment task. Research questions and hypotheses of the current research are repeated from section 3.6 .

Research Question 1: Can adult Korean speakers successfully access Universal Grammar? Acceptability of UG by L2 Korean learners can be explained by the ‘poverty of stimulus’ effects. To be more specific, firstly, recall that interpretation of generic NPs in object position is restricted by the type of preceding verb. Such a feature is not manifested in the learners’ L1 and no direct input makes learners aware of the restriction, thus ‘poverty of stimulus’. Therefore, one can examine UG accessibility by investigating if adult Korean learners show similar patterns of article choice to those of native controls in deciding kind-denoting NPs in object position.

Secondly, UG accessibility can be examined by the semantic distinction between bare plural generics and definite singular generics. It can also be accounted for by the ‘poverty of stimulus’ as such a semantic distinction does not arise in Korean and

the distinction is very subtle. No L2 input directly makes learners aware of the semantic distinction. Consequently, one can examine UG accessibility by investigating if learners can distinguish subtle semantic differences between bare plural generics and definite singular generics.

Research Question 2: Do adult Korean speakers display L1 influence in acquiring generic articles in English, even though they are advanced-learners?

Research Question 3: Does ample naturalistic input facilitate the acquisition of English generic articles? In other words, do KE¹ perform better than KK² with English generics in the form of ‘a+singular’, ‘the+singular’, and ‘bare plural’?

Research Question 4: Is the ‘Interface Hypothesis’ supported by the current research? Do adult Korean learners find more difficulties with articles use in (in)definite uses than those in generic sentences?

Predictions and Hypotheses of the research questions are presented in more detail in each task.

4.2 The participants

In the current experiment, overall three groups were recruited. Two Korean speaking learner groups of English and one control English group were recruited for the experiment. Subjects in both experimental groups were Korean adult learners of English who had not been exposed to an English immersion situation before puberty. In addition, learners in both experimental groups had received formal English lessons in middle schools and high schools in Korea. Overall, 77 Korean subjects

¹KE is an acronym for ‘Korean learners in England’. More detailed information on the participants follows in the next section 4.2.

²KK is an acronym for ‘Korean learners in Korea’. More detailed information on the participants follows in the next section 4.2.

participated in the current experiment. All 77 Korean learners are categorised as advanced level.

In order to investigate the role of naturalistic input, proficiencies between KK and KE were controlled. Participants' proficiency levels were all between IELTS overall 7.0 and 7.5. It is the equivalent score of TOEFL(CBT230-270) or TOEIC(785-850) levels. The equivalence of the scores between tests were adapted from English Language Centre of Sheffield University and Vancouver English Centre. To explain more specifically about learners' proficiency, for the KK, 31 learners provided their TOEFL scores and they fall between scores of 243 and 265. 9 of them provided their TOEIC scores and they were between scores of 830-860. The rest of 4, all had IELTS score of overall 7.0. For KE, all 33 participants provided their IELTS score and 31 of them had IELTS score of overall 7.0 and 2 of them had 7.5.

The relevant background information of participants is summarised in Table 4.1 below.

Table 4.1: Summary of background information on subjects

Group	Korean adults in Korea(KK)	Korean adults in the U.K.(KE)
Gender(Female/Male)	31/13	23/10
Average Age(Range)	29(22-39)	35(23-40)
Length of learning L2	19yrs(13-26yrs)	21yrs(13-30yrs)
Average Length of exposure to naturalistic input(Range)	Not applicable	9yrs(3-27yrs)

For the Korean learners in Korea (henceforth, KK), overall 44 Korean adult learners of English participated in the experiment. They have been learning English for at least 10 years in Korea. All of the subjects have not been exposed to naturalistic language learning settings. Subjects include undergraduate students and postgraduate students from universities in Korea.

For the Korean learners in England (henceforth, KE), 33 Korean adults participated in the experiment. They have been learning English for more than 10 years. In addition, they have lived in English speaking countries after puberty and they were residents in the U.K. at the time of data collection. Subjects in England include undergraduate students and postgraduate students in the U.K.

The major difference between KK and KE is whether the participants had received naturalistic English input after adolescence or not. In addition, for both the KK and KE groups, linguistics majors were excluded from the experiment. The reason why linguistics majors were excluded was to control for possible differences in responses from people who have a linguistics degree or a non-linguistics degree. Furthermore, it is likely that people who studied linguistics may be familiar with certain linguistic phenomena and it would prevent them from relying on their intuition in judging experiment sentences.

Lastly, 22 native English speakers served as controls. They comprise of 7 undergraduate students, 12 graduate students, and 3 teaching staff at the University of Sheffield. For the same reason presented in the case of the two Korean groups, subjects whose expertise is linguistics were excluded from the experiment.

4.3 Methodology

The current section presents the methodologies employed in the main experiment. Before presenting experimental methods, let us first discuss the rationale for the choice of experiments.

4.3.1 Rationale for the choice of methods

A number of second language acquisition studies have shown difficulties in disentangling acquired knowledge from strategy based knowledge in their analysis of L2

learners' outcome (Ionin and Montrul, 2009, 2010). In fact, it is not easy to account for the target-like behaviour of L2 learners and state whether it is based on access to UG or through meta-linguistic strategies. In fact, very few second language researchers have made an attempt to develop test instruments that can distinguish explicit and implicit knowledge. Therefore, the current research attempts to tease apart implicit and explicit knowledge. The distinction between implicit and explicit knowledge has long been of concern to a number of second language researchers. Before discussing the tasks in the current study, let us briefly consider about implicit and explicit knowledge.

Defining implicit and explicit knowledge

Scholars working in the field of second language acquisition or teachers make a distinction between “naturalistic, spontaneous, unguided, untutored, informal second language acquisition and instructed, guided, tutored, formal second language acquisition” (Housen and Pierrard, 2005, p.1). The distinction is based on whether the second language is acquired by exposure to naturalistic input such as spontaneous communication or learned through instruction in the classroom. It seems as if the distinction is clear and unquestionable. However, whether the former (uninstructed SLA) and the latter (instructed SLA) involve really different processes is not clear. In fact, the views on this agenda in the literature differ widely.

There are two different approaches to understand on uninstructed and instructed SLA. One view is to regard instructed and uninstructed SLA as fundamentally different processes. For example, Krashen (1981) proposes the dichotomy between uninstructed and instructed SLA and does not acknowledge an interface between the two types of SLA. He argues that learned (instructed) knowledge is only available to learners for monitoring. Krashen rejects the role of instruction in second language development because acquisition process follows a fixed natural order. It often

implies that the real second language development results from uninstructed SLA. In this view, what happens in the second language classroom has little effect on language development.

Other researchers, however, argue for a direct interface between the two types of knowledge (Dekeyser, 1998). Cummins (1983) acknowledges explicit knowledge as a component of L2 proficiency. Proponents of this view argue that explicit knowledge contributes to the development of implicit knowledge by enhancing noticing of forms in the input.

What is linguistic knowledge?

What is the nature of linguistic knowledge? There are two main competing views. At one extreme, following the work of Chomsky (1986), linguistic competence consists of an innate biological ability for acquiring languages and generativists regard that Universal Grammar as underlying all human language systems. In this approach, linguistic knowledge consists of the knowledge on a specific language that stems from impoverished input based on Universal Grammar.

The second view follows cognitive psychologists such as McClelland and Rumelhard (1986). In this view, language learning is not cognitively different from other processes of learnings. Linguistic knowledge surfaces gradually as learners acquire new sequences and restructure old ones over time. They then cognitively find underlying patterns and rules. Thus, in this view, learning is primarily derived by input.

Despite the different approaches to understanding linguistic knowledge, the two approaches seem to have one common ground. Both the innatist and cognitivist position recognize that linguistic competence consists of implicit knowledge. For example, Gregg (1989) highlights the importance of a distinction between 'knowing that' and 'knowing how'. 'Knowing how' is cognizing (Chomsky, 1986). Gregg

(1989) claimed that ‘knowledge that’ is “basically accidental”. Gregg (1989) argues that acquisition is evidently what learners know intuitively in their implicit but not explicit knowledge. Ellis (1994) also distinguishes implicit and explicit learning of second language. He refers to implicit learning as primary and to explicit learning as the product of acquisition, not its cause.

Therefore, it seems that both accounts conceive linguistic knowledge as intuitive and tacit knowledge rather than conscious and explicit. Furthermore, both views discuss the distinction between explicit and implicit knowledge with similar terms. While acknowledging the existence of two different types of knowledge, defining and distinguishing them are not an easy task. Most recently, Ellis (2004, 2005a) tries to provide a definition for explicit knowledge by indentifying a series of characteristics in comparison with implicit knowledge.

Implicit knowledge is often characterised as intuitive and unconscious abstract knowledge of languages. Implicit knowledge is largely acquired subconsciously. However, explicit knowledge can be broadly defined as knowledge about language use. It is more conscious knowledge and learned more intentionally. The following is the key characteristics of explicit knowledge provided by Ellis (2005a).

- (4.1)
- a. Explicit knowledge is conscious.
 - b. Explicit knowledge is declarative.
 - c. L2 learners declarative rules are often imprecise and inaccurate.
 - d. Explicit knowledge is generally accessible through controlled processing.
 - e. Any language task that a learner finds difficult may naturally result in an attempt to exploit explicit knowledge.
 - f. Explicit knowledge is potentially verbalizable.
 - g. Explicit knowledge is learnable.

Ellis later defined two types of explicit knowledge; metalinguistic knowledge and analysed knowledge. The former one is verbalised declarative knowledge about the language. Metalinguistic knowledge can be learned through conscious learning. On the other hand, analysed knowledge refers to the knowledge which learners can form as mental representations from rules. Bialystok (1994) argues that analysed knowledge is derived from implicit knowledge. According to her, learners try to decode and find analytic rules from their implicit knowledge. This type of knowledge is not accessible rapidly and it can only be activated when there is a chance to reflect their utterances.

Most SLA researchers seem to agree that competence in a second language primarily involves implicit knowledge rather than explicit knowledge. Therefore, whatever the definition and role of explicit knowledge might be, it is important to acknowledge differences between explicit knowledge and implicit knowledge and dissociate explicit knowledge from implicit knowledge. In this study, I will use implicit knowledge and acquired knowledge interchangeably. In other words, implicit knowledge in this thesis refers to acquired knowledge in terms of language acquisition through a language-specific device. For explicit knowledge, its concept in this research is most similar to an analysed knowledge in that the knowledge is not easily accessible when the learners were under time-pressure and it is only activated when the learners have an opportunity to reflect on their performance. Furthermore, the learners had not been given formal instruction on the generic use of English articles.

What would consist subjects' explicit knowledge?

If we suppose that learners would use explicit knowledge or meta-linguistic strategies in the experiment, the question is where they originated from and how they are formulated. One possible way of formulating explicit knowledge is instruction. Textbooks can provide instruction on English articles. Thus, in order to find out

about article instruction in Korea, a number of English textbooks used in formal English instruction and a number of the most popular English grammar books were examined.

For the article instruction in formal education, I surveyed English textbooks³ and activity books for middle school and high school students. According to the survey, none of textbook included explicit instructions on English articles on generics, not to mention definiteness from 8 volumes of textbooks.

In addition, some of most widely used English grammar books were observed. From among 13 books on English grammar, only 3 books contained an explanation of English articles. Cho (2005) provided ample explanation on the usage of English articles. He stated that the English article is used to restrict the meaning of NPs in a sentence. He further explained that the indefinite article ‘a’ is used when we refer to an indefinite noun which was not mentioned before. Also, the definite article ‘the’ should be used when to refer nouns that the speaker already knows or that were mentioned in the text before. Park (2010) also briefly provided an explanation on the English indefinite and definite article. According to Park (2010), ‘a’ should be used to refer to an indefinite countable noun which is not previously mentioned and ‘the’ should be used to denote previously referred to countable and uncountable nouns. Lastly, Seong (2009) explained that ‘a’ is used to refer to non-specific singular nouns but ‘the’ is used to refer to previously mentioned specific nouns⁴.

³Surveyed textbooks include ‘High school English published by Neungryul Education. (2010)’, High school English (I) published by Neungryul Education. (2010), High school English (II) published by Neungryul Education. (2010), Middle school English published by Jihaksa (2002), Middle school English (II) published by Cheonjae Education. (2008), Middle school English (I) published by Cheonjae Education. (2008), High school English published by Cheonjae Education. (2008), High school English (I) published by Cheonjae Education. (2008).

⁴In Seong(2009)’s book, no explanation on the ‘specific’ nouns and ‘non-specific’ nouns were provided.

As mentioned above, articles are not explicitly taught in formal education. Only a few grammar books include a section on definiteness in English articles. Regarding instructions on ‘genericity’, among 21 books, none of them mentioned article uses in generic sense. Textbooks used in middle / high school English in Korea rarely devoted space to generic article use. Therefore, based on the survey above, it can be concluded that Korean learners are not explicitly taught about English generic articles.

However, even though learners had not been taught, we should not exclude a possibility that learners may have formulated explicit strategies or explicit knowledge based on general input. For instance, they might have encountered and used examples on English generic articles from textbooks and have even been corrected by teachers, thus formulating strategies.

4.3.2 Implicit and explicit tasks

Second language researchers have been mainly concerned with the extent to which particular experimental tasks can elicitate implicit and explicit knowledge (Ellis, 2005b). In a psychometric study, Ellis (2005b) provided specific criteria based on the statistical data so that a battery of tasks could be categorised as explicit or implicit tasks. According to Ellis (2005b), learners are more focused on form in explicit tasks such as untimed grammaticality judgement tasks. For example, when learners are not under the time pressure, they are more likely to become conscious of the linguistic rules and use meta-linguistic knowledge. However, learners are more focused on meaning in more implicit tasks such as oral narration and timed grammaticality judgement tasks. In other words, when they are under time pressure, they tend to go by their intuition rather than using explicit rules or meta-linguistic knowledge.

It would be meaningful to compare learners' performance in both implicit and explicit tasks. The rationale for using different types of tasks in the current research can be explained as follows. If learners have 'acquired' knowledge on the use of English generic articles and the use of English articles have become integrated and automatised knowledge as a part of an L2 learner's grammar, then one might expect that L2 learners would perform target like in both explicit and implicit tasks. In other words, target like behaviour of L2 learners across the tasks can suggest that L2 learners have successfully acquired a certain L2 feature.

On the other hand, if L2 learners' target-like performance results from meta-linguistic knowledge or explicit strategies, one can expect less-target like performance in implicit tasks than explicit tasks. Consequently, by comparing L2 learners' performance in explicit and implicit tasks, one can provide data about the extent to which explicit and implicit knowledge trigger the learner's behaviour.

Therefore, current research employed a 'timed acceptability judgment task' as a form of 'implicit task'. In terms of the timed acceptability judgment task, it is regarded as an implicit task in two aspects. Firstly, it is a *timed* task and test items are shown only for a maximum of 8 seconds⁵ to prevent the subjects from going over and revising their responses. Therefore, learners' responses are made instantly and thus they cannot consult their explicit knowledge. Secondly, in order to elicit implicit knowledge, subjects were asked to judge acceptability from a range of scales from -2 (the least acceptable) to +2 (the most acceptable) so that they would choose answers which they felt were acceptable. It is assumed that learners would rely more on their intuition when given a scale of choices than when they were given dichotomous choices such as correct vs. incorrect.

⁵By investigating learners' behaviour during the pilot study, 8 seconds was calculated to be most appropriate.

On the other hand, for the un-timed grammaticality judgment task, subjects were given information about the aim of the test and the focus of the test was clearly explained prior to the test. Additionally, the noun phrases which were being tested were underlined in each test sentence so that subjects were aware of what target properties were in the test sentences and were able to concentrate on the specific NPs that were being tested. More detailed explanations regarding the tasks will be presented in the following sections with examples of test items.

4.3.3 Production and judgment tasks

In order to understand learners' acquisition patterns more comprehensively, the current research also employed a production task (translation task) and judgment tasks (timed-acceptability judgment task and untimed-grammaticality judgment task).

Grammaticality Judgment tasks (GJT) and Acceptability Judgment tasks (AJT)⁶ are the most widespread data collection methods in second language research. In these types of tasks, language learners are presented with a set of linguistic stimuli, and learners generally determine if the given linguistic stimuli is 'correct' or 'acceptable' in a particular language. GJT and AJT is used commonly because it provides good means to measure learners' linguistic competence. It can obtain learners' reactions to a grammatical feature which might occur only rarely in production data. However, the employment of GJT and AJT is not without criticism: firstly data from GJT or AJT is not natural, and secondly learners may use metalinguistic knowledge in such tasks (Brown and Rodgers, 2002).

⁶Acceptability Judgment task is often used as an alternative means to grammaticality judgment task (Brown and Rodgers, 2002). That is because of the controversial issue concerning the concept of grammaticality. In other words, it is controversial whether the concept of grammaticality is a dichotomous concept or gradual concept (Sorace and Keller, 2005, among many others). Thus, an acceptability judgment task which asks the level of acceptability of the stimuli is used commonly alongside a grammaticality judgment task.

On the contrary, production tasks provide a good measure to assess learners' real usage of a certain grammatical feature. However, production data on its own cannot provide enough data to reflect learners' competence. For example, learners would avoid grammatical features that they feel uncomfortable with (Gass and Schachter, 1989). Thus, a production task is also not without problems. In fact, neither judgment tasks nor production tasks are without criticism. Therefore, to enhance the reliability and validity of the methodology, the current research employed both production in comparison with acceptability judgment tasks (Brown and Rodgers, 2002).

4.3.4 Timed-acceptability judgment task

In order to prevent L2 learners from using explicit knowledge in the implicit tasks, the implicit task (timed-acceptability judgment task) was conducted prior to the explicit task (grammaticality judgment task). As a form of implicit task, firstly, the timed acceptability judgement task was employed. This task attempts to examine L2 learners' knowledge on the choice of English articles in generic sentences and non-generic sentences ((in)definite contexts). In this task, participants were given 72 sets of English sentences overall. Each set comprises of a couple of sentences. The first sentence is considered to be always true and participants are required to judge whether the second sentence is acceptable or not, given the first sentences. 72 sets of sentences comprise of (1) 16 characterising sentences, (2) 16 kind-referring generics with kind-referring NPs in subject position, (3) 16 kind-referring generics with kind-referring NPs in object position, (4) 8 kind-referring NPs with non well-established nouns, and (5) 16 distractor sentences. Distractors are to do with article use in terms of definiteness and indefiniteness. A summary of test items is presented in Table 4.2 below.

Table 4.2: Summary of test items by each category in TAJT

Sentence Types for Timed-AJT	Number of Test Sentences
Characterising Generics	16
Kind-referring NPs in Subject Position	16
Kind-referring NPs in Object Position after Kind-Requiring Verbs	8
Kind-referring NPs in Object Position after Stative Verbs	8
Kind-referring NPs with non well-established nouns	8
Distracters: (in)definite use of articles	16

Let us examine test items in more detail by each category. Firstly, for the characterising generics, overall 16 sets of test items were presented as shown in 4.2 below.

(4.2) Characterising generic sentences

- a. Characterising generic sentences with indefinite article ‘a’ (n=4)
Jane used to have potatoes for dinner when she was admitted to the hospital. A potato is highly digestible.
- b. Characterising generic sentences with bare plural (n=4)
Jane used to have potatoes for dinner when she was admitted to the hospital. Potatoes are highly digestible.
- c. Characterising generic sentences with definite article ‘the’ (n=4)
Jane used to have potatoes for dinner when she was admitted to the hospital. The potato is highly digestible.
- d. Specific sentences with definite plural NPs (n=4)
Jane used to have potatoes for dinner when she was admitted to the hospital. #The potatoes are highly digestible.

As in 4.2, test items included indefinite singular in (4.2-a), bare plurals (null article)

in (4.2-b), definite singular (4.2-c). In characterising generics, as has been discussed repeatedly⁷, singular NPs with the indefinite article ‘a’, null article (bare plurals), and definite article ‘the’ can be used in the subject position because genericity in characterising generics is based on the sentences themselves. However, plural NPs with the definite article are interpreted as specific readings as in (4.2-d). In (4.2-d), the sentence can be interpreted as ‘some specific potatoes are highly digestible’ rather than ‘potatoes are generally highly digestible’ as in (4.2-a), (4.2-b) and (4.2-c) sentences.

Secondly, in terms of kind-referring generics, the tasks are divided into two categories in accordance with syntactic positions of NPs: kind-referring NPs in subject position and kind referring NPs in object position. First, for the kind-referring NPs in subject position, examples for the test items are presented below.

(4.3) Kind-referring NPs in subject position

- a. Kind-referring NPs in subject position with bare plural (n=4)
Kim was bitten by a mosquito in Scotland. Mosquitoes are widespread in Scotland.
- b. Kind-referring NPs in subject position with definite article (n=4)
Kim was bitten by a mosquito in Scotland. The mosquito is widespread in Scotland.
- c. Kind-referring NPs in subject position with indefinite article(n=4)
Kim was bitten by a mosquito in Scotland. #A mosquito is widespread in Scotland.
- d. Specific sentences with definite plural NPs (n=4)
Kim was bitten by a mosquito in Scotland. #The mosquitoes are

⁷See chapter 2 for more detailed explanations.

widespread in Scotland.

In this type of generic sentence, only bare plurals as in (4.3-a) and definite singular as in (4.3-b) can have generic interpretations. Indefinite singulars cannot be allowed as generics in sentences such as (4.3-c). Again, plural NPs with the definite article ‘the’ cannot have generic readings. (4.3-d) can be interpreted as ‘specific kinds of mosquitoes are widespread in Scotland’.

In the object position, kind-referring NPs receive restrictions unlike those in subject positions. For example, bare plurals in object positions are not always interpreted as a generic meaning according to native speakers and the literature (Carlson and Pelletier, 1995). Consider the following examples in 4.4

(4.4) Kind-referring NPs in object position with kind-referring verbs

- a. Kind-referring NPs in object position with indefinite article (n=2)
Tom has never seen a dodo. French settlers exterminated the dodo
- b. Kind-referring NPs in object position with bare plural (n=2)
Tom has never seen a dodo. ?French settlers exterminated dodos.
- c. Kind-referring NPs in object position with definite article (n=2)
Tom has never seen a dodo. #French settlers exterminated a dodo.
- d. Specific plural NPs in object position with definite article (n=2)
Tom has never seen a dodo. #French settlers exterminated the dodos.

Bare plurals in object position such as in (4.4-c) can be interpreted as a taxonomic reading that is a certain kind of dodo rather than a generic meaning (Carlson and Pelletier, 1995). Hence, only definite singulars can be read as generic as in the

examples (4.4-a). Indefinite NPs as in (4.4-c) are not generic NPs and ‘the+plural’ NPs in (4.4-d) are specific NPs in object positions like in subject positions.

However, the restriction of NPs in object position varies according to the preceding verbs in the sentences. See the following examples 4.5.

(4.5) Kind-referring NPs in object position with stative verbs

- a. Kind-referring NPs in object position with the definite article (n=2)
Rachael enjoys eating fruit every morning. Especially, she loves the orange.
- b. Kind-referring NPs in object position with bare plural (n=2)
Rachael enjoys eating fruit every morning. Especially, she loves oranges
- c. Kind-referring NPs in object position with the indefinite article (n=2)
Rachael enjoys eating fruit every morning. #Especially, she loves an orange.
- d. Specific plural NPs in object position with the definite article (n=2)
Rachael enjoys eating fruit every morning. #Especially, she loves the oranges.

Unlike the verbs used in 4.4 sentences such as *exterminate*, stative verbs allow bare plurals as kind-referring NPs in object position as in 4.5. Therefore, ‘oranges’ in (4.5-b) is equally acceptable to ‘the orange’ in (4.5-a) as a generic NP. However, for ‘a+singular’ NPs and ‘the+plural’ NPs, they are inappropriate as generics in object position as exemplified in (4.5-c) and (4.5-d).

Additionally, the test sentences include 8 items regarding generic use of ‘the’ with non well established nouns. Complex nouns (adj+noun) which are not *well-established entities* and *kinds* are used in these sentences as shown 4.6 below. It is designed

as such in order to investigate learners' sensitivity to the semantics of nouns when they occur with the definite article 'the'. Test items regarding kind-referring NPs with well-established nouns include the sentences presented in 4.6 below.

(4.6) Kind-referring NPs with non well-established nouns

a. Kind-referring NPs with 'bare plural' (n=4)

John tries to eat more oranges in winter. Fresh oranges are good for preventing colds

b. Kind-referring NPs with definite article 'the' (n=4)

John tries to eat more oranges in winter. #The fresh orange is good for preventing colds

In the examples 4.6 above, non well-established entities of nouns are used such as 'fresh orange'. Therefore, (4.6-b) cannot be accepted as a generic NP in this sentences. However, in (4.6-a), bare plural forms can be interpreted as generic regardless of the semantics of nouns.

Lastly, distractors are also contained in the experimental sentences. They are used in an attempt to examine L2 learners' knowledge on article use in terms of (in)definiteness. See the following examples in 4.7.

(4.7) Distractors

a. Kim was bitten by a mosquito in Scotland. Kim killed the mosquito that had bitten her.

b. Kim was bitten by a mosquito in Scotland. #A mosquito was very big.

Like other main test items, distractors were also given in pairs. In sentences like (4.7-a), ‘the mosquito’ in the second sentence should be judged as ‘acceptable’. That is because ‘a mosquito’ is already mentioned in the first sentence. Likewise, in (4.7-a), ‘a mosquito’ in the second sentence should be judged as ‘not acceptable’ because ‘a mosquito’ was already introduced to the discourse in the previous sentence. Overall 16 sets of these sentences were given to the subjects. All test sentences are presented by category in the appendix.

Research questions and predictions

The timed-acceptability judgement task attempts to address the research questions posed in earlier sections: research questions 1, 2, 3, and 4. Firstly, regarding research question 1, it was predicted that if Korean learners of L2 English allow bare plurals after kind-requiring verbs, it would suggest the role of L1 transfer. That is because bare plurals are not always acceptable to native English speakers after kind-requiring verbs in object positions. Thus, there is no a priori reason for learners to allow bare plurals after kind-requiring verbs unless they follow their L1. By examining the results on ‘bare plurals’ in object positions, the hypothesis can be tested.

Furthermore, in terms of research question (2), it was predicted that if Korean learners of English in England (KE) perform better than those in Korea (KK), it suggests that sufficient naturalistic input is advantageous for L2 learners to acquire English articles. Thus, if KE perform better than KK, it would provide evidence for the role of ‘naturalistic input’ in generic article acquisition.

For research question (3), the task can examine if adult learners can access Universal Grammar. Bare plurals in object position are not always acceptable and it can be regarded as poverty of stimulus. That is because no direct input tells learners that bare plurals are not interpreted as generics after kind-requiring verbs and L1

Korean does not have such a subtle feature. Thus, if learners disallow bare plurals after kind-requiring verbs as generic NPs, it would provide evidence for UG access by adult L2 learners. What is more, in terms of the semantics of nouns with the article ‘the’, if learners correctly disallow ‘the’ with non-well established nouns as generics, it would also provide evidence of UG access. That is because, learners do not receive direct input which shows that only well-established nouns can be used with ‘the’ for generics. Furthermore, learners’ L1 Korean does not have such subtle restrictions. Therefore, the phenomena can be explained by the poverty of stimulus effect.

Regarding research question (4), it was hypothesized that if learners perform better with generic articles than (in)definite articles, it would provide supporting evidence for the ‘Interface Hypothesis’. The current task attempts to investigate L2 learners performance in terms of article uses of (in)definiteness and genericity. If learners perform better with English articles regarding (in)definiteness (external interface) than those of genericity (internal interface), it would confirm the ‘Interface Hypothesis’ as hypothesized.

4.3.5 Translation task

The second task that is employed in the experiment is a translation task. The translation task is a production task implemented to examine how learners actually use articles. As discussed in Section 4.3.3, the ‘production task’ was conducted alongside the ‘judgment tasks’ to elucidate learners’ overall knowledge of generic use of articles. Additionally, in order to prevent learners from using explicit strategies, the task was timed and test items were given on-line. Furthermore, this translation task was conducted prior to the ‘untimed grammaticality judgment task’ to prevent learners from noticing what was being tested, thus eliciting more implicit knowledge.

The translation task also primes subject into L1 transfer, as the stimuli sentences are in Korean.

Participants were given 34 Korean sentences with English vocabulary to be used in the translation. Then, they were asked to translate the given Korean sentences into English sentences using the vocabulary provided. As the aim of this task is to elicit L2 learner’s choice of articles, lexical words including nouns, verbs, adjectives, and adverbs were presented with the participants but functional words such as ‘articles’ were not be given to the participants.

Overall 34 Korean sentences were tested. They consist of the following sentence types -14 kind-referring generic NPs in both subject (8) and object (6) position, 6 kind-referring NPs with non-well established nouns, and 14 characterising generic sentences. A summary of test items is shown in 4.3 below.

Table 4.3: Summary of test items by each category in TT

Sentence Types for Translation Task	Number of Test Sentences
Kind-referring NPs in Subject Position	8
Kind-referring NPs in Object Position	6
Kind-referring NPs with non well established nouns	6
Characterising Generics	14

For the kind-referring generics, among 14 sentences, 8 kind-referring NPs appear in the subject position as in 4.8 and 6 kind-referring NPs appear in the object position as in 4.9. First, 4.8 below presents an example of kind-referring NPs in subject position.

(4.8) Kind referring generics in subject position (n=8)

Gamja-nun nammieseo choecho ro jaebaedoeossda
 Potato-GEN inSouthAfrica first cultivated

(Potato, first, cultivate, South Africa)

Possible Target Responses: Potatoes/The potato are/is first cultivated in South Africa.

In terms of kind-referring NPs in object position, the choice of article is restricted by the verb used in the sentence. Thus, to examine the sensitivity of L2 learners on the use of articles in accordance with the verbs used, among 6 sentences, 3 involved kind-referring NPs after stative verbs such as *like* or *dislike* and 3 of them presented NPs after verbs that require kind-referring NPs like *invent*, *introduce*, and *popular*. Examples of NPs in the object position are given in 4.9

(4.9) Kind referring generics in object position (n=6)

- a. Shockley-ga transistor-reul balmyeonghaessda.
Shockley-NOM transistor-ACC invented
(Shockly, invent, transistor)

Possible Target Responses: Shockly invented the transistor/?transistors.

- b. John-un goyangi-rul sileohanda
John-NOM cat-ACC hate
(John, hate, cat)

Possible Target Responses: John hates cats/the cat.

Additionally, 6 generic sentences with kind-referring NPs were given to the subjects to translate. The NPs in this sentence type are not well-established nouns. In other words, learners should not use ‘the’ with those nouns for generic NPs in this category.

(4.10) Not-well established Nouns (n=6)

Sinseonhan ttalki-nun dalko massita
Fresh strawberry-GEN sweet-and delicious

(Fresh strawberry, sweet, delicious)

Possible Target Responses: Fresh strawberries are sweet and delicious.

Lastly, 14 characterising generic sentences were given to the informants to translate as in 4.11 below.

(4.11) Characterising generics (n=14)

Sinsa-nun suknyeorulwihae muneul yeoleojunda
Gentleman-GEN lady-for door open

(gentleman, open, door, lady)

Possible Target Responses: Gentlemen/a gentleman/the gentleman
open(s) doors for ladies.

So far, examples of test items used in the translation task have been presented. All the test items are presented in the appendix.

Research questions and predictions

The translation task is intended to to elicit production data on the choice of articles by the L2 learners. As discussed above, 3 types of Korean sentences are presented to the participants; 1) kind-referring generic NPs in subject position and object position, 2) characterising generic sentences, and 3) generic NPs with not well established nouns.

For the kind-referring generics in subject position, definite singulars and bare plurals are allowed in the subject position. In terms of kind-referring generics in object position, when the verb of a sentence requires only kind-referring generics such as ‘invent’, or ‘exterminate’, definite singular forms are preferred to bare plural forms according to English native speakers. However, such a subtle distinction is not

present in Korean language. Therefore, if Korean learners of English correctly use definite singular in such types of sentences, it would suggest that the learners could access to universal that restricts NP type according to the preceding verb, hence UG. However, if they prefer using bare plurals instead of definite singular, it would reversely suggest the influence of the L1.

In terms of characterising generics, ‘a+singular’ NPs, ‘the+singular’ NPs and ‘bare plurals’ are all allowed. However, when nouns are not well-established entities, ‘the’ cannot legitimately occur with them. If learners have acquired such subtle semantic distinctions, learners would not overuse ‘the’ with not-well established nouns.

Lastly, if learners use bare singular forms dominantly in any type of sentence, it would provide evidence of L1 transfer. In addition, if learners overuse bare plurals after kind-requiring verbs, where bare plurals are not interpreted as generics by English native speakers, it would provide remnant of L1 transfer by advanced L2 learners in the acquisition of English generic articles.

4.3.6 A task for English controls

The translation task was also tested with native English controls. This task was employed to examine native speakers’ generic article production. In particular, the results would display usage patterns or preferences of generic article use by English controls. The results of the English controls will be compared to those of L2 learners.

In terms of translation tasks, as L1 English speakers cannot be asked to translate the sentences from Korean to English, the translation test introduced in section 4.3.5 was modified as shown in 4.12.

(4.12) a. Potato cultivate in South Africa.

- b. Shockley invent transistor.
- c. John hate cat.
- d. Gentleman open door for lady.

L1 English speakers were given ungrammatical/incomplete English sentences equivalent to the Korean test sentences. They are ungrammatical/incomplete as the sentences were missing articles and verbal inflection. The native controls were asked to add articles and verbal inflection in order to make the sentence grammatical in 4.12. The test items for English controls can be found in the appendix.

4.3.7 Untimed-grammaticality judgment task

As a form of explicit task, an untimed grammaticality judgment task was conducted.⁸ Participants were given a range of generic sentences and asked to judge their grammaticality. Most importantly, participants were explicitly informed that the task intended to test knowledge of the English article in terms of genericity. Thus, participants knew what was being tested. Furthermore, NPs that were tested were underlined. The untimed grammaticality judgment task taps more into learners' explicit knowledge.

The illustration of the test sentences is as follows. The test sentences mainly comprise of a range of generic sentences including characterising generics (sentence level generics) and kind-referring generic NPs (NP level generics). A summary of the test items in the untimed-grammaticality judgment task is presented in Table 4.4 below.

Additionally, test items are all comprised of simple English sentences. The examples of the grammaticality judgment task is as follows.

⁸One might expect that this task is the same as the timed-acceptability task but with more time given. However, the untimed-grammaticality judgment task and the timed-acceptability judgment task are different as will be discussed in this section 4.3.7.

Table 4.4: Summary of test items by each category in UGJT

Sentence Types for Untimed-GJT	Number of Test Sentences
Characterising Generics	12
Kind-referring NPs in Subject Position	16
Kind-referring NPs in Object Position after Kind-Requiring Verbs	12
Kind-referring NPs in Object Position after Stative Verbs	12
Kind-referring NPs with non well established nouns	12
Distracters: Ungrammatical Sentences with bare singular NPs	8

(4.13) Characterising Generics (n=12)

- a. A dog is a very faithful animal.
- b. Dogs are smart.
- c. The dog barks.

As the examples in 4.13 show, NPs in 12 characterising generic sentences are tested. In addition, kind-referring NPs in subject position are also tested as in examples 4.14.

(4.14) Kind-referring NPs in subject position (n=18)

- a. The plane was invented by the Wright Brothers.
- b. Dogs are common on Earth.
- c. #A white tiger is rarely found in the Mars.
- d. #The dodos are not prevalent on Earth.

Kind-referring NPs can occur not only in the subject position but also in the object position of sentences. Therefore, kind-referring NPs in object position are tested as in 4.15 and 4.16. As it was discussed repeatedly, generic NPs in object positions receive restrictions according to preceding verbs. Thus, generic NPs in object positions are categorised into sentences with kind-requiring verbs and stative verbs. Consider the example 4.15 below.

(4.15) Kind-referring NPs in object position with kind-requiring verbs (n=14)

- a. French settlers exterminated ?dodos.
- b. The Wright Brothers invented the plane.
- c. #Some humans exterminated a white tiger on Earth.
- d. #French settlers did not exterminate the dodos.

Bare plurals in object position cannot always be interpreted as generics as in (4.15-a). Only ‘the+singular’ NPs can be perfectly allowed as generics after kind-requiring verbs as in (4.15-b). ‘A+singular’ NPs are not generic NPs, thus inappropriate in (4.15-c). ‘The+plural’ NPs are not generic but specific as in (4.15-d). The next test category is regarding kind-referring NPs after stative verbs.

(4.16) Kind-referring NPs in object position with stative verbs (n=14)

- a. Cats hate dogs.
- b. Older people don’t like the apple.
- c. #People like an apple for dessert.
- d. #Dogs like the fishes.

With stative verbs, bare plural generics do not receive any restriction, thus can be used in object positions as in (4.16-a). ‘The+singular’ can be used as generics as in (4.16-b) and ‘a+singular’ cannot be used as generic as in (4.16-c). Also, for ‘the+plural’ NPs, as they refers to the specific nouns, they cannot be used. Overall 14 sentences were tested in this category.

In the grammaticality judgment task, uses of ‘the’ with not well-established kinds are tested. The following items in 4.17 display examples of this category.

(4.17) Not well-established nouns and Generic NPs (n=12)

- a. Old cars are not very energy-efficient. (n=6)
- b. #The old car is not very energy-efficient. (n=6)

As (4.17-a) shows, regardless of the semantics of nouns, bare plural forms can induce a kind-referring interpretation. However, as in (4.17-b), not well-established nouns cannot be used with ‘the’ to have generic readings. In this category, overall 12 sentences are tested. Lastly, the task also includes sentences with bare singular NPs as in 4.18.

- (4.18) Ungrammatical generic sentences with bare singular NPs (n=8)
#Electronic car is very expensive.

Overall, 78 sentences including 38 grammatical generic sentences and 40 ungrammatical generic sentences are presented to the participants. This task was conducted as a pen and paper examination. All test sentences are presented in the appendix.

Research questions and predictions

The grammaticality judgment task will cover research questions 1, 2, and 3 as presented in section 4.7. Meanwhile, most importantly, the results from the un-timed grammaticality judgment task will be compared to those from the timed-acceptability judgment task. Recall that, both the timed-acceptability judgment task (implicit task) and the grammaticality judgment task (explicit task) are employed in order to disentangle explicit knowledge from implicit knowledge. Thus, it can be predicted that if learners have acquired L2 feature x , they would perform consistently target-like in both the explicit and implicit task.

4.4 Experiment procedure

Before conducting the experiments⁹, all subjects were asked to complete personal details which asked background information of the participants such as gender, age of first exposure to English, and length of residence in English speaking countries. A pilot test was also carried out before the main experiment and the detailed discussion of the pilot test is presented in the following section 4.6

A total number of three tasks were presented to the L2 learners in the form of a paper booklet. The paper booklet includes answer sheets for the ‘timed-acceptability judgment task’ and ‘translation task’, and test sentences and answer-sheet for the ‘untimed-grammaticality judgment task’. The question items in the timed-acceptability judgment task were provided via online to control response time and subjects were asked to write answers on the answer sheet given. The translation task was also administered online. More specifically, informants were given Korean sentences and a range of English vocabulary online and asked to translate the Korean sentences into English sentences using given words. Lastly, in terms of the grammaticality judgment task, the test items were given within the paper booklet alongside the answer sheet.

The timed-acceptability judgment task and the translation task preceded the grammaticality judgment task in order to prevent subjects’ awareness regarding focus of the experiment. Also, before administering the first two tasks, it was made clear that tests were not intended to assess their grammatical ability and they were advised to rely on their intuition. Additionally, they were instructed not to go back to previous sentences or judgments to change previous answers, even though it is highly unlikely because test sentences were given online and timed. For the grammaticality judgment task, there was no time constraints and subjects were given as

⁹The current experiment research obtained ethics approval by the ethics committee of the University of Sheffield in 2010.

much time as they wanted. Furthermore, they were given information on what was being tested so that they could use their grammatical knowledge. Tested items were even underlined. They were allowed to go back to previous sentences and revise previous answers if they wanted to.

4.5 Data analysis

The data obtained from the tasks were analyzed as follows. Let us first consider the acceptability judgment task. As presented earlier, subjects were asked to rate their judgment from -2 (the least acceptable) to +2 (the most acceptable). They were also told that ‘-’ categories (-1 and -2) mean the sentences are not-acceptable, whereas ‘+’ categories (+1 and +2) mean the sentences are acceptable. In the analysis, answers for +1 and +2 were collapsed and a score of 1 was given if the answer was correct and score of 0 was given if the answer was incorrect. Likewise, -1 and -2 were also collapsed and a score of 1 was given if the answer was correct and score 0 was given if the answer was incorrect¹⁰. Then, the average mean accuracy rates on the acceptability judgment task were calculated for each sentence type: characterising generics and kind-referring generic NPs in subject and object position, respectively. Additionally, within each sentence type, mean accuracy rates on the acceptability judgment of sentences with different types of NPs, including bare plurals, definite singulars and indefinite singulars, were also calculated. They were analyzed in terms of the percentage in each NP type. Finally, in order to investigate the significant differences of percentage, statistical analysis ANOVA was used.¹¹

¹⁰The reason why answers of +1 and +2 or -1 and -2 are collapsed is because the experiment is to investigate learner’s judgment on the grammaticality of generic sentences. In other words, the important thing is whether learners judged certain generic sentences as acceptable or not acceptable.

¹¹To analyse the significance of differences between groups or between the question types, a non-parametric Binomial Proportion Test was also run by using the statistical tool ‘R’ just for the comparison of the results of the data analysis by ANOVA. ‘Binomial Proportion Test’ was chosen because it was known to be suitable for dichotomous variables and there were only two possible values in the experiment (0 and 1). Also, before carrying out the ANOVA, I ran a pre-test which showed that the current data is appropriate for parametric analysis such as ANOVA.

In terms of the translation task, as it is the production task, the use of articles and null articles were all counted in correct sentences and article usage patterns were examined in each type of sentence: characterising generics, and kind-referring generic NPs in subject and object position. The significant differences between the usage rates were then judged using a ‘Chi-square test’ and ‘Fisher’s Exact Test’ through a statistical tool ‘R’. The reason for employing these statistical tests were because the two statistical analyses supplement each other. In other words, when the sample size is too small, the Fisher’s Exact Test is claimed to be more accurate than the ‘Chi-squared test’ or ‘G-test’ in such cases. Many statistics books recommend using ‘Fisher’s exact test’ instead of the ‘Chi-square test’ because the Fisher’s exact test gives an exact P value when the sample sizes are small. On the other hand, the derivation of the null-hypothesis distribution of Chi-square is reliable when the sample sizes are rather large. For instance, all samples or values should be at least 5. The reason why these two statistical tests were employed was because learners showed variances in using NP forms. For instance, for ‘bare plural’ NPs, learners used this form rather frequently, thus presenting large tokens but for ‘the+plural’ NPs, they hardly used them, thus showing very small tokens. Therefore, two statistical analyses were conducted. In these statistical tests, if p values are less than 0.05, the differences would be regarded to be significant.

Lastly, in the grammaticality judgment task, for the correct answer, a score of 1 was given and a score of 0 was given for incorrect answers. Then the mean accuracy rates were calculated for each generic sentence types. Also, within each sentence types, the mean score of each NP was calculated. In order to investigate statistical differences between mean accuracy rates, a further ANOVA was conducted.

Furthermore, statistical results from the Binomial Proportion Test (Non-parametric Test) and ANOVA (parametric test) appear to be similar. Thus, the current results will provide results from one statistical test, ANOVA.

4.6 Pilot study

In order to verify test items and detect any potential problems of experimental design, before conducting the main experiment, a pilot test was conducted with 11 adult Korean learners of English. Also, 5 native English speakers participated in the pilot test as a control. The pilot test included a timed acceptability judgment task, a translation task and a grammaticality judgment task as in the main experiment.

As outlined in Chapter 1, in broad terms, the thesis attempts to answer the question of whether adult Korean learners can acquire English articles in relation to genericity. In this section, we investigate whether learner groups and English controls provide expected results based on the pilot data. Section 4.6.1 presents a detailed description of the participants. Section ?? discusses the experimental procedures and data analysis. Section 4.6.2 presents a brief summary of the results collected from the pilot test and the limitations and implications from the pilot study are also discussed.

4.6.1 The participants

A total number of 11 Korean-speaking adults participated in the pilot test. They comprise of 6 adult Korean speakers living in Seoul, Korea and 5 adult Korean speakers living in Sheffield, U.K.. All of the subjects have been learning English for more than 10 years. The relevant background of the participants is summarised in Table 4.5.

Most of the learners started learning English as a child or an adolescent at an average age of 12 ranging from 9 to 14. The overall ages of subjects ranged from 29 to 40 years old with the average age of 34. Among all the subjects, only Korean adults in the UK have been exposed to the target language environments for a mean average of 9 years. Korean adults in Korea have not resided in English speaking

Table 4.5: Summary of background information on subjects in pilot test

Group	Korean adults in Korea	Korean adults in the U.K.
Gender(Female/Male)	5/1	5/0
Average Age(Range)	34.67(29-37)	34.2(30-40)
Length of learning L2	16.83yrs(10-22yrs)	20.2yrs(13-30yrs)
Average Length of stay in English speaking countries(Range)	Not applicable	9yrs(2-30yrs)

countries before. Additionally, based on the interview after the completion of tasks, only 1 participant in the UK group had come across the use of English articles in a grammar book in English. Moreover, 5 native English speakers served as controls.

Since the experimental procedures and data analysis of the pilot study were identical to those of the main experiment, it will not be repeated here.

4.6.2 Results of pilot test and its implication for the main research

In this section, we discuss results from the pilot test and present unexpected results from the pilot test in terms of test sentences. In terms of test results, overall results were found to be sound but some unexpected responses were found from the pilot test. A couple of linguistic errors were detected from the experiment items by native speakers and they were modified. Those modified and corrected sentences were double checked by English native speakers afterwards.

In addition, in two test items, the first sentence appeared to include generic NPs which happened to be the same generic NPs in the second test sentence as in 4.19 and 4.20 below.

(4.19) Computers are used in everyday life. Computers/a computer/the computer provide(s) many convenient programmes.

(4.20) Oranges contain vitamin Cs. Oranges/an orange/the orange are(is) good for preventing cold.

Native controls pointed out that the generic NPs used in the first sentence could influence on the judgment of the second sentence. It is particularly so when the generic NPs used in the first sentence are the same generic NP as in the second test sentences as in the case of ‘computers’ in 4.21. Therefore, the first sentence which is given to provide context was modified to general statements excluding generic NPs used in the second sentences as in 4.21 and 4.22. Sentences 4.19 and 4.20 are revised as in sentence 4.21 and 4.22 below, respectively.

(4.21) There are many new inventions in modern days. Computers/a computer/the computer provide(s) many convenient programmes.

(4.22) Some fruit helps you to stay well in winter. Oranges/an orange/the orange are(is) good for preventing cold.

After the modification, sentences are double checked with native speakers. Additionally, the response of Korean learners, particularly the KK group, showed unexpected results with the article ‘a’. They over-used ‘a’ in many categories (characterising generics, kind-referring NPs in object position) in the production task. Overuse of ‘a’ was not previously expected before conducting the pilot test. Thus, such phenomenon suggested that learners are sensitive to the ‘plurality’ of nouns. In other words, over-use of ‘a’ raised a question on the possible factors that might

effect learners noun choices in terms of plurality or singularity. The current research tries to explain this phenomenon by ‘animacy of nouns’ and ‘types of generic sentences’. Consequently, a Korean study was conducted and detailed discussion follows in the following Chapter 5.

To bring together, the pilot study provided expected results to answer the research questions and the response from the participants were parallel to expectations. Hence, with a few modifications as shown above, the research methods proved to be sound and thus could be used efficiently in the main study.

4.7 Summary

In this chapter, we discussed details of the methodology and procedure of the current experiment. In the next chapter, we start to examine the results obtained from the experiments.

Chapter 5

Experiment on Korean generic sentences

It is a general belief that particle ‘nun’ is responsible for genericity in Korean and the type of NPs are not of importance in terms of generic readings. The majority of Korean linguists agree that both bare singular NPs and bare plural NPs are suitable as generic readings and they can be used interchangeably (Lee, 1995, 1996, 1991; Kim, 1991; Jun, 2001, among many others). However, some recent research argues that bare plurals can be used as generics in certain circumstances, such as in characterising generics (Kwak, 2003) but not as kind-referring NPs or when nouns are animate (Nemoto, 2005). This close relationship between plurality of nouns and the interpretation of genericity has been suggested by several linguists (Kwak, 2003, 2007, among others). Furthermore, the relationship between plurality of nouns and generic readings in terms of animacy of nouns has been claimed by Nemoto (2005).

As it seems, uses of bare plurals as generics are rather controversial. Therefore, it is crucial to investigate the relationship between plurality of nouns and interpretation of genericity and to understand the role of plurality and animacy in Korean, in order

to identify possible sources for L1 transfer. In terms of L1 transfer, it would be a prerequisite to understand the relationship between plurality and animacy, so as to investigate any source of L1 transfer. For example, if plurality of nouns in Korean are to be decided by the level of animacy, learners would prefer plural generics to singular generics in English. Therefore, it would be important to investigate the extent to which *animacy* could have an effect on the plurality in Korean generic nouns.

Despite the importance of understanding the relationship between plurality and genericity as well as plurality and animacy, few empirical studies have been carried out to validate these relationships. Therefore, the current chapter will firstly review linguistic analysis on Korean and English generics regarding plurality and genericity / plurality and animacy relations. It then presents the suggestive role of plurality and animacy on the interpretation of generics in Korean. However, to which extent plurality and animacy influence the interpretation of generics in Korean appears to not be very clear. Therefore, a Korean experiment was conducted. It was regarded that a Korean version of the experiment would be very informative and meaningful, so as to fully interpret the responses of Korean speaking learners of English in terms of possible L1 transfer. Thus, this chapter will discuss the methodology and results obtained from the Korean experimental study.

Organisation of the current chapter is as follows. Section 5.1 summarises the current literature on the relationship between plurality and genericity. Section 5.2 discusses the relationship between plurality and animacy. In section 5.3, based on the literature discussed in previous sections, aims and hypotheses of the Korean research are presented. Section 5.4 presents the methodology used in the Korean experiment and section 5.5 displays information about participants in the Korean study. In section 5.6 results and discussion of the experiment are presented. Finally, section 5.7 discusses the implication of the Korean study for the main experiment.

5.1 Plurality and genericity

In semantics, while both genericity and plurality have been studied widely and considered as main issues, they have always been considered as independent topics. In other words, only a few studies researched the relationship between the two phenomena. The following offers a detailed overview of the relationship between plurality and genericity in Korean and English.

5.1.1 Morpho-semantic discrepancies of generic NPs between English and Korean

In Korean, generic NPs are realized predominantly with bare singular forms and bare plural forms. While the majority of linguists agree that these two forms can be used interchangeably, some suggest different uses of bare singulars and bare plurals in Korean generic NPs (Kwak, 2003). In fact, it is argued that English and Korean show different patterns of generic sentences in terms of plurality of generic NPs. In English, it is a well-known fact that bare plurals are interpreted as kind-referring terms (Krifka, 1987, among many others). In contrast, English singular NPs are not regarded as kind-referring NPs (Krifka, 1987, among many others) as exemplified in 5.1 below.

- (5.1) a. Potatoes were first cultivated in Peru.
b. # A potato was first cultivated in Peru.

Potatoes in (5.1-a) does not refer to a specific potato but rather it refers to a kind of Potato. The awkwardness of (5.1-b) shows that kind-reading is restricted to

the bare plural in English ¹. This shows a crucial role of plurality in the generic interpretation in English.

Let us consider Korean. Kwak (2003) argues that bare singulars are preferred to bare plurals for kind-referring readings in Korean. She claims that bare plurals are blocked to feed into kind references. Consider the corresponding Korean examples to 5.1 below.

- (5.2) a. #Kamca-tul-un peru-eyse ceum caypaytoyessta.
potato-PLU-GEN Peru-LOC first cultivated
- b. Kamca-nun peru-eyse ceum caypaytoyessta.
potato-GEN Peru-LOC first cultivated

The examples 5.2 above are a translated version of the English example 5.1 into Korean. The generic NP forms are opposite to the English examples. In other words, in the English examples in 5.1, plural nouns are appropriate for generic sentences and singular nouns are awkward as generics. Reversely, in the Korean examples in 5.2, singular nouns are appropriate for generic referring nouns but not plural nouns. Thus, even though Korean also seems to show a role of plurality in the reading of generics, generic NP forms between English and Korean appear to be opposite to each other.

On the other hand, regarding characterising generics, the patterns of generic interpretation between the two languages are not different. Consider 5.3 for English characterising generic sentences.

- (5.3) a. Dinosaurs are huge.
- b. A dinosaur is huge.

¹'The+singular' NPs are also kind-referring NPs in English. However, since the issue is the relationship between the generic interpretation and plurality, 'the+singular' generic NPs will not be discussed here.

In English, not only bare plural forms as in (5.3-a) but also singular forms as in (5.3-b) can be used in generic sentences. This pattern also applies to the Korean language. Consider the examples 5.4 for Korean characterising generic sentences.

- (5.4) a. Kongryong-tul-un ketayhata.
dinosaur-PLU-GEN were-huge
- b. Kongryong-un ketayhata.
dinosaur-GEN were-huge

Both bare plural NPs as in (5.4-a) and bare singular NPs as in (5.4-b) do not raise any oddities in the generic readings. Kwak (2003) argues that diverse patterns between the two languages are attributable to the selection of different semantic levels for checking number specification. To briefly mention the semantic explanation for the differences between Korean and English, it was argued that while terms for group in English are plurally marked as in ‘dinosaurs’ in (5.3-a), those in Korean are denoted as singulars as ‘kongryong (dinosaur)’ in (5.4-b).² In the analysis, it was concluded that number specification in English is checked in the sub-atomic level, whereas it is done in the atomic level in Korean (For more semantic analysis, consider Kwak (2003)).

In this section, we have seen that, regarding plurality of nouns, generic NP forms in English and Korean are opposite to each other. In the mean time, in terms of Korean generics, acceptability of ‘bare plural’ as generics NPs are rather controversial. Some linguists argue that ‘bare plurals’ are not legitimate as generic NPs but only ‘bare singulars’ are appropriate as generic NPs in Korean (Lee, 1991). On the other hand, some argue that ‘bare plural’ generic forms are used appropriately when nouns are animate (Nemoto, 2005). In the next section, the relationship between animacy and plural generic NPs will be investigated.

²Explanation for group terms in Korean and English are briefly introduced in the following section 5.2, for a more detailed explanation, see Kwak (2003).

5.2 The scalar effect of plurality and animacy

In Korean, the plurality of an NP can be represented by two forms: one with a plural marker *-tul*, ‘bare plural’ and the other without a plural marker, ‘bare singular’. For example, *teachers* in English can be translated into Korean as either *seonsengnim-tul*(teachers) or *seonsengnim*(teacher). The dual forms of plural NP are treated as the same readings or distinguished readings. Some linguists such as Kwak (2007) argue that singular-forms of plural NPs denote *group* reading whereas, plural forms have *sum* reading.

- (5.5) a. Seonsengnim-tul-i moyessta.
teacher-PLU-NOM gathered
- b. Seonsengnim-i moyessta.
teacher-NOM gathered

According to her argument, *seonsengnim-tul* in (5.5-a) entails that all the teachers gathered at the meeting. If some of the teachers did not attend the meeting, it would falsify the truth condition of (5.5-a). On the other hand, (5.5-b) would accept a few exceptions as the NP is a group rather than sums of individuals as in (5.5-a).

Given the two forms of plural NPs, it is argued that semantic plurality is reflected in the morphology in Korean. In other words, the plural NP forms represent the plural entity of sum and a singular formed NP represents the atomic entity of group.

In addition, some observations on plural NPs reveal that plural-forms of NPs are more to be used for objects which take a high position on the animacy scale (Nemoto, 2005 and Kwak, 2007). See the examples in 5.6.

- (5.6) a. Kay-ka /?Kay-tul-i moyessta.
dog-NOM /dog-PLU-NOM gathered
‘dogs gathered’

- b. Sakwa-ka /??Sakwa-tul-i sangcaey katuk issta.
 apple-NOM /apple-PLU-NOM box-in full are
 ‘There is a box filled with apples’.

Plural form of animals like *kay-tul* as in (5.6-a) are more likely to be accepted than the inanimate noun *sakwa-tul* in (5.6-b). This scalar effect can be naturally accounted for. Men are perceptually regarded as the most significant object hence the most discrete in their perception. Thus, they do not accept to be categorised as one object ignoring individuality. Therefore, one can easily use plural forms to refer to man. Usually, in our perception, the individuality of animals or the inanimate are less discrete than men. It can be said that while two plural forms are available in principle, plural marked forms are apparently used mostly when their denotations are perceptually distinguishable.

Nemoto (2005) also claims that only plural NPs concerned with humans can have generic readings as in (5.7-a), but non-human plurals NPs cannot have generic readings as in (5.7-b) below.

- (5.7) a. Sinsa-tul-un suknyeorul wihae munul yeoleo junta.
 gentlemen-GEN lady for door open-DEC
 ‘Gentlemen open doors for ladies’
- b. ?Sakwa-tul-un bitamin-i pungbuhata.
 ?apple-PLU-GEN vitamin-NOM abundant
 ‘Apples are abundant in vitamins’

On the other hand, Kim (2005) argues that all animate plural NPs can express a generic interpretation as in 5.8.

- (5.8) Saja-tul-un wihumha-ta.
 Lion-PLU-GEN dangerous-GEN

As has been shown above, while acknowledging the relationship between the scalar effect of plurality and animacy, it is not easy to draw a clear distinction between perceptually discrete and perceptually not-discrete objects. In other words, to what extent animacy has an effect on the singularity and plurality of generic NPs is not clear cut. Therefore, in order to investigate a possible source of L1 effect in the L2 English article acquisition by Korean learners, an experiment on Korean language is implemented.

5.3 Aims and hypotheses of the study

The Korean experiment was conducted to examine L1 Koreans' response on bare singular and bare plural NPs in L1 generic sentences. By observing Korean speakers response, this experiment aims to identify possible sources for L1 influence in the main experiment. Based on the linguistic assumptions, hypotheses of the Korean study are stated below.

Hypothesis 1: If Korean native speakers prefer bare singular forms to bare plural forms in kind-referring generics and judge both forms as equally acceptable in characterising generics, it would provide empirical evidence on the morphological discrepancies between English and Korean.

Hypothesis 2: If Korean native speakers prefer bare plurals with animate nouns to bare singulars, or prefer bare singulars with inanimate nouns to bare plurals, it would suggest a role of animacy in the choice of generic NPs in Korean.

5.4 Methodology

As a subsidiary study to the main experiment, a Korean version of the timed-acceptability judgment task was conducted. The Korean task is a translated version of English main task but it contains slightly modified sentences from the corresponding English experimental items. A few Korean sentences had to be modified from the corresponding English experimental sentences because some of them sounded odd when the main test sentences were directly translated into Korean. However, most importantly, predicates and nouns used in the Korean experiment are identical to those in the main English experiment. It comprises of 32 sets of Korean sentences. Each set contains two sentences. See the examples below.

- (5.9) Na-nun kwail-ul choahanta. Sakwa-nun bitamin-i pungbu-hata
I-TOP fruit-ACC like. apple-GEN vitamin-SUB abundant-DEC
'I like fruit. Apples are abundant in vitamin C'.

The first sentences are always considered as correct and subjects are asked to judge the acceptability of the second sentence. The 32 items can be categorised into 4 groups with 8 items in each group, respectively. The test sentence categories in the Korean experiment are summarised in Table 5.1. The participants are given choices of 5 scales from +1 which are least acceptable to +5 which are most acceptable and also a category of *don't know* was added.

Table 5.1: Summary of test sentence categories in Korean Experiment

Categories	Sentence Types for Korean Experiment	N
Category 1	Characterising Generic Sentences with animate nouns	4
	Characterising Generic Sentences with inanimate nouns	4
Category 2	Kind-referring NPs in subject position with animate nouns	4
	Kind-referring NPs in subject position with inanimate nouns	4
Category 3	Kind-referring NPs in object position after Kind-requiring verbs with animate nouns	4
	Kind-referring NPs in object position after Kind-requiring verbs with inanimate nouns	4
Category 4	Kind-referring NPs in object position after stative verbs with animate nouns	4
	Kind-referring NPs in object position after stative verbs with inanimate nouns	4

Let us now consider each category with examples. The following example 5.10 and 5.11 show sample test sentences in category 1.

Category 1: *characterising generics with 4 animate/ 4 inanimate nouns*

- (5.10) a. Tongmul-un yeoretukcing-ul kaciko-issta. Kay-nun cicnun-ta.
 animal-GEN severalcharacters-ACC have-DEC. dog-GEN bark-DEC
 ‘Animals have different characters. Dogs bark’
- b. Tongmul-un yeoretukcing-ul kaciko-issta. Kay-tul-un
 animal-GEN severalcharacters-ACC have-DEC. dog-PLU-GEN
 cicnun-ta.
 bark-DEC
 ‘Animals have different characters. Dogs barks’
- (5.11) a. Sohwakacaltoy-nun cayryo-rul iyusikey
 digestive-TOP ingredient-ACCFOR-BABYFOOD use-DEC.
 sayong-hanta. Kamca-nun sohwakacaltoyn-ta.
 potato-GEN digestible-DEC
 ‘People use ingredients which are easily digestible for baby food. Potatoes are highly digestible.’

- b. Sohwakacaltoy-nun cayryo-rul iyusikey sayong-hanta.
 digestive-TOP ingredient-ACC for-babyfood use-DEC.
Kamca-tul-un sohwakacaltoyn-ta.
 potato-PLU-GEN digestible-DEC
 ‘People use ingredients which are easily digestible for baby food. Potatoes are highly digestible.’

As shown in above examples 5.10 and 5.11, both animate and inanimate objects in characterising generic sentences are tested. (5.10-a) and (5.10-b) and (5.11-a) and (5.11-b) are two identical sentences except the plurality of NPs, respectively.

Category 2: *kind-referring NPs in subject position with 4 animate/ 4 inanimate nouns*

- (5.12) a. Haychung-un scotulayndu-eyse dumul-ta. Haciman
 harmful-insect-GEN Scotland-in rare-DEC. but
moki-nun skotulayndu-ey manta.
 mosquito-GEN scotland-in prevalent-DEC
 ‘Harmful insects are rare in Scotland. But, mosquitoes are prevalent in Scotland.’
- b. Haychung-un scotulayndu-eyse dumul-ta. Haciman
 harmful-insect-GEN Scotland-in rare-DEC. but
moki-tul-un skotulayndu-ey manta.
 mosquito-PLU-GEN scotland-in prevalent-DEC
 ‘Harmful insects are rare in Scotland. But, mosquitoes are prevalent in Scotland.’
- (5.13) a. Celmunsaram-un pyenrihankes-ul choa-hanta.
 young-people-TOP convenient-things-ACC like-DEC.
Sumatupon-un inkikacoh-ta.
 smartphone-GEN popular-DEC
 ‘Young people like convenient devices. Smart-phones are popular among young people.’

- b. Celmunsaram-un pyenrihankes-ul choa-hanta.
 young-people-TOP convenient-things-ACC like-DEC.
Sumatupon-tul-un inkikacoh-ta.
 smartphone-PLU-GEN popular-DEC
 ‘Young people like convenient devices. Smart-phones are popular
 among young people.’

The sentences in 5.12 and 5.13 show the examples of kind-referring NPs in subject position with animate and inanimate nouns, respectively.

Category 3: *kind-referring NPs in object position after kind-requiring V with 4 animate/ 4 inanimate nouns*

- (5.14) a. Yere conguy coryu-ka kwake-ey myelcongdaye-ssta. Purangsu
 several kinds bird-TOP past-in extinct-DEC. French
 jengchakmin-i dodo-rul myelcongsikyeyo-ssta
 settlers-TOP dodo-ACC exterminate-DEC
 ‘Several kinds of birds are extinct. French settlers exterminated the
 dodo.’
- b. Yere conguy coryu-ka kwake-ey myelcongdaye-ssta. Purangsu
 several kinds bird-TOP past-in extinct-DEC. French
 jengchakmin-i dodo-tul-rul myelcongsikyeyo-ssta
 settlers-TOP dodo-PLU-ACC exterminate-DEC
 ‘Several kinds of birds are extinct. French settlers exterminated the
 dodo.’
- (5.15) a. Hokisim-un sayroun balmyengpum-ul mantun-tta.
 curiosity-GEN new invention-ACC cause-DEC.
 Sumeruin-un nokro-rul balmyeongheyss-ta.
 Summerian-TOP pottery-wheel-ACC invent-DEC
 ‘Curiosity makes new inventions. Summerians invented the pottery
 wheel.’
- b. Hokisim-un sayroun balmyengpum-ul mantun-tta.
 curiosity-TOP new invention-ACC cause-DEC.
 Sumeruin-un nokro-tul-ul balmyeongheyss-ta.
 Summerian-TOP pottery-whee-PLU-ACC invent-DEC

‘Curiosity makes new inventions. Summerians invented the pottery wheel.’

The example in (5.14-a) shows kind-referring NPs of a bare singular form in object position after the kind-referring verb *exterminate*. (5.14-b) is a corresponding sentence with the bare plural form in object position. 5.15 show the example of sentences with inanimate NPs in object position.

Category 4: *kind-referring NPs in object position after stative V with 4 animate/ 4 inanimate nouns*

- (5.16) a. Hyenmi-nun dongmul-ul silhehan-ta. Hyenmi-nun koyangi-rul
 Hyunmi-TOP animal-ACC hate-DEC. Hyunmi-TOP cat-ACC
 silhehan-ta.
 hate-DEC
 ‘Hyunmi hates animals. Hynmi hates cats.’
- b. Hyenmi-nun dongmul-ul silhehan-ta. Hyenmi-nun koyangi-tul-ul
 Hyunmi-TOP animal-ACC hate-DEC. Hyunmi-TOP cat-PLU-ACC
 silhehan-ta.
 hate-DEC
 ‘Hyunmi hates animals. Hynmi hates cats.’
- (5.17) a. Dalkhomhan husik-un inkikachoss-tta. Hyensu-nun
 sweet desert-TOP popular-DEC. Hyunsu-TOP
chokholitu-rul chohahan-ta.
 chocolate-ACC like-DEC
 ‘Sweet deserts are popular. Hynsu likes chocolate’
- b. Dalkhomhan husik-un inkikachoss-tta. Hyensu-nun
 sweet desert-TOP popular-DEC. Hyunsu-TOP
chokholitu-tul-ul chohahan-ta.
 chocolate-PLU-ACC like-DEC
 ‘Sweet deserts are popular. Hynsu likes chocolate’

Finally, 5.16 and 5.17 exemplify the category 4. 5.16 shows examples of animate kind-referring NPs after the stative verb *hate* with bare singular NPs in (5.16-a) and

with bare plural NPs as in (5.16-b). Likewise, 5.17 shows inanimate kind-referring NPs after the stative verb *like* with a bare singular NP as in (5.17-a) and a bare plural NP as in (5.17-b).

5.5 Participants

The subjects of the study were Korean adults who were staying in England at the time of data collection. The subjects included postgraduate students from the University of Sheffield and housewives who were in Sheffield at the time of data collection.

5.6 Results and discussion

Let us now examine the results of the Korean experiment and discuss them regarding the hypotheses of the study. Table 5.2 summarises the mean acceptance values on Korean generic sentences. **A** and **I** after each category name stand for *animate* and *inanimate* nouns, respectively. For example, CGA stands for Characterising Generics with Animate nouns and KRGSi represents Kind-Referring Generics in Subject position with Inanimate nouns.

Table 5.2: Summary of results on Korean experiment

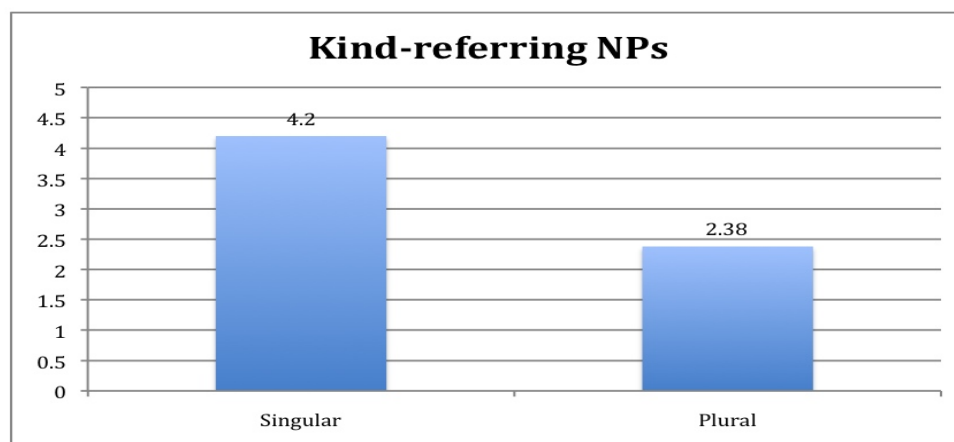
Mean Acceptance	Singular	Plural	P-value (ANOVA)
CGA	4.225	3.35	-
CGI	4.275	2.05	$P < 0.000$
KRGSA	4.15	2.525	$P < 0.000$
KRGSi	4.25	2.25	$P < 0.000$
KRGO-KRVA	3.925	3.225	-
KRGO-KRVI	4.2	2.875	$P < 0.006$
KRGO-STVA	4.775	2.75	$P < 0.000$
KRGO-STVI	4.275	2.05	$P < 0.000$

According to the data in Table 5.2 above, the results show that Korean learners showed higher mean acceptance values with singular nouns than plural nouns in every category. According to the statistical analysis, only CGA and KRGOA categories did not show a statistically significant difference between plural and singular nouns. In other categories, it appears that learners considerably preferred singular nouns than plural nouns. Let us discuss the results in reflection with the hypotheses of the study. Hypothesis 1 is repeated below.

Hypothesis 1: If Korean native speakers prefer bare singular forms to bare plural forms in kind-referring generics and judge both forms as equally acceptable in characterising generics, it would provide empirical evidence of the morphological discrepancies between English and Korean.

The result for kind-referring generics is shown in Figure 5.1 below.

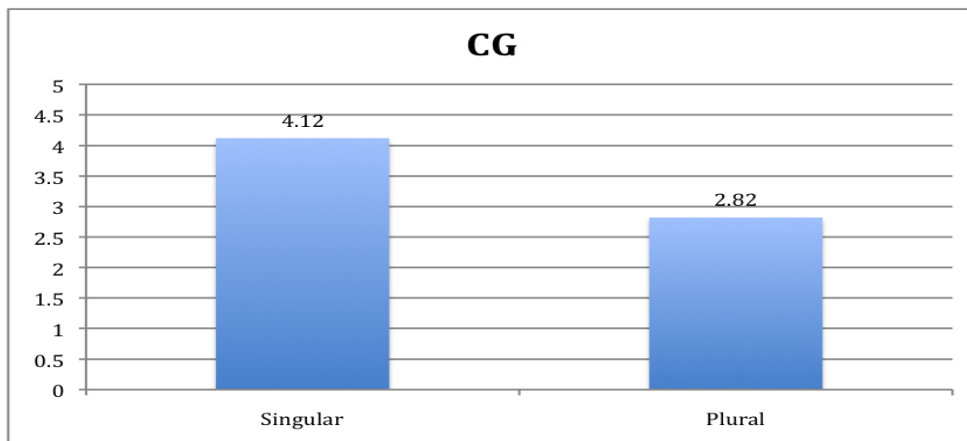
Figure 5.1: Mean acceptance values on Korean kind-referring generics



According to the results in Figure 5.1, Korean speakers displayed considerably higher mean acceptance values with singular nouns than plural nouns in the category of kind-referring generics. However, Korean learners showed preference for the use of bare singular nouns in general. Considering other categories where Korean speakers showed preference for singular nouns, one cannot conclude that Korean speakers preferred singular nouns to plural nouns only in kind-referring generics. Then, let us examine whether Korean learners equally accepted bare singular and

bare plural forms in characterising generic sentences. Figure 5.2 shows the mean acceptance values for characterising generic sentences.

Figure 5.2: Mean acceptance values for Korean characterising generics



The mean acceptance values above were calculated by collapsing inanimate and animate nouns. Korean speakers showed significantly higher mean acceptability scores with bare singulars in characterising generic sentences than bare plurals. This response is different to the prediction. Therefore, hypothesis 1 was not supported by the current experiment. It seems that Korean L1 speakers always tend to prefer bare singular generics to bare plural generics, regardless of the type of genericity. Let us now consider the hypothesis 2 as repeated below.

Hypothesis 2: If Korean native speakers prefer bare plurals with animate nouns to bare singulars or prefer bare singulars with inanimate nouns to bare plurals, it would suggest the role of animacy in the choice of plurality.

Considering the results of characterising generics and kind-referring generics in object position after kind-requiring verbs, it seems that relationship between animacy and plurality has been confirmed. Korean native speakers showed similar acceptability scores in both plural and singular NPs when the nouns are animate. In contrast, they displayed considerably lower acceptability scores with plural nouns when the nouns are inanimate ($p < 0.001$, $p < 0.001$, respectively). However, the other categories including kind-referring generics in subject position and those after

stative verbs show consistently low acceptability scores with plural NPs regardless of the animacy of nouns. Therefore, based on the results above, animacy does not necessarily cause use of plural nouns in Korean generic sentences. In other words, Korean participants in the current experiment appeared to prefer singular NP generic forms to the plural NP forms regardless of the animacy of nouns.

5.7 Summary and implication for main English experiment

In order to identify possible sources for L1 influence, the Korean experiment was conducted. Firstly, it tested whether a discrepancy exists between Korean and English in terms of plurality of nouns. It was suggested in the literature that bare plural forms are as acceptable as bare singulars in characterising generic sentences in Korean, whereas in kind-referring generics, bare plural forms are not as acceptable as bare singular forms. The results of the Korean study did not confirm the linguistic theory as Korean learners appeared to prefer singular forms to plural forms in every category. Consequently, there is an implication for the interpretation of the English experiment because the theoretically suggested morphological discrepancy between Korean and English in two different generic sentences does not apply, at least to the test sentences used in the current English experiment.

Secondly, relationships between animacy and plurality were tested in the Korean experiment. Animacy seems to have a certain effect on the judgement of plural nouns in the experiment in part of the test sentences in CG and KRGO-KRV. However, considering the results from all categories where participants preferred singular generic NPs to plural generic NPs, it would be reasonable to conclude that animacy is not the most crucial determinant for the choice plurality of nouns. In other words, regardless of the animacy of nouns, Korean speakers appeared to

prefer bare singular forms to bare plural forms in any generic context. Therefore, it implicates that learners would not depend on the animacy of nouns in the judgement of generic NPs in the English experiment.

To sum up, the Korean experiment has two main implications for the main experiment. Firstly, according to the Korean experiment results, bare singular forms are always preferred as generic NPs in Korean, regardless of the type of genericity. Thus, Korean learners would tend to prefer 'bare singular' NPs as generic NPs in all types of generic sentence, if they follow an L1 pattern. Secondly, regarding animacy, it appeared that Korean learners always prefer bare singular NPs as generics in Korean generic sentences regardless of the animacy of nouns. Thus, again, if Korean learners follow the L1 pattern, they would prefer 'bare singular' NPs to 'bare plural' NPs for generic NPs. Taken together, it seems that Korean learners would always prefer 'bare singular' NPs to 'bare plural' NPs for generics, regardless of the type of genericity or animacy of nouns.

Chapter 6

Experimental results

The current chapter presents the experimental results collected from Korean adult learners acquiring English articles. As outlined in the previous chapter, the current thesis attempts to answer the research questions of whether 1) adult Korean learners can access Universal Grammar, 2) adult Korean learners show L1 transfer, 3) ample positive input facilitates L2 acquisition, and 4) the ‘Interface Hypothesis’ can be supported in terms of English article acquisition. In order to address the research questions, three tasks were employed; a timed acceptability judgment task, a translation task, and an untimed grammaticality judgement task. This chapter discusses the results collected from the three tasks.

The organisation of the current chapter is as follows. Section 6.1 describes the results obtained from the timed acceptability judgement task. In section 6.2, results of the translation task are reported. In section 6.3, results of the untimed grammaticality judgement task are presented.

6.1 Results of the timed acceptability judgment task

The current section reports results of the timed acceptability judgment task. We investigate if Korean learners are able to correctly judge the acceptability of various NPs including ‘bare plurals’, ‘the+singular’ and ‘a+singular’, depending on different generic sentences. The categories of generic sentence are summarised in Table 6.1 below.

Table 6.1: Summary of the test sentence types in TAJT

Characterising Generic Sentences	
Kind-referring NPs in Subject Position	
Kind-referring NPs in Object Position	with kind-requiring verbs
	with stative verbs
Kind-referring NPs with non well-established nouns	
Definite Plural NPs	
Article uses in (in)definiteness	

The results of the timed-acceptability judgment task are presented in the following sections in accordance with the categories presented as in Table 6.1 above.

6.1.1 Characterising generics

In this section, results from characterising generic sentences are reported. Recall that in characterising generics, the locus of genericity is in the sentence not in NPs. Therefore, generic NPs (bare plural NPs and the+singular NPs) as well as non generic NPs such as ‘a+singular’ can be used in characterising generic sentences. Test items for this category are repeated in the example 6.1 below and ‘n’ represents the number of test items. The infelicitous sentence is marked with # and this is so under generic reading.

(6.1) Characterising generic sentences

- a. Characterising generic sentences with indefinite article 'a' (n=4)
Jane used to have potatoes for dinner when she was admitted to the hospital. A potato is highly digestible.
- b. Characterising generic sentences with bare plural (n=4)
Jane used to have potatoes for dinner when she was admitted to the hospital. Potatoes are highly digestible.
- c. Characterising generic sentences with definite article 'the' (n=4)
Jane used to have potatoes for dinner when she was admitted to the hospital. The potato is highly digestible.
- d. Specific sentences with definite plural NPs / Characterising sentences with definite plural NPs (n=4)
Jane used to have potatoes for dinner when she was admitted to the hospital. #The potatoes are highly digestible.

The results for this category are summarised in Table 6.2 below. Results for the definite plurals are not included in Table 6.2, they will be discussed separately in the following section 6.1.5. In the table, the numbers are mean accuracy rates in each NP category and arrows mark significant differences between subject groups or between categories. KK is an abbreviation of Korean learners in Korea, KE represents Korean learners in England, and EC is an abbreviation of English Control (KK,KE and EC, henceforth).

Table 6.2: Characterising generics

Characterising Generics	bare plural		the+singular		a+singular	
	Mean	SD	Mean	SD	Mean	SD
KK(n=44)	79%	0.7	60%	1	71%	0.9
KE(n=33)	100%	0.8	75%	0.9	75%	0.9
EC(n=21)	98%	0.2	90%	0.3	95%	0.4

Note: The numbers that appear under SD are standard deviation values.

Let us consider results from EC first, they performed well as expected by showing over 90% accuracy rates in characterising sentences including bare plural, the+singular, and a+singular NPs, respectively. In terms of KK, regarding NP types, there was no significant difference between the results for all NP types including bare plural, the+singular, and a+singular NPs. However, in terms of comparison between groups, in bare plurals, KK showed considerably lower accuracy rates than KE and EC (p value=0.001 and p value=0.001, respectively). Regarding ‘the+singular’ and ‘a+singular’ NPs, they displayed significantly lower accuracy rates than EC (p value=0.001).

As for KE, they showed 100% accuracy rates with bare plural NPs. They performed considerably better with bare plural NPs than the+singular and a+singular NPs (p value=0.002 and p value=0.001, respectively). In comparison with the results of EC, KE showed target-like results in ‘the+singular’ NPs but they did not perform as good as EC in ‘a+singular’ generics by showing statistically significant differences (p value=0.001).

In sum, in characterising generics, KE performed better than KK in all categories, especially in bare plural NPs by showing statistically higher accuracy rates than KK. Furthermore, both KK and KE appeared to have more difficulties with ‘the+singular’ and ‘a+singular’ NPs than bare plurals.

6.1.2 Kind-referring NPs in subject position

This section reports the results for the kind-referring generics in subject position. Recall that, in terms of kind-referring generic NPs¹, generic interpretations originate from the NPs themselves. Therefore, only kind-referring NPs which are bare plurals and definite singulars can be allowed in subject position as generic NPs. ‘A+singular’ NPs are not generic NPs. In addition, definite NPs with plural nouns cannot be allowed for a generic interpretation as they refer to specific entities. Samples of test sentences are presented in example 6.2 below and ‘n’ represents the number of test items.

(6.2) Kind-referring NPs in Subject Positions

a. *Bare Plural NPs in subject position (n=4)*

Kim was bitten by a mosquito in Scotland. Mosquitoes are widespread in Scotland.

b. *Definite singular NPs in subject position (n=4)*

Kim was bitten by a mosquito in Scotland. The mosquito is widespread in Scotland.

c. *Indefinite singular NPs in subject position (n=4)*

Kim was bitten by a mosquito in Scotland. #A mosquito is widespread in Scotland.

d. *Definite singular NPs in subject position (n=4)*

Kim was bitten by a mosquito in Scotland. #The mosquitoes are widespread in Scotland.

Regarding generic NPs, if L2 learners have acquired the English article system related to genericity, they would be able to show correct responses by rejecting singular indefinite generics, ‘a+singular’, as in (6.2-c) and accepting generic NPs

¹In this thesis, the terms ‘kind-referring NPs’ and ‘generic NPs’ will be used interchangeably.

with bare plurals as in (6.2-a) and definite singular NPs, ‘the+singular NPs’, as in (6.2-b). The results of the kind-referring NPs in subject position are reported in Table 6.3 below, which presents mean accuracy rates of each NP including bare plurals, the+singular, and a+singular. Results for the definite plurals are not included in Table 6.3 below, they will be discussed separately in the following section 6.1.5.

Table 6.3: Kind-referring NPs in subject position

KIND-V/SUB	bare plural		the+singular		*a+singular	
	Mean	SD	Mean	SD	Mean	SD
KK(n=44)	63%	0.9	68%	1	62%	0.9
KE(n=33)	84%	0.8	78%	1.1	55%	1.1
EC(n=21)	98%	0.3	96%	0.3	87%	0.6

Note: In the table above, the numbers are mean accuracy rates on each NP categories. The numbers that appear under SD are standard deviation values. In addition, the arrows mark significant differences between subject groups or between NP categories.²


Let us first consider the results obtained from the EC. EC showed high accuracy rates with all three categories including ‘bare plural’ (98%), ‘the+singular’ (96%), and ‘a+singular’ (87%) NPs as expected.

For the KK subjects, their accuracy rates of each category are not statistically different from each other. They showed 60s% accuracy rates in all categories with 63%, 68% and 62%, respectively. The accuracy rates of KK are significantly lower than those of EC in all categories including bare plural (p value=0.001), the+singular (p value=0.001), and a+singular (p value=0.002), respectively.

With respect to the results of KE subjects, they performed equally well with ‘bare plural’ (84%) and ‘the+singular’ (78%) structures. However, they showed significantly lower accuracy rates with ‘a+singular’ NPs than ‘bare plural’ NPs with a mean accuracy rates of 55% (p value=0.001).

Let us now compare the results between subject groups. In terms of the comparison between KK and KE, as Table 6.4 below displays, KE performed significantly better than KK (p value=0.001) only in bare plural structures. KK and KE did not show statistically significant differences between ‘the+singular’ and ‘a+singular’ structures.

Table 6.4: Between group comparison of KK and KE

Between Group	KK	KE	ANOVA Significance
Bare Plural	63%	84%	$p=0.003$
			
The+singular	68%	78%	$P=0.488$
*A+singular	62%	55%	$P=0.905$

Note: In the table above, the numbers are mean accuracy rates for each NP. The arrow marks significant differences between subject groups.

However, in comparison with native controls, KK showed significantly lower accuracy rates than EC in every category, whereas KE showed a significant difference to EC only in the ‘a+singular’ category as shown in Table 6.3 earlier.

As Table 6.3 displays, except the ‘a+singular’ NP category, KE performed more target-like than KK in the ‘bare plural’ and ‘the+singular’ NPs. In the meantime, for bare plurals, KE performed considerably better than KK, thus showing a closer response to EC.

Taken together, the performance of KK and KE were in general different from the performance of EC. Moreover, in terms of accuracy rates, it seems that KE performed more target-like than KK in bare plurals. While statistical analysis does not show differences in ‘the+singular’ forms between KK and KE, as KE did not show any statistical difference from EC in this category, KE showed more target-like results than KK. In addition, in the ‘a+singular’ structure, since KK and KE both showed significantly lower accuracy rates than EC, one can suggest that both subject groups have not yet acquired the linguistic property that ‘a+singular’ form

is not a generic NP, thus is infelicitous in the subject position of kind-requiring verbs.

6.1.3 Generic/Kind-referring NPs in object position

This section presents results for generic NPs in object position. Recall that generic NPs in object position receive constraints in the choice of article depending on the use of preceding verbs. In object position, two constructions were tested; kind-referring/generic NPs after kind-requiring verbs such as ‘*invent*, *exterminate* and kind-referring/generic NPs after stative verbs such as *like*, *hate*.³

Kind-referring NPs after kind-requiring verbs

Let us first recall the constraints on the interpretation of NPs after kind-requiring verbs. According to Carlson and Pelletier (1995), bare plurals are not always accepted as generic after kind-requiring verbs in English by native speakers.

When kind-referring NPs appear after kind-requiring verbs such as *exterminate*, only the definite singular generic form ‘the+singular’ is allowed as generic as shown in (6.3-a). Unlike in the subject position, bare plurals are not always eligible as generic in object position as in (6.3-b) below. In addition, the indefinite article ‘a’ cannot be used in sentences such as (6.3-c) as ‘a+singular’ NP forms are not generic NPs.

(6.3) Kind-referring NPs in object position with kind-referring verbs

a. *Kind-referring NPs in object position with definite article (n=2)*

Tom has never seen a dodo. French settlers exterminated the dodo

b. *Kind-referring NPs in object position with bare plural (n=2)*

Tom has never seen a dodo. #French settlers exterminated dodos.

³The terms ‘Generic NPs’ and ‘Kind-referring NPs’ are used interchangeably in this thesis.

- c. *Kind-referring NPs in object position with indefinite article (n=2)*
 Tom has never seen a dodo. #French settlers exterminated a dodo.
- d. *Kind-referring NPs in object position with definite plural (n=2)*
 Tom has never seen a dodo. #French settlers exterminated the dodos.

The results of kind-referring generics in object position with kind-referring verbs are summarised in Table 6.5 below, which presents the overall mean accuracy rates and standard deviation of generic NPs. Results for definite plurals are not included in Table 6.5 below, they will be discussed separately in Section 6.1.5 later.⁴

Table 6.5: Kind-referring NPs after kind-requiring verbs

KIND-V/OBJ	the+singular		*a+singular	
	Mean	SD	Mean	SD
KK(n=44)	65%	0.674	51%	0.664
KE(n=33)	70%	0.659	56%	0.65
EC(n=21)	95%	0.301	69%	0.147

Note: In the table above, figures are mean accuracy rates for each NP. The arrow marks significant differences between subject groups.

Let us consider the results for ‘the+singular’ forms first. In the ‘the+singular’ forms, EC showed 95% accuracy rates as expected. However, KE and KE both showed lower accuracy rates than EC with 65% and 70% accuracy rates, respectively. In particular, KK showed statistically significantly lower accuracy rates than EC in this category (p value=0.007). Even though the performance of KE was not as good as those of EC, the accuracy rates between KE and EC were not statistically significantly different.

Regarding the ‘a+singular’ structure, EC showed relatively lower accuracy rates than ‘the+singular’ by showing 69% accuracy rates for ‘a+singular’⁵. It is followed

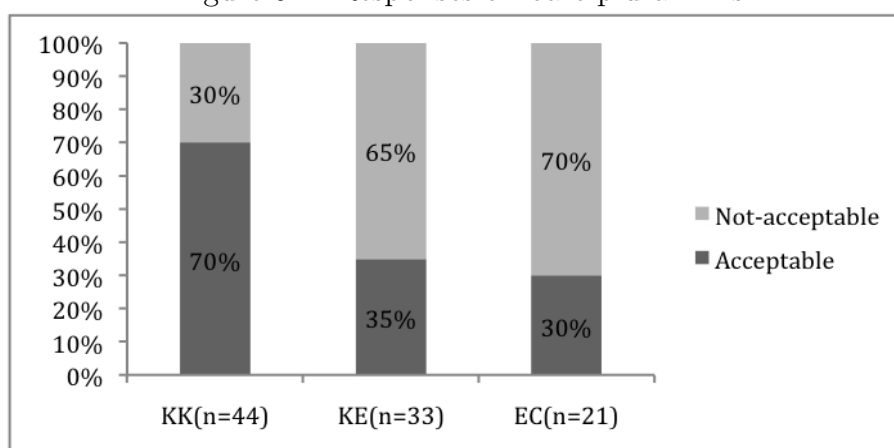
⁴Responses for bare plural NPs will be discussed separately. That is because it is impossible to present accuracy rates for bare plural NPs in object position since they are neither acceptable nor not-acceptable. Thus, response patterns will be investigated regarding responses for bare plurals after kind-requiring verbs.

⁵The relatively lower accuracy rates of EC will be discussed in section 7.1.2

by KE with 56% and KK with 51% accuracy rates. The differences between the groups were not found to be significant.

Let us now consider the responses on the bare plural NPs after kind-requiring verbs. According to the literature, bare plurals are not totally acceptable as generics after kind-requiring verbs by English native speakers (Carlson and Pelletier, 1995). The responses for bare plurals after kind-requiring verbs are summarised in Figure 6.1 below.

Figure 6.1: Responses on bare plural NPs



The horizontal axis represents the subject groups. The vertical axis stands for the percentages of judgment on bare plurals as acceptable or not-acceptable.

Let us first examine how EC performed in this category. EC judged bare plurals as an acceptable form as generics in 30% of the time and judged them as not acceptable in 70% of the time in the object position after kind-requiring verbs.

However, unlike EC responses, KK judged bare plural forms as acceptable as generics in 70% of the time and judged them as not-acceptable as generics in 30% of the time. In the meantime, for KE, they showed quite similar patterns to the EC by judging bare plurals as not-acceptable in 65% of the time and judging them as acceptable in 35% of the time. Thus, it is notable that the response of KE is closer to the EC response.

To sum up, the results for the kind-referring NPs after kind-requiring verbs reveal that KK subjects performed significantly different from EC in the ‘the+singular’ structure. Even though the difference between KK and KE was not significant, it is obvious that the response of KE is much closer to the EC response, because the difference between KE and EC is not considerable. Moreover, considering the behaviour on the bare plural forms after kind-requiring verbs, the acceptance patterns of KE closely follow those of EC.

Kind-referring NPs in object position after stative verbs

This section reports results from generic NPs in object position after stative verbs. As it discussed earlier, the interpretation of NPs in object position receive different restrictions depending on the preceding verb. With ‘stative verbs’, both ‘bare plural’ NPs and ‘the+singular’ NPs can be interpreted as generic without any restrictions. Consider the example of test items in 6.4.

(6.4) Kind-referring NPs in object with stative verbs

- a. *Kind-referring NPs in object position with definite article (n=2)*

Rachael enjoys eating fruit every morning. Especially, she loves the orange.

- b. *Kind-referring NPs in object position with bare plural (n=2)*

Rachael enjoys eating fruit every morning. Especially, she loves oranges

- c. *Kind-referring NPs in object position with indefinite article (n=2)*

Rachael enjoys eating fruit every morning. #Especially, she loves an orange.

- d. *Specific NPs in object position with definite article (n=2)*

Rachael enjoys eating fruit every morning. #Especially, she loves the oranges.

The accuracy rates of kind-referring NPs after stative verbs are summarised in Table 6.6 below. Results for definite plurals are not included in Table 6.6, they will be discussed separately in Section 6.1.5 later.

Table 6.6: Kind-referring NPs after stative verbs

STA	bare plural		the+singular		*a+singular	
	Mean	SD	Mean	SD		
KK(n=44)	80%	0.542	70%	0.697	46%	0.759
KE(n=33)	79%	0.614	61%	0.781	58%	0.712
EC(n=21)	95%	0.301	21%	0.598	86%	0.542

Note: In the table above, figures are mean accuracy rates for each NP. The arrow marks significant differences between subject groups and between different NP forms.

Let us consider the results for bare plurals first, EC showed 95% accuracy rates with bare plurals as expected. Even though KK and KE showed slightly lower accuracy rates than EC by showing 80% and 79%, respectively, the differences between the two learner groups and EC were not statistically significant. In other words, KK and KE performed native-like with bare plurals after stative verbs by correctly judging them as acceptable.

Regarding ‘the+singular’ NPs, the results for each group appeared to be rather diverse. Firstly, EC showed significantly lower accuracy rates with ‘the+singular’ category than both ‘bare plurals’ and ‘a+singulars’ by showing 21% accuracy rates unexpectedly (p value=0.001, p value=0.001, respectively)⁶. However, KK and KE learners both showed significantly higher accuracy rates than EC with the ‘the+singular’ NP structure (p value=0.001, p value=0.001, respectively). The performance of KK and KE on the ‘the+singular’ NP is not statistically different from those of bare plurals. This is a notable phenomenon in that EC showed

⁶The low accuracy rates of EC in this category will be accounted for in Section 7.1.2.

unexpectedly low accuracy rates, and KK and KE performed considerably better than EC on ‘the+singular’ NPs.

Meanwhile, KK performed considerably better with ‘the+singular’ NPs than ‘a+singular’ NPs by showing 70% and 46% accuracy rates, respectively (p value=0.006). However, KE showed no significant differences between any sentence categories.

Let us summarise responses for NPs after stative verbs. While KK and KE both showed high accuracy rates with bare plurals, both KK and KE displayed the reverse response to EC regarding ‘the+singular’. It was rather unexpected in that EC showed very low accuracy rates in this category. However, it is even more interesting that KK and KE showed significantly higher accuracy rates than EC on ‘the+singular’ NPs after stative verbs. We will discuss the results for ‘the+singular’ NPs further in Section 7.1.2 later.

6.1.4 Kind-referring NPs with non well-established nouns

We have seen that not all NPs are compatible with the definite article ‘the’ in terms of generic NPs. Only well-established entities or kinds can be used with the definite article ‘the’ to induce generic meanings (*the Coke bottle* vs. *#the large bottle*). Examples of test sentences are repeated in example 6.5 below.

(6.5) Non well-established entities and use of ‘the’

a. *bare plural (non-well-established nouns) (n=4)*

John tries to eat more oranges in winter. Fresh oranges are good for preventing colds.

b. *definite singular (non-well-established nouns) (n=4)*

John tries to eat more oranges in winter. #The fresh orange is good for preventing colds.

The results for these test sentences are reported in Table 6.7 below. It presents the mean accuracy rates of bare plural NPs and ‘the+singular’ NPs with non-well established nouns. Results for definite plurals are not included in Table 6.7, they will be discussed separately in the following section 6.1.5.

Table 6.7: Non well-established NPs and use of ‘the’

	adj +bare plural		*the+adj+singular	
	Mean	SD	Mean	SD
KK(n=44)	76%	0.998	55%	1.322
KE(n=33)	83%	0.142	56%	0.2
EC(n=21)	98%	0.87	82%	0.68

Note: In the table above, the figures are mean accuracy rates on each NP categories. Arrows mark significant differences between subject groups or between categories.

Let us consider the results of EC first. As was expected, EC showed high accuracy rates of 98% for ‘adj+bare plural NPs’. However, in the ‘the+adj+singular NPs’ category, EC showed relatively lower accuracy rates of 82% for native speakers. In order to examine the rather unexpected results from EC, individual results were examined. It was found that among 21 participants, 3 native speakers accepted ‘the+adj+singular NP’ forms as generic in all test sentences.⁷ Meanwhile, except the 3 participants, the majority of native speakers correctly disallowed the definite article ‘the’ with non well-established nouns.

Meanwhile, both KK and KE showed significantly higher accuracy rates with ‘adj+bare plural’ NPs than ‘the+adj+singular’ NPs (p value=0.002 and p value=0.001, respectively). In addition, both KK and KE performed significantly lower than EC in the category of ‘the+adj+singular’ by showing 55% and 56% accuracy rates, respectively (p value=0.006 and p value=0.016).

⁷Unfortunately, the reason why 3 native speakers accepted ‘the’ with non well-established nouns could not be accounted for. However, considering the results from other tasks including the translation task and untimed grammaticality judgment task, the 3 participants have correct knowledge that ‘the’ cannot be used with non-well established nouns.

The result demonstrates that both KK and KE did not successfully acquire the English property that only well-established entities and kinds can be used with the definite article in generic interpretation.

6.1.5 Responses on definite plural NPs in generics

This section presents results for ‘definite plurals’ in the structures including characterising generics, kind-referring generics in subject position, and kind-referring generics in object position. We have already seen in section 3.2.2 that definite plural forms are not eligible for generic readings. They induce specific meanings rather than the generic interpretation. Consider the examples in 6.6.

(6.6) Definite Plural NPs

- a. *Definite plural NPs in Characterising Generics with well-established nouns (n=4)*
Jane used to have potatoes for dinner when she was admitted to the hospital. #The potatoes are highly digestible.
- b. *Definite plural NPs in Characterising Generics with non-well-established nouns (n=4)*
John tries to eat more oranges in winter. #The fresh oranges are good for preventing colds.
- c. *Definite Plurals in Subject Position of Kind-referring Generics (n=4)*
Kim was bitten by a mosquito in Scotland. # The mosquitoes are widespread in Scotland.
- d. *Definite Plurals in Object Position of Kind-referring Generics after KR_V (n=4)*
Tom has never seen a dodo. #French settlers exterminated the dodos

- e. *Definite Plurals in Object Position of Kind-referring Generics after STV (n=4)*

Rachael enjoys eating fruit every morning. #Especially, she loves the oranges.

The examples in 6.6 include definite plural NPs in each test category. Results for this items are presented in Table 6.8, which presents mean accuracy rates for the NPs.

Table 6.8: Definite plural NPs

the+plural	KK(n=44)	KE(n=33)	EC(n=21)
CG(well-estab.)	*52%	*60%	94%
CG(non-wellestab)	*53%	*61%	91%
KRGS	*51%	*60%	97%
KRGO-KRV	*47%	*55%	89%
KRGO-STV	*42%	68%	99%

Note: In the table above, the numbers are mean accuracy rates for each category. The asterisk marks signify significant differences to the EC results. CG (well-estab.) is an abbreviation for characterising generics with well-established nouns. CG (non-wellestab.) is an abbreviation for characterising generics with non-well established nouns. KRGS stands for Kind-referring generics in subject position. KRGO-KRV means kind-referring generics in object position after kind-requiring verbs. KRGO-STV stands for kind-referring generics in object position after stative verbs.

Let us consider the results from EC first. In ‘the+plural’ sentences, EC showed high accuracy rates in every test structure overall. However, KK showed considerably lower accuracy rates than EC in all test structures. KE seem to show higher accuracy rates than KK in general but statistical analysis showed no significant difference between KK and KE. For KE, they also showed significantly lower accuracy rates than EC in most structures except one structure (KRGO-STV).

Taken together, the results for this category reveal that both learner groups were not successful at acquiring ‘definite plurals’ as specific.

6.1.6 Results on article use in (in)definiteness

This section reports results for article use in definite and indefinite NPs. Recall that (in)definite use of the English article is included in this experiment to examine the ‘Interface Hypothesis’ (Sorace and Serratrice, 2009) as discussed in Section 3.3. The following example 6.7 presents 4 types of test items in relation to (in)indefiniteness.

(6.7) Test items on (in)definite NPs

- a. *'the' in indefinite context (n=3)*
Jane bought a bag last Christmas. #However, she didn't buy the hat.
- b. *'the' in definite context (n=4)*
Jane had a candy after dinner. The candy was too sweet for her.
- c. *'a' in indefinite context (n=4)*
Sam saw a hedgehog in the wood the other day. However, he couldn't find a squirrel.
- d. *'a' in definite context (n=5)*
Sam's cat doesn't listen to him. #However, a cat listens to Sam's wife.

As is exemplified in 6.7, there are 4 types of sentence in this category. Test items included an unacceptable and acceptable instance of 'the' ((6.7-a) and (6.7-b)). In addition, unacceptable and acceptable instance of 'a' ((6.7-c) and (6.7-d)) are included. Mean accuracy rates for these sentences are summarised in Table 6.9 below.

Table 6.9: Responses on definite and indefinite NPs

In/definiteness	*'the' indefinite context		'the' in definite context		'a' in indefinite context		*'a' in definite context	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
KK(n=44)	50%	0.313	86%	0.186	77%	0.233	62%	0.266
KE(n=33)	53%	0.335	95%	0.083	70%	0.184	73%	0.275
EC(n=21)	98%	0.654	92%	0.184	89%	0.191	96%	0.102

Note: In the table above, the numbers represent mean accuracy rates on each category. The arrow marks significant differences between subject groups and between categories.

Let us now discuss the results by test categories. In terms of the incorrect use of 'the' in indefinite contexts, EC performed well by showing 98% accuracy rates as expected. However, KK and KE both showed significantly lower accuracy rates than EC by showing 50% and 53% accuracy rates, respectively (p value=0.001, p

value=0.001, respectively). It is interesting that KK and KE showed significantly lower accuracy rates in rejecting definite article 'the' in indefinite context which shows the overuse of 'the' in indefinite contexts (p value=0.001).

For the correct use of the definite article 'the' in definite contexts, all KK, KE and EC subjects displayed high accuracy rates by showing 86%, 95%, and 92% accuracy rates, respectively. This shows that learners correctly use 'the' in definite contexts, but also tend to overuse it in indefinite contexts.

For the correct use of the article 'a' in indefinite contexts, KK and KE showed 77% and 70% accuracy rates respectively and they are not statistically different from EC. In other words, KK and KE both did not show difficulty in correctly accepting the indefinite article 'a' in indefinite contexts.

In comparison, for the incorrect use of the article 'a' in definite contexts, KK and KE showed 62% and 73% accuracy rates, respectively. According to the statistical analysis, KK showed significantly lower accuracy rates than EC in this category (p value=0.001). We have now seen results on the use of English articles in (in)definite contexts. The results for (in)definite article use will be compared to those for generic article use in Section 7.1.5 later. So far, results for the timed-acceptability have been presented. The next section will display results for the translation task.

6.2 Results of the translation task

This section presents the results of the translation task. In this section, we investigate how Korean learners used articles in characterising generics and kind-referring generics. Moreover, this translation task provides production data whereby we can examine the preference of article use by the L2 Korean speaking adults in different generic sentence types. Sentence types in the translation task are summarised in Table 6.10 below.

Table 6.10: Summary of the test sentence type

Characterising Generic Sentences	
Kind-referring NPs in Subject Position	
Kind-referring NPs in Object Position	with kind-requiring verbs
	with stative verbs
Kind-referring NPs with non well-established entities	

The data from the translation task is examined according to the different sentence types. In order to examine the significance of differences between groups and between categories, both a *Fisher's Exact Test* and *Chi-square test* were employed. The reason for the selection of the statistical tools is discussed in detail in section 4.5.

6.2.1 Characterising generic sentences

This section presents usage rates of NPs in characterising generics. The following example 6.8 is a sample of the test items on characterising generics in the translation task.

(6.8) Characterising generics (n=14)

Sinsa-nun suknyeorulwihae muneul yeoleojunda
 Gentleman-GEN lady door open

(gentleman, open, door, lady)

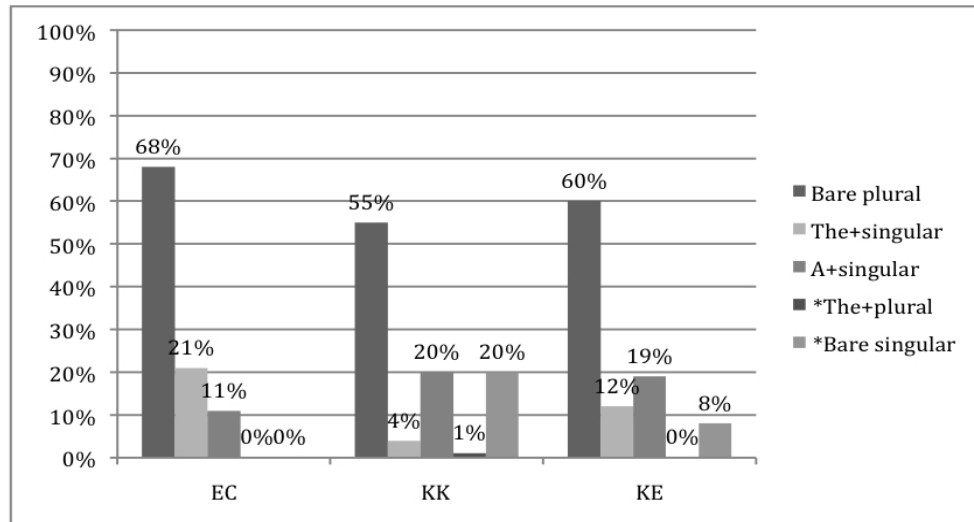
Target Answers

- A gentleman opens doors for ladies. (indefinite article)
- The gentleman opens doors for ladies. (definite article)
- Gentlemen open doors for ladies. (bare plural)

Recall that for the characterising generics, indefinite singulars, definite singulars, and bare plurals can be allowed in the subject position as illustrated in 6.8 above.

This test is employed to elucidate whether the participants provide one of the appropriate articles with nouns in characterising sentences. Furthermore, the preferences for NPs with articles or null article choice are also investigated. Figure 6.2 summarises the usage rates of articles and the null article by the Korean L2 learners and EC in characterising sentences.

Figure 6.2: Article choices in characterising generic sentences



The horizontal axis stands for the subject groups. The vertical axis represents the usage rates of NPs.

Let us first examine the results for the English controls. In characterising generics, EC used *bare plural* NPs most frequently, showing 68% usage rates. It is followed by the use of *the+singular* and *a+singular* NPs with 21% and 11% usage rates, respectively. According to the statistical analysis, ‘bare plural’ forms are significantly preferred to the use of ‘the+singular’ and to ‘a+singular’ forms by EC (p

value<0.0001 and p value<0.0001, respectively). In addition, even though the percentage is not as high as in 'bare plurals', EC used 'the+singular' significantly more than 'a+singular' (p value=0.0016).

In terms of KK subjects, they used 'bare plural' forms most frequently, showing 55% usage rates. It is followed by the use of 'a+singular' and 'bare+singular' forms each with 20% usage rates. In addition, it is revealed the KK showed 4% rates with 'the+singular' and 1% rates with 'the+plural'. According to statistical analysis, KK considerably preferred using 'bare plural' forms to all other NPs including 'a+singular' and 'the+singular' (p value<0.0001 and p value<0.0001, respectively).

KK hardly used 'the+singular' form. In fact, the difference between 'the+singular' and 'a+singular' was also significant. KK considerably preferred using 'a+singular' to 'the+singular' (p value<0.0001). It is also noticeable that KK showed relatively higher usage rates with the incorrect form of 'bare singular' by showing 20% usage rates. It is considerably higher than the use of 'the+singular' (p value<0.0001).

For the KE subjects, they also used 'bare plural' NPs most frequently by showing 60% usage rates. It is followed by the use of 'a+singular' and 'the+singular' forms with 19% and 12% of usage rates, respectively. They also showed 8% usage rates of the incorrect bare singular form. Statistically, 'bare plural' forms are significantly preferred by KE to the use of 'the+singular' and to the 'a+singular' forms (p value<0.0001 and p value<0.0001, respectively). They also preferred using 'a+singular' forms significantly more than 'the+singular' forms (p value=0.014).

Let us now consider the different uses of NPs between subject groups. In terms of *bare plurals*, there was no significant differences between all groups including EC, KK and KE. Considering *the+singular* NPs, EC showed the highest usage rates by showing 21% and this is significantly higher than those of KK and KE

(p value <0.0001 and p value $=0.002$, respectively). In this category, KE showed significantly higher usage rates with 12% than KK with 4% (p value <0.0001).

For the *a+singular*, KK and KE showed significantly higher usage rates with 20% and 19% respectively than EC with 11% (p value <0.0007 p value <0.0076). Differences between KK and KE were not significant in this category. Lastly, in terms of bare singular NPs which are an incorrect form, EC did not use the ‘a+singular’ form at all. However, KK and KE showed 20% and 8% usage rates, respectively. The difference between KK and KE was found to be significant (p value <0.0001).

In sum, the results reveal several interesting responses by different subject groups. KK and KE significantly preferred using bare plurals, as did the English controls. On the other hand, unlike EC, KK and KE used ‘a+singular’ NPs considerably more often than ‘the+singular’ NPs. Most noticeably, despite their high proficiency level, KK and KE both used incorrect form of bare singulars quite frequently. In particular, the proportion of bare singular usage by KK was considerably higher than KE or EC.

6.2.2 Kind-referring NPs in subject position

This section presents data obtained from kind-referring generic NPs in subject position. An example test sentence and possible answers are presented in example 6.9.

(6.9) Kind referring generics in subject position (n=8)

Gamja-nun nammieseo choechoero jaebaedoeossda
Potato-GEN SouthAfrica first cultivated

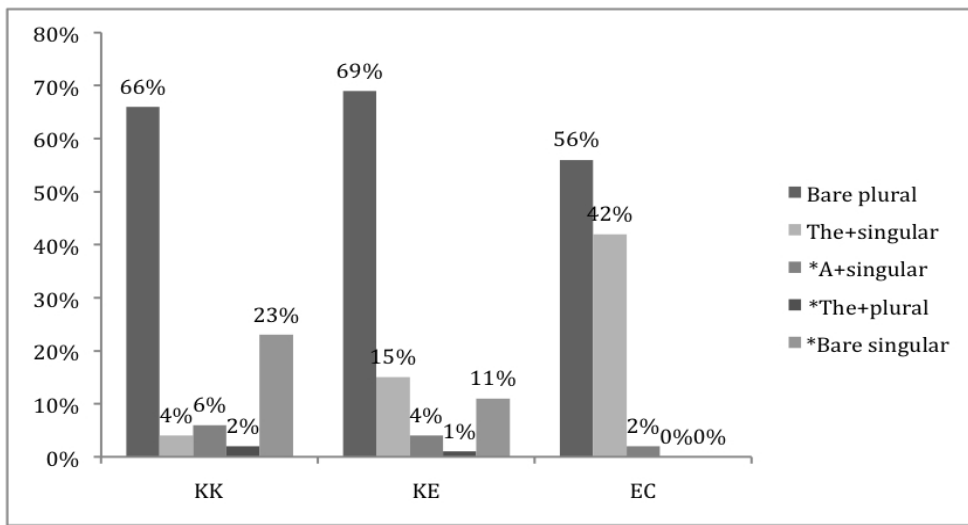
(Potato, first, cultivate, in, South Africa)

Possible Answers

- a. The potato was first cultivated in South Africa (definite article)
- b. Potatoes were first cultivated in South Africa (bare plural)

Recall that for the kind-referring generic NPs, only definite singulars, and bare plurals can be allowed in the subject position as illustrated in 6.9 above. The usage rates of article choices in this category are summarised in Figure 6.3 below.

Figure 6.3: Article choices in kind-referring NPs in subject position



The horizontal axis stands for the subject groups. The vertical axis represents the usage rates of NPs.

Let us examine the responses of EC first. EC showed the highest usage rates of 56% with bare plurals. It is closely followed by the use of ‘the+singular’ NPs with 42% usage rates in this category. However, according to the statistics, the differences between ‘bare plurals’ and ‘the+singulars’ are not significant.

For KK, they showed the highest usage rates with bare plurals with 66% usage rates. Meanwhile, the correct form of ‘the+singular’ form was seldom used with only 4% usage rates. However, the incorrect form of ‘bare singular’ NPs showed high usage rates of 23%. In addition, they showed 6% usage rates with ‘a+singular’ NPs. Considering only the correct responses, statistically, KK showed significantly higher usage rates with ‘bare plural’ than ‘the+singular’ NPs (p value<0.0001).

In terms of KE, they also showed the highest usage rates with bare plurals by showing 69% usage rates. It is followed by ‘the+singular’ which is also a correct form with 15% usage. They also used the incorrect bare singular forms 11% of the time. Regarding only correct responses, KE showed significantly higher usage rates with ‘bare plural’ than ‘the+singular’ NPs (p value<0.0001).

Let us now examine responses between subject groups. In terms of *bare plural* NPs, all groups showed the highest usage rates with bare plural NPs, including the English controls. According to the statistical analysis, KE showed significantly higher usage rates of bare plurals than EC (p value=0.0023). However, in *the+singular* forms, responses between the groups are rather diverse. EC showed the highest usage rates of ‘the+singular’ with 42% usage rates. The usage rates of EC on ‘the+singular’ was significantly higher than the those of KK (4%) and KE (15%) (p value<0.0001 and p value<0.0001, respectively). Furthermore, KE used ‘the+singular’ considerably more than KK (p value<0.0001). In terms of ‘a+singular’ form and ‘the+singular’, all groups rarely used these forms and showed very low usage rates as revealed in Figure 6.3 above. In terms of *bare singular* NPs, EC did not use this form at all as expected. However, KK showed 23% usage rates and KE also showed 11% usage rates in this category. The differences between KK and KE are found to be statistically significant (p value=0.0013).

To summarise, taking into account only correct uses of NPs which are ‘bare plurals’ (66% by KK, 69% by KE) and ‘the+singular’ (4% by KK, 15% by KE) NPs, KE (84%) displayed considerably higher accuracy rates than KK (70%). In addition, the NP distribution of KE is more target-like than KK because KE used ‘the+singular’ forms considerably more frequently than KK. Furthermore, considering the proficiency level of the learner groups, it was surprising that KK and KE used the ungrammatical bare singular forms. In particular, for KK, bare singular form was the form which showed the second highest usage rates.

6.2.3 Kind-referring NPs in object position

This section presents results for kind-referring NPs in object position. As we have tested two different types of verbs in the object position, the results will be presented separately. Firstly, results for the generic NPs after kind-requiring verbs will be displayed. Secondly, results for generic NPs after stative verbs will be presented.

Generic NPs after Kind-requiring Verbs

Let us observe results for the kind-referring generics in object position. The following example in 6.10 presents test item and possible answers in this category.

(6.10) Kind referring generics in object position with kind-referring verbs (n=3)

Shockley-ka transistor-reul balmyeonghaessda.
Shockley-NOM transistor-ACC invented

(Shockly, invent, transistor)

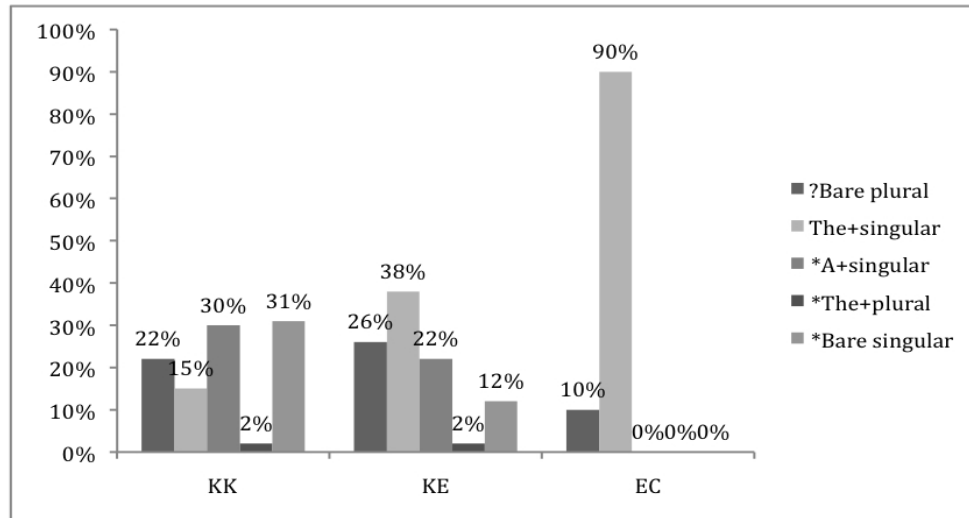
Possible Answers

Shockley invented the transistor (definite article)

#Shockley invented transistors (bare plural)

Recall that in the object position, interpretation of generic NPs are restricted by the preceding verb type. As was discussed previously, only ‘the+singular’ NP forms are allowed to have a generic interpretation after kind-requiring verbs such as *invent* and *exterminate*. It is argued that bare plurals are marginally acceptable in the object position after kind-requiring verbs (Carlson and Pelletier, 1995). The mean usage rates for NPs after kind-requiring verbs are summarised in Figure 6.4.

Figure 6.4: Article choices in kind-referring NPs after KRV



The horizontal axis stands for the subject groups. The vertical axis represents the usage rates of NPs.

Let us consider the results for EC on the generic NPs after kind-requiring verbs first. EC showed 90% usage rates with ‘the+singular’. In addition, they showed only 10% usage rates with ‘bare plural’ NPs. Statistically, they showed significantly higher usage rates with ‘the+singular’ NPs than ‘bare plurals’ (p value<0.0001).

For KK, they showed more a diverse response in the choice of NPs after kind-requiring verbs. ‘Bare singular’ forms are revealed to be the most frequently used forms with 31% usage rates. It is closely followed by ‘a+singular’ NPs with 30% usage rate. In addition, ‘bare plural’ form is used 22% of the time. KK showed only 15% usage rates with the correct form of ‘the+singular’. According to the statistical analysis, they considerably preferred using ‘a+singular’ and ‘bare singular’ to ‘the+singular’ (p value=0.0002, p value=0.0002).

In terms of KE, they used ‘the+singular’ NPs most frequently, showing 38% usage rates. It is then followed by the use of ‘bare plural’ forms with 26% usage rates. They showed 22% usage rates with ‘a+singular’. In addition, ‘bare singular’ NPs were also used 12% of the time. According to the statistical data, KE used ‘the+singular’ forms considerably more than ‘bare plural’ forms (p value=0.024).

Let us compare the results between groups. In terms of *bare plural* which is not a totally acceptable form, EC showed the lowest usage rates of 10%. The usage rates of EC is statistically significantly lower than those of KK and KE. (p value=0.005, p value=0.0009).

Relating to the correct form of ‘the+singular’, EC showed the highest usage rates with ‘the+singular’ NPs by showing 90% usage rates and KE follow EC by showing the most frequent usage rates with ‘the+singular’ with 38%. KK showed the lowest usage rates of 15% with ‘the+singular’ NPs. EC showed considerably higher usage rates than KK and KE (p value<0.0001, p value<0.0001). Additionally, the difference on the use of ‘the+singular’ between KK and KE was found to be significant (p value<0.0001).

Considering ‘a+singular’, while EC did not use this form at all since it is inappropriate, whereas KK and KE showed relatively high usage rates with 30% and 22% usage, respectively. For the *bare singular*, while EC did not use this form at all as expected, KK showed 31% usage rates and KE showed 12% usage rates. KK showed significantly higher usage rates than KE in the use of ‘a+singular’ after kind-requiring verbs (p value <0.0001).

Taken together, KK and KE showed quite a diverse response in this category. While EC used ‘the+singular’ forms predominantly, KK and KE did not exactly follow the EC pattern. Unlike EC, usage rates on ‘bare plural’ NPs were relatively high by KK and KE. Furthermore, it is interesting that for KK and KE the usage rates of the ungrammatical forms of ‘bare singular’ and ‘a+singular’ were relatively high. Meanwhile, it is notable that KE is more target-like than KK in the distribution of NPs, in that they employed ‘the+singular’ forms most frequently like EC, though their usage rates of ‘the+singular’ forms were significantly different. The next section will present results for the generic NPs after stative verbs.

NPs in object position after Stative Verbs

This section displays results for the object position after stative verbs. Consider the example in 6.11 of a test item and possible answers in this category.

(6.11) Kind referring generics in object position with stative verbs (n=3)

John-un goyangi-rul sileohanda
 John-SUB cat-OBJ hate

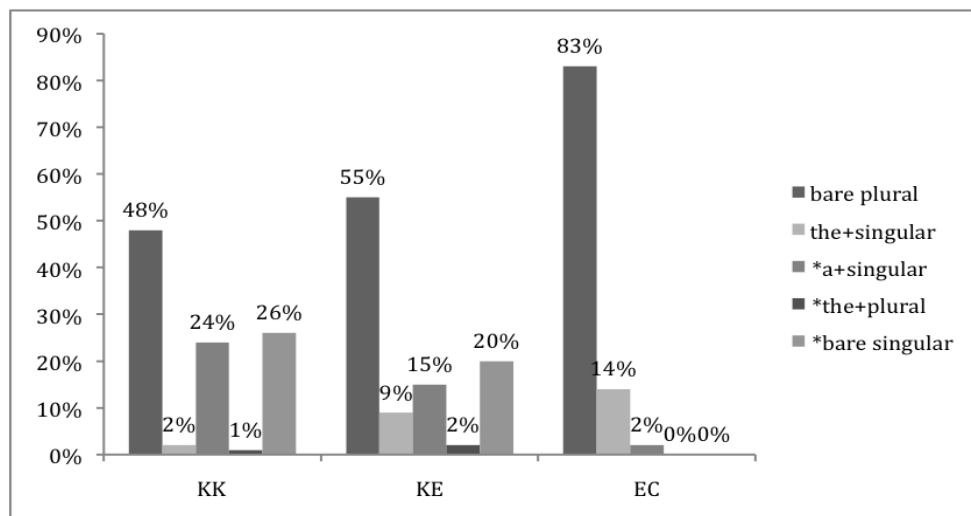
(John, hate, cat)

Possible Answers

- a. John hate the cat(definite article)
- b. John hate cats(bare plural)

Let us recall that kind-referring NPs after stative verbs receive different restrictions from those following kind-requiring verbs. As the possible answers in example 6.11 reveal, both ‘definite singular’ NPs and ‘bare plural’ NPs are allowed after stative verbs such as *hate*. The mean usage rates of NPs after stative verbs are summarised in Figure 6.5 below.

Figure 6.5: Article choices after stative verbs



The horizontal axis stands for the subject groups. The vertical axis represents the usage rates of NPs.

Let us examine the response from EC first. English controls used bare plural NPs most frequently by showing 83% usage rates after stative verbs. It is followed by the use of 'the+singular' with 14% usage rates. On the other hand, 'a+singular' form is hardly used, with 2% usage rates. Statistically, 'bare plurals' are significantly preferred to the 'the+singular' by EC after stative verbs (p value <0.0001).

For the KK group, bare plurals are used most frequently with 48% usage rates, followed by the use of 'bare singular' with 26% usage rates. In addition, 'a+singular' closely follows the use of 'bare plurals' by showing 24% usage rates. However, for 'the+singular' forms, despite this form being one of the correct forms, it is seldom used with just 2% usage rates.

KE also used bare plurals most frequently with 55% usage rates in this category, followed by the use of 'bare singular' with 20% usage rates. 'A+singular' form was also used 15% of the time. Additionally, KE used 'the+singular' form 9% of the time. KE showed considerably higher usage rates of bare plurals than 'the+singular' (p value <0.0001).

Let us compare the usage rates between subject groups. In terms of 'bare plurals', EC showed significantly higher usage rates than KK and KE by showing 83%, 48%, and 55%, respectively (p value <0.0001 , p value <0.0001). In terms of 'the+singular', EC (14%) showed significantly higher usage rates than KK (2%) (p value <0.0001). The responses between KE and EC were not statistically different in this category. However, KE showed significantly higher usage rates than KE (p value $=0.005$). Regarding the use of 'a+singular', while EC showed only 2% usage rates, KK and KE showed significantly higher usage rates than EC by showing 24% and 15% usage rates, respectively (p value <0.0001 , p value $=0.002$). For the 'bare singular', EC did not use this form at all. However, KK and KE showed relatively high usage rates of bare singulars by showing 26% and 20% usage rates, respectively.

Their differences on the usage rates of bare singulars between KK and KE are not statistically significant.

To summarise, the responses of KK and KE were more diverse than EC. Most interestingly, while KK performed significantly worse than EC, KE showed more target-like responses by using both ‘bare plural’s and ‘the+singular’s more frequently than KK after stative verbs. However, KE appeared to use ‘a+singular’ and ‘bare singular’ forms quite often. This phenomena will be discussed in more detail in section 7.2.6 and section 7.2.5 later.

Use of ‘the’ with non well-established nouns

This section shows the results for the kind-referring NPs with not well-established nouns. An example of test items and possible answers is presented in 6.12 below.

(6.12) Non well-established Nouns (n=6)

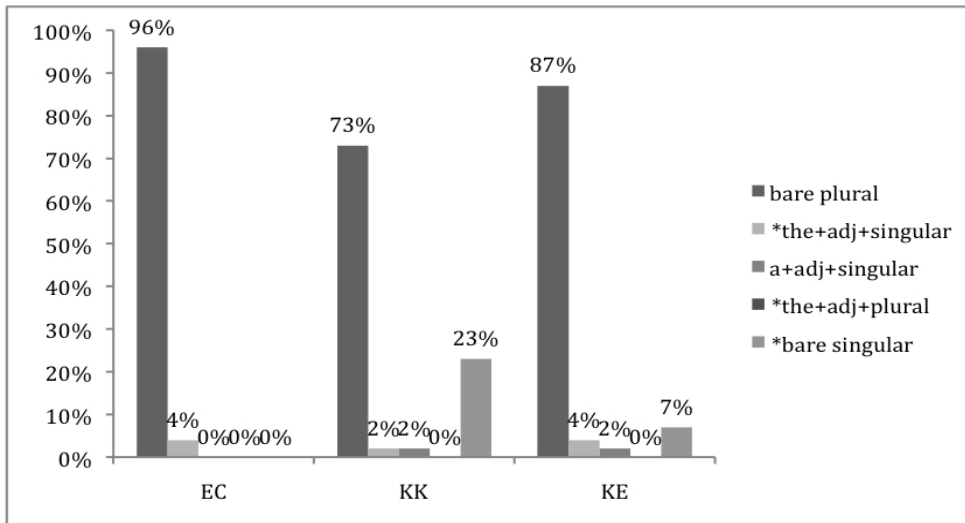
Sinseonhan ttalki-nun dalko massita
Fresh strawberry-GEN sweet-and delicious

(Fresh strawberry, sweet, delicious)

Target Responses: Fresh strawberries are sweet and delicious.

Usage rates of EC, KK and KE on this category items are presented in Figure 6.6.

Figure 6.6: Article choices with non-well established nouns



The horizontal axis stands for the subject groups. The vertical axis represents the usage rates for different NPs.

Let us consider the usage rates of EC first. EC predominantly used bare plural forms, showing 96% usage rates. EC also showed incorrect use of ‘the+adj+singular’ nouns with 4% usage rates.

For KK, they also used ‘bare plural’ forms most frequently with 73% usage rates. It is followed by the use of the ungrammatical form ‘bare singular’ with 23% usage rates.

KE also displayed the highest usage rates with ‘bare plural’ forms with 87% usage. They also used ungrammatical bare singular forms 7% of the time.

In sum, both KK and KE showed target-like response in using bare plural forms most dominantly. On the other hand, the results reveal differences between KK and KE because KK used ‘bare singular’ forms considerably more than KE (p value<0.0001). Furthermore, it is interesting that KK and KE hardly used ‘the’ with non well established nouns (the+adj+singular).

So far, we have investigated results of the production task. The results will be interpreted in more details in the following Chapter 7. The following section presents results of the untimed grammaticality judgment task.

6.3 Results of the untimed grammaticality judgment task

This section displays the results of the untimed grammaticality judgment task (UGJT). As the test sentence categories of this task are identical to those of the timed acceptability judgment task (TAJT), one might expect to see the results of the current task to be compared with those of TAJT. However, as we have seen earlier in section 4.3.7, TAJT is different from UGJT in that test items in the UGJT are not the same as those used in the TAJT and the procedures of the tasks were different from each other. Therefore, as an independent task, results of the current task will be presented independently in the current section. However, a comparison of the results between TAJT and UGJT tasks will be discussed in section 7.3.1 in greater detail.

Data obtained from the UGJT are presented in accordance with the sentence types. The following Table 6.11 summarises the test categories of the untimed grammaticality judgment task.

Table 6.11: Summary of the test sentence type on the UGJT

Characterising Generic Sentences	
Kind-referring NPs in Subject Position	
Kind-referring NPs in Object Position	with kind-requiring verbs
	with stative verbs
Kind-referring NPs with non well-established nouns	
Definite Plural NPs	
Bare Singular NPs	

The following section will present accuracy rates for each category. The next section displays the results of the NPs used in characterising generic sentences.

6.3.1 Results of NPs in characterising generics

Firstly, recall that in characterising generics, a range of NPs such as bare plurals, definite singular and indefinite singular can be allowed in the subject position. *N* below stands for the number of test items.

(6.13) Characterising Generic Sentences

- a. **Characterising generic sentences with bare plural (n=4)**

Dogs are smart.

- b. **Characterising generic sentences with definite article (n=4)**

The dog barks.

- c. **Characterising generic sentences with indefinite article (n=4)**

A dog is a very faithful animal.

If adult Korean learners have acquired characterising generics, they would be expected to exhibit high accuracy rates with all the various appropriate NP forms; bare plurals, definite singular and indefinite singular. Table 6.12 below summarises the mean accuracy rates for the grammaticality of characterising generics.

Table 6.12: Mean accuracy rates for NPs in characterising generics

Characterising/SUB	bare plural		the+singular		a+singular	
	Mean	SD	Mean	SD	Mean	SD
KK(n=44)	96%	0.12	50%	0.36	83%	0.262
KE(n=33)	93%	0.11	64%	0.31	70%	0.344
EC(n=21)	98%	0.08	87%	0.24	94%	0.109

Note: In the table above, the numbers are mean accuracy rates in each category. The arrows mark significant differences between subject groups and between categories.

Let us consider the results for EC first. In characterising generics, EC showed high accuracy rates in every category including ‘bare plural’ with 98%, ‘the+singular’

with 87%, and ‘a+singular’ with 94% accuracy rates. No statistically significant differences were found between different use of the NPs by EC.

KK performed well both in ‘bare plural’ and ‘a+singular’ types by showing 95% and 83% accuracy rates, respectively. However, KK showed significantly lower accuracy rates in ‘the+singular’ sentences with 50% accuracy rates lower than those of ‘bare plurals’ and ‘a+singular’. The difference was found to be statistically significant (p value=0.001, p value=0.001).

KE also showed high accuracy rates with bare plurals with 93% accuracy rates. However, they showed significantly lower accuracy rates with ‘the+singular’ and ‘a+singular’ NPs than bare plurals by showing 64% and 70% accuracy rates, respectively (p value=0.001, p value=0.008).

Let us compare the results between groups. Both KK and KE displayed target-like performance with bare plurals by showing 96% and 93% accuracy rates, respectively. In ‘the+singular’ forms, EC showed the highest accuracy rate of 82%, as expected. For KK and KE, KE showed considerably higher accuracy rates than KK (p value=0.001). In the meantime, while KE showed results that were not statistically significantly different to EC in ‘the+singular’, KK displayed significantly lower accuracy rates than EC (p value=0.003). Considering ‘a+singular’ structures, no statistical differences were found between the groups.

To summarise, all subject groups seemed to correctly judge bare plurals as grammatical in characterising sentences. However, for ‘the+singular’ forms, KK seemed to have more difficulties than KE. For ‘a+singular’, both KK and KE showed high accuracy rates by showing no statistical differences to EC.

6.3.2 Results on kind-referring subject NPs

This section reports results for the kind-referring NPs in the subject position. Recall that in kind-referring generics, only kind-referring NPs including ‘bare plurals’ and ‘definite singulars’ can be used in the subject position.

(6.14) Kind-referring NPs in subject position

- a. Bare plurals in the subject position (n=4)
Dogs are common on Earth.
- b. Definite singulars in the subject position (n=4)
The dog is a popular animal among kids.
- c. Indefinite singulars in the subject position (n=8)
#A white tiger is rare on Earth.
- d. Definite plurals in the subject position (n=2)
#The dodos are not prevalent on Earth.

If the Korean L2 learners have acquired English articles in terms of generics, they should be able to reject kind-referring generic sentences with indefinite articles. The following Table 6.13 summarises mean accuracy rates on the grammaticality judgment of kind-referring generic NPs in subject position. Results for the definite plural are not included in Table 6.13, they will be discussed separately in the following Section 6.3.4

Table 6.13: Mean accuracy rates on NPs in kind-referring generics

KRG/SUB	bare plural		the+singular		*a+singular	
	Mean	SD	Mean	SD	Mean	SD
KK(n=44)	92%	0.17	45%	0.35	40%	0.319
KE(n=33)	90%	0.15	71%	0.48	42%	0.328
EC(n=21)	99%	0.55	92%	0.19	83%	0.155

Note: In the table above, the numbers are mean accuracy rates on each category. The arrow marks significant differences between subject groups and between categories.

Let us consider the results of EC first. In kind-referring generics in subject position, EC showed high accuracy rates as expected.

For KK, while they performed well with ‘bare plurals’ with 92% accuracy rates, they showed significantly lower accuracy rates in ‘the+singular’ and ‘a+singular’ NPs by showing 45% and 40% accuracy rates, respectively. KK showed significantly higher accuracy rates with ‘bare plural’ NPs than ‘the+singular’ and ‘a+singular’ NPs (p value=0.001, p value=0.001, respectively).

KE showed high accuracy rates with ‘bare plurals’ with 90% accuracy rates. Even though their performance on ‘the+singular’ NPs (71%) are slightly lower than ‘bare plural’ NPs (90%), the differences between ‘the+singular’ NPs and ‘bare plural’ NPs were not found to be statistically different. However, in terms of ‘a+singular’, KE performed significantly worse than ‘bare plurals’ by showing 42% accuracy rates (p value=0.001).

Let us now compare results between subject groups. In terms of comparison between subject groups, all groups performed best with ‘bare plurals’ with over 90% accuracy by all groups including EC. However, for the ‘definite singular’ NPs, while KE and EC do not show statistical differences, KK (45%) showed significantly lower accuracy rates than KE (71%) and EC (92%), respectively (p value=0.003, p value=0.001). For the ‘a+singular’ forms, both KK and KE showed significantly

lower accuracy rates than EC with 40% and 42% accuracy rates, respectively (p value=0.001, p value=0.001).

To sum up, while KK and KE showed high accuracy rates with bare plurals, they seem to have problems with ‘the+singular’ and ‘a+singular’ NPs. In particular, in terms of ‘the+singular’, while KE did not show any significant difference from EC, KK performed significantly worse than EC and KE. For the ‘a+singular’ NPs, both KK and KE seemed to undergo difficulties.

6.3.3 Results on kind-referring object NPs

As we have already seen from previous tasks (the Timed Acceptability Judgement Task and Translation Task), the interpretation of generic NPs in object position receives restrictions in accordance with preceding verbs. Therefore, results on the generic NPs in object position will be presented in two sections. Firstly, results on the kind-referring generic NPs after kind-requiring verbs will be discussed. It will be followed by the results on the generic NPs after stative verbs.

Kind-referring NPs after Kind-requiring verbs

Firstly, let us consider the results on kind-referring NPs following kind-referring verbs. The example 6.15 presents an example of test items in this category.

(6.15) kind-referring NPs in object position with kind-referring verbs

- a. Definite singular (n=4)

God created the dog.

- b. Bare plural (n=4)

? French settlers exterminated dodos.

- c. Indefinite singular (n=4)
#Dogs doesn't like a fish.
- d. Definite plural (n=2)
#French settlers did not exterminate the dodos.

Table 6.14 below shows the mean accuracy rates of kind-referring NPs in object position with kind-referring verbs. Results for bare plurals will be presented separately in the following Figure 6.7. Results for the definite plurals are not included in Table 6.14, they will be discussed separately in the following section 6.3.4

Table 6.14: Mean accuracy rates on object NPs after kind-requiring verbs

	the+singular		*a+singular	
	Mean	SD	Mean	SD
KK(n=44)	45%	0.35	40%	0.305
KE(n=33)	72%	0.499	48%	0.353
EC(n=21)	92%	0.144	70%	0.218

Note: In the table above, the numbers are mean accuracy rates for each category. The arrow marks significant differences between subject groups and between categories.

Let us consider the results on ‘the+singular’ NPs by EC first. EC showed high accuracy rates of 92% with ‘the+singular’ as expected. However for ‘a+singular’, EC showed relatively lower accuracy by showing 70% accuracy rates. We will return to this rather unexpected results with an in-depth discussion in section 7.1.3 later.

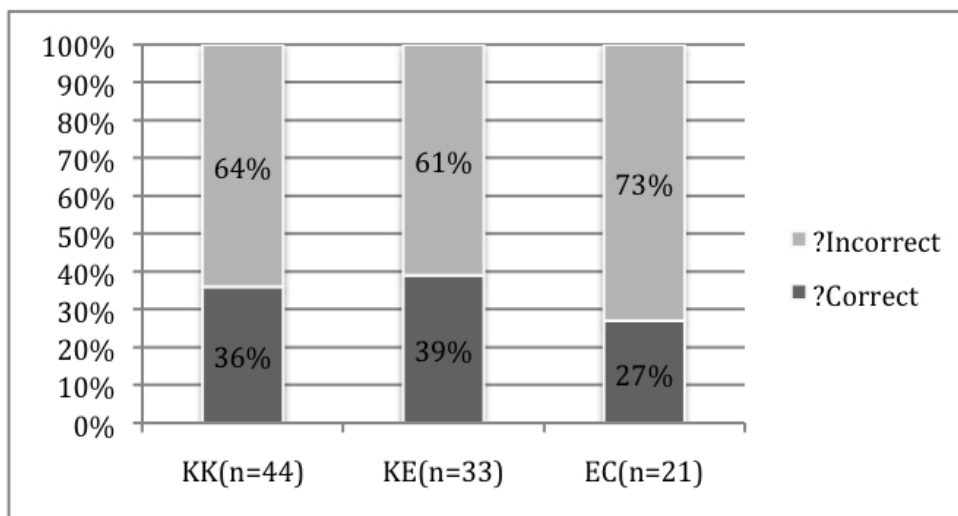
For KK learners, they showed similar accuracy rates in ‘the+singular’ and ‘a+singular’ NPs with 45% and 40% accuracy rates, respectively. On the other hand, KE showed considerably higher accuracy rates with ‘the+singular’ NPs than ‘a+singular’ NPs (p value=0.043).

Let us now compare results between subject groups. For the results on ‘the+singular’ NPs first. EC showed high accuracy rates of 92% and KE showed slightly lower accuracy rates than EC by showing 72% accuracy rates. The differences between KE

and EC was not statistically significant. However, KK showed significantly lower accuracy rates of 45% with ‘the+singular’ NPs than KE and EC. (p value=0.005, p value=0.001). Considering ‘a+singular’ NPs, accuracy rates on ‘a+singular’ NPs by KK and KE are lower than those of EC. In particular, KK showed considerably lower accuracy rates than EC with ‘a+singular’ NPs (p value=0.001).

Let us now examine how subjects behaved with bare plurals after kind-requiring verbs. Bare plurals are not totally accepted after kind-requiring verbs by English native speakers (Carlson and Pelletier, 1995). Figure 6.7 below summarises the accuracy rates on bare plurals by KK, KE, and EC. The ‘Incorrect’ and ‘Correct’ in the table below is participants’ responses on bare plural NPs after kind-requiring verbs.

Figure 6.7: Mean accuracy rates on bare plural NPs after kind-requiring verbs



Note: The horizontal axis represents the subject groups. The vertical axis stands for the percentages of bare plurals as correct or not-correct in generic interpretation.

Let us first consider how EC responded with bare plurals after kind-requiring verbs. For EC, 27% of native speakers judged bare plurals after kind-requiring verbs as correct and 73% judged them as incorrect.

In terms of KK and KE, the responses of KK and KE were not statistically different from EC. Overall, KK and KE both judged that using bare plurals after kind-requiring verbs is ‘incorrect’ in higher proportions. KK and KE both considerably preferred incorrect readings of bare plurals after kind-requiring verbs than correct readings of them, thus following EC-like patterns.

Taken together, KK seem to have difficulties with both ‘the+singular’ and ‘a+singular’ after kind-requiring verbs. However, KE outperformed KK in these categories. Also, in relation to bare plurals, KE showed more target-like responses than KK.

Kind-referring NPs after Stative verbs

Let us present results for the generic NPs after stative verbs. As example 6.16 show, ‘definite singulars’ as well as ‘bare plurals’ are allowed as generic after stative verbs.

(6.16) kind-referring NPs in object position after stative verbs

- a. Definite singular (n=3)
Dogs like the apple
- b. Bare plural (n=5)
Dogs do not like bananas
- c. Indefinite singular (n=4)
#Cats like a fish
- d. Definite plural (n=2)
#Dogs like the fishes

If L2 learners have acquired such a property, they should be able to judge sentences with bare plurals and definite singular as grammatical, and sentences with indefinite singular as ungrammatical. Table 6.15 below summarises mean accuracy rates for NPs in object position after stative verbs. Results for definite plurals are not

included in Table 6.15, they will be discussed separately in the following Section 6.3.4

Table 6.15: Mean accuracy rates of generic NPs after stative verbs

KIND-V/STA	bare plural		the+singular		*a+singular	
	Mean	SD	Mean	SD	Mean	SD
KK(n=44)	89%	0.155	32%	0.383	51%	0.316
KE(n=33)	84%	0.248	39%	0.392	56%	0.343
EC(n=21)	96%	0.717	36%	0.244	59%	0.32

Note: In the table above, the numbers are mean accuracy rates for each category. The arrow marks significant differences between subject groups and between categories.

Let us consider the results of EC first. EC showed high accuracy rates with 97% but they showed unexpectedly lower accuracy rates with ‘the+singular’ and ‘a+singular’ NPs by showing 36% and 59% accuracy rates, respectively (p value=0.001, p value=0.002). We will come back to these low rates in Section 7.1.2 and 7.1.3.

For KK, they showed target-like results with bare plurals by showing 89% accuracy rates. In the meantime, they also showed considerably lower accuracy rates with ‘the+singular’ and ‘a+singular’ NPs than those of ‘bare plurals’ with 32%, and 51% accuracy rates, respectively (p value=0.001, p value=0.006).

KE learners showed similar patterns to KK. They showed target like results with bare plurals after stative verbs by presenting 84% accuracy rates. However, in ‘the+singular’ and ‘a+singular’ NPs, KE showed considerably lower accuracy rates than those of ‘bare plurals’ (p value=0.001, p value=0.001).

Overall, it is interesting that all participant groups including EC, performed considerably better in bare plural NPs than ‘the+singulars’ and ‘a+singulars’. Therefore, each subject group showed fairly similar patterns in deciding the grammaticality of the different NPs.

6.3.4 Results on definite plural NPs

This section presents results for definite plural NPs tested on the untimed grammaticality judgment task. As we have already seen in Section 3.2.2, definite plural NPs are not kind-referring. The following sentences in 6.17 show examples of test items in this category.

- (6.17) a. Definite plurals in the subject position (n=2)
 #The dodos are not prevalent on Earth.
- b. Definite plural in the object position after kind-requiring verbs (n=2)
 #French settlers did not exterminate the dodos.
- c. Definite plural in the object position after stative verbs (n=2)
 #Dogs like the fishes

Mean accuracy rates in this category are summarised in Table 6.16 below.

Table 6.16: Mean accuracy rates for definite plural NPs

Definite Plurals	KRGs		KRGo-KRV		KRGo-STV	
	Mean	SD	Mean	SD	Mean	SD
KK(n=44)	56% ↑	0.21	49% ↑	0.431	50% ↑	0.134
KE(n=33)	78% ↓	0.25	66% ↓	0.475	67% ↓	0.315
EC(n=21)	97% ↓	0.41	89% ↓	0.135	87% ↓	0.35

Note: In the table above, the numbers are mean accuracy rates for each category. The arrow marks significant differences between subject groups and between categories. KRGs represents Kind-Referring Generics in Subject position. KRGo-KRV means Kind-Referring Generics in Object position after Kind-Requiring Verbs. KRGo-STV means Kind-Referring Generics in Object position after Stative Verbs

Let us consider the results of EC, they showed high accuracy rates in all categories with definite plural NPs. For KK, they displayed considerably lower accuracy rates

than EC in all categories (p value=0.001, p value=0.001, p value=0.001, respectively). For KE, they showed relatively lower accuracy rates than EC in all categories but no statistical differences between KE and EC were found. To sum up, it appears that both KK and KE did not successfully acquire that ‘definite plural’s are not kind-referring. However, overall KE outperformed KK with ‘the+plural’ NPs in all categories. The results will be compared to those from the TAJT later in section 7.1.4.

6.3.5 Results on non-well-established entities and uses of NPs

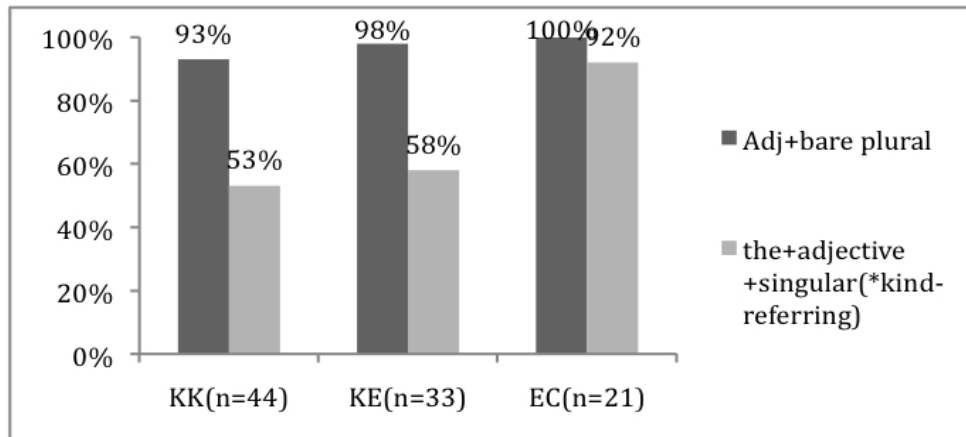
This section displays results for non-well established nouns and their interpretation as generic. It has been expected that not all NPs are compatible with the definite article ‘the’ in terms of generic NPs. Only well-established entities or kinds can be used with the definite article ‘the’ to induce generic meanings (*the Coke bottle* vs. *#the large bottle*). The examples in 6.18 present sample test items in this category.

(6.18) Well-established entities and generic NPs

- a. *bare plural(non-well-established nouns) (n=6)*
Fresh strawberries are sweet and delicious.
- b. *definite singular(non-well-established nouns) (n=6)*
*#*The fresh strawberry is sweet and delicious.

The results are reported in Figure 6.8 , which presents the mean accuracy rates of the generic NPs.

Figure 6.8: Kind-referring NPs with not well established NPs



The horizontal axis represents for the subject groups. The vertical axis represents the mean accuracy of NPs.

In relation to the ‘adjective + bare plural’ structure, EC, KK and KE all show high accuracy rates of 100% , 93% , and 98%, respectively. However, with the ‘the+adj+singular’ structure, EC performed better by showing 92% accuracy rates in this category. However, KK and KE seem to have difficulties with this category. Both KK and KE subjects showed considerably lower accuracy rates with ‘the+adj+singular’ structure than ‘adjective + bare plural’ structure by showing 53% and 58% accuracy rates, respectively (p value=0.001, p value=0.001).

In terms of a between subject group analysis, no differences were found in ‘adj+bare plural’ structures among the groups including EC. However, regarding the the+adj+singular’ NPs, KK and KE performed significantly worse than EC (p value=0.001, p value=0.001).

To sum up, the results reveal that KK and KE subjects have difficulties rejecting ‘definite singular NPs’ with non-well established entities.

6.3.6 Results on bare singular NPs

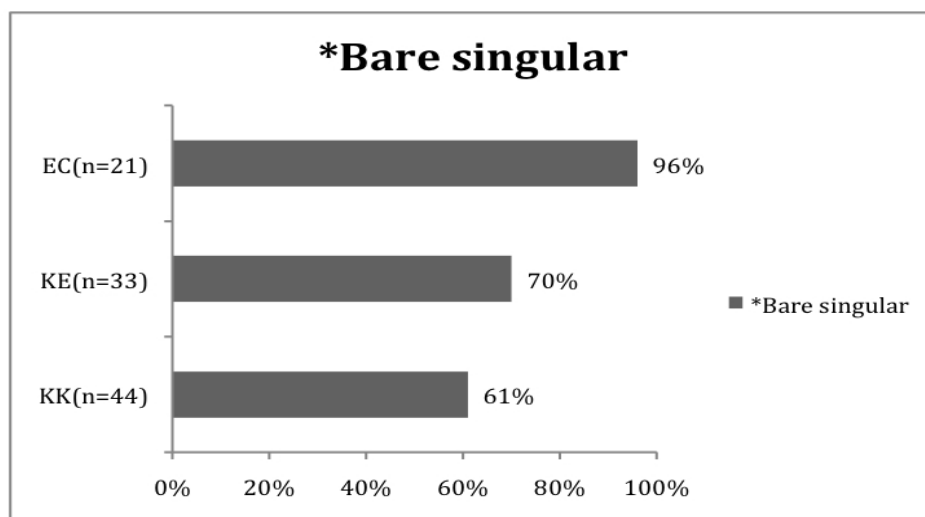
This section reports results for bare singular NPs. Consider the examples of the test sentence in 6.19.

(6.19) **Bare singular NPs**

*Dog is a faithful animal.

The results for the bare singular NPs are summarised in Figure 6.9 below.

Figure 6.9: Bare singular NPs



Considering bare singular NPs which are not grammatical, EC showed high accuracy rates of 96% in rejecting this category as expected. However, KK and KE both displayed considerably lower accuracy rates than EC with 61% and 70%, respectively (p value=0.001, p value=0.007).

6.3.7 Summary of the results

In this chapter, results from the three experimental tasks were reported. This chapter presented the results of the timed acceptability judgment task, the translation task, and the untimed grammaticality task. In the timed-acceptability judgment task, we observed results for different types of generic sentences: characterising generics, kind-referring NPs in different syntactic positions, and article use in (in)definite contexts. Both KK and KE learners generally showed high accuracy rates with 'bare plural' generics and KK and KE showed relatively low accuracy

rates with ‘the+singular’ and ‘a+singular’ generics. Furthermore, it was observed that regarding (in)definite uses of English articles, both KK and KE seem to have knowledge of the distinction between the use of the definite article ‘the’ and the indefinite article ‘a’.

In the translation task, the patterns of article use by English controls and subject groups were investigated. Usage patterns of English articles by EC are found to be different in different types of genericity including characterising generics, kind-referring generics in subject position, and kind-referring generics in object position after kind-requiring verbs and stative verbs, respectively. According to the results from KK and KE, the usage patterns of KE were more target-like than those of KK in all categories. The results of KK and KE revealed several interesting points. For example, in subject position, while KK and KE significantly preferred using ‘bare plurals’ like the English controls, KK and KE showed unexpected results by using ‘a+singular’ NPs considerably frequently than ‘the+singular’ NPs. Most noticeably, despite their proficiency level, KK and KE used incorrect form of bare singulars. In terms of object position, KK and KE showed quite diverse responses in this category. Whereas EC used ‘the+singular’ form in most of the time, KK and KE employed bare plurals quite often after kind-requiring verbs. Furthermore, even the usage rates of ungrammatical forms of ‘bare singular’ and ‘a+singular’ were quite high. In the meantime, it is notable that KE are more target-like than KK in the choice of NPs in most of the test categories.

Regarding the untimed grammaticality judgment task, accuracy rates on English generics in several categories including characterising generics, kind-referring NPs in different syntactic positions with kind-requiring verbs and stative verbs were observed. EC, KK, and KE all seemed to performed best with bare plurals in this task regardless of the test categories. However, for ‘the+singular’ NPs and ‘a+singular’ NPs, KK and KE appeared to have difficulties on deciding the grammaticality of

them. It is notable that in most categories, KE outperformed KK and KE showed more target like responses than KK.

In the following chapter, the results presented in this chapter will be analyzed and recapitulated in light of the hypotheses of this study. Furthermore, the implications of the findings will be discussed.

Chapter 7

Interpretation and Discussion

In the current chapter, results observed from Chapter 6 will be recapitulated and discussed regarding the hypotheses of the current research. The current research examines the interlanguage of Korean speaking learners regarding English article use. The main purpose of the current study is to investigate 1) if Korean learners can access Universal Grammar, 2) if they show L1 transfer, 3) the role of naturalistic input regarding acquisition of English generic articles, and 4) if the Interface Hypothesis can account for the non-target like responses of L2 learners in the acquisition of English articles. In this chapter, the results obtained from three tasks (a Timed Acceptability Judgment Task, a Translation Task, and an Untimed Grammaticality Judgment Task) are interpreted and discussed with respect to the research questions, and possible explanations for the results are also presented. The results of the Korean learners will be compared to the native control's responses. Lastly, Ionin et al (2011)'s research on the acquisition of English generic articles is compared with the results obtained from the current research, because the research of Ionin et al (2011) is one of the few studies on the generic use of English articles. The results of the current research provide new insights for interpretation of the study of Ionin

et al. (2011). Therefore, based on the results from the current research, the results of the previous study of Ionin et al. (2011) is reinvestigated and revisited.

This chapter is organised as follows. First, results obtained from the timed acceptability judgment task are analysed and discussed in section 7.1 and it is followed by the interpretation of the data obtained from the translation task in Section 7.2. In section 7.3, a comparison of the results between the implicit task and explicit task is discussed. Then, data obtained from the judgment tasks and production task is compared in section 7.4. In section 7.5, the findings of the current research will be compared to the previous research on generic use of English articles by Ionin et al. (2011). I will summarise the major findings of the research in section 7.6. Finally, section 7.7 presents a summary of the major findings of the dissertation with implications for future research.

7.1 Discussion of the timed-acceptability judgment task

This section will discuss results obtained from the timed acceptability judgment task in relation to the hypotheses and predictions of the study.

7.1.1 Discussion on ‘bare plurals’

Hypotheses & Predictions

Regarding bare plurals, the prediction is that based on the influence of the learners’ L1 and most frequent L2 input, Korean learners are expected to show the highest accuracy rates with bare plural NPs in terms of genericity. It was argued that bare plural forms in L2 input are the most frequent, compared to other forms such as ‘the+singular’, ‘a+singular’. Therefore, it is necessary to dissociate the influence of

L1 from input frequency. One way to disentangle L1 influence from input frequency is to examine the results on bare plurals in object position after kind-requiring verbs (KRGO-KRV). In addition, the accessibility of Universal Grammar (UG) to adult Korean learners can be tested by investigating the results on bare plurals in object position after kind-requiring verbs (KRGO-KRV).

In this sentence category, bare plurals are marginally acceptable to native English speakers (Carlson and Pelletier, 1995). It means that L2 input is not likely to include instances of bare plurals in object position after KRV. Therefore, there is no way that learners will learn that such a category is in fact only marginally acceptable in English, thus there is a poverty of stimulus situation from L2. In addition, in Korean, bare plurals are allowed as generics after KRV, thus poverty of stimulus from L1 as well. Therefore, there is no a priori reason for Korean learners to disallow bare plurals in the sentence type KRGO-KRV, unless they are governed by Universal Grammar.

Consequently, if the learners follow a native-like pattern in the sentence type KRGO-KRV by not over accepting *bare plurals*, it would suggest that learners are sensitive to semantic constraints represented in UG. Reversely, if Korean L2 learners over-accept bare plurals as generic, thus accept bare plurals even in KRGO-KRV, it would provide evidence of L1 transfer. That is because there is no a priori reason for the learners to accept bare plurals unless they follow their L1 property.

Discussion

Let us first consider the results of bare plurals by the KK. Table 7.1 shows the accuracy rates of KK's responses on bare plurals, the+singulars and a+singulars in different types of generic sentence including CG, KRGS, KRGO-KRV, and KRGO-STV(CG=Characterising Generics, KRGS=Kind-Referring Generics in Subject po-

sition, KRGO-KRV=Kind-Referring Generics in Object position after Kind-Requiring Verbs, KRGO-STV=Kind-Referring Generics in Object position after Stative Verbs).

Table 7.1: Accuracy rates of NPs with CG, KRGS, KRGO-KRV, and KRGO-STV by KK

KK	BP	The	A
CG	79%	60%	71%
KRGS	63%	68%	62%
KRGO-KRV	N/A ¹	65%	51%
KRGO-STV	80%	70%	46%
Average	74%	65%	58%

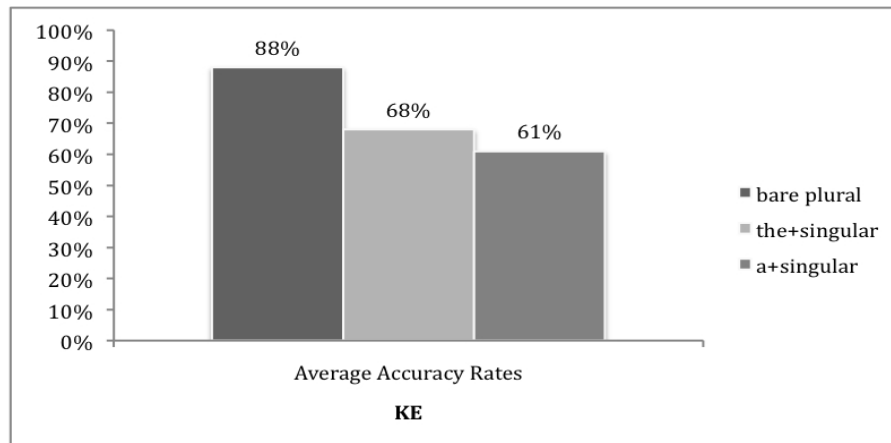
Table 7.1 shows the mean accuracy rates for each NP in all test categories by KK. In order to compare performance with bare plurals to other NPs such as ‘a+singular’ or ‘the+singular’, average accuracy rates are calculated by collapsing values from all test categories.¹

As Table 7.1 displays, KK showed the highest accuracy rates with bare plural NPs. The response of KK supports the prediction that learners would show higher accuracy rates with bare plural NPs than other NPs such as ‘the+singular’ and ‘a+singular’ NPs, based on the most frequent input of ‘bare plural’s and L1 transfer. In fact, statistically significant differences were found between the average accuracy rates and higher accuracy rates in ‘bare plurals’ and ‘a+singular’ NPs (p value=0.0007). However, according to the statistical analysis (ANOVA), the accuracy rates for ‘the+singular’ is not statistically significantly lower than ‘bare plurals’.

KE also showed similar responses to KK. Consider Figure 7.1 below for the responses of KE.

¹In Table 7.1, The value in KRGO-KRV is not available since bare plurals are not exactly acceptable nor un-acceptable. Therefore, bare plurals will be discussed separately afterwards.

Figure 7.1: Average accuracy rates of each NP by KE



As shown in Figure 7.1, KE showed the highest accuracy rates with bare plurals among all NPs including ‘the+singular’ and ‘a+singular’ NPs. Statistically, KE showed considerably higher accuracy rates with bare plural NPs than ‘the+singular’ and ‘a+singular’ NPs (p value=0.0001, p value=0.001, respectively).

Taken together, the highest accuracy rates on bare plurals displayed by KK and KE confirm the prediction that learners would display the highest accuracy rates with this form due to the most frequent input and L1 influence. Now, let us consider the results for bare plurals in object position and investigate whether learners show evidence of UG accessibility.

Bare plurals in object position

As we have seen earlier in section 2.1.4, bare plural NPs in object position are not always accepted as generic by English native speakers. The interpretation of bare plurals as generic is subject to the semantic features of preceding verbs. For instance, stative verbs such as *like* allow a generic interpretation in combination with following bare plural NPs. However, kind-requiring verbs such as *exterminate* do not allow a generic reading of following bare plural NPs. As discussed previously, Korean does not have such a subtle semantic restriction from the preceding verbs in the choice of NPs. Furthermore, L2 English input does not saliently tell learners that

bare plurals are not acceptable after kind-requiring verbs as generic, thus showing poverty of stimulus from both L1 property and L2 input. Consequently, there is no a priori reason for L2 learners to reject bare plural as generic after kind-requiring verbs unless they are constrained by UG.

Table 7.2 below compares the response of KK and KE on bare plurals in object position. The numbers represent percentages of learners' responses on the acceptability of bare plurals after kind-requiring verbs and stative verbs. In order to compare the results of bare plurals for different types of preceding verbs, Table 7.2 shows results on bare plural NPs after the stative verbs as well as those after kind-requiring verbs.

Table 7.2: Learners' responses on bare plurals in KRGO-KRV&STV

Responses on <i>Bare Plurals</i>	KK		KE		EC	
	KRV	STV	KRV	STV	KRV	STV
Not-accepted	30%	20%	65%	21%	70%	5%
Accepted	70%	80%	35%	79%	30%	95%

Let us consider the EC results first. For bare plurals after stative verbs, EC judged them as acceptable as generic in 95% of the time. However, after kind-requiring verbs, bare plurals are not always judged to be acceptable as generic as shown in Table 7.2 above. They only accepted bare plural as generic 30% of the time after kind-requiring verbs (KRV). In other words, they judged bare plurals are not acceptable as generic 70% of the time.

Let us now examine how the learner groups performed in this category. For KK, in terms of bare plurals after stative verbs, they appeared to show target-like responses by accepting the bare plurals 80% of the time. On the other hand, after kind-requiring verbs, KK showed reverse responses to EC by judging bare plurals as acceptable as generics in 70% of the time. For KE, they also followed target-like patterns with bare plurals after stative verbs. In addition, for bare plurals

after kind-requiring verbs, they showed target-like patterns by showing a higher proportion of judgements for not-acceptable (65%) than acceptable (35%).

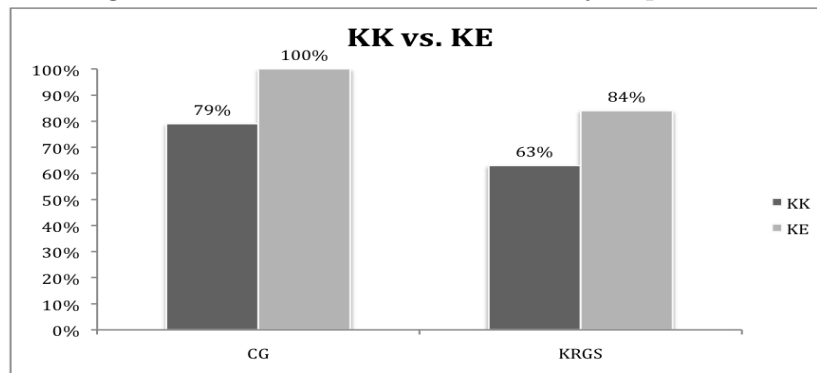
More target-like performance by KE than KK

As we have seen from Table 7.2, the KE group showed more target-like responses than KK after KRV by accepting bare plurals as acceptable only 35% of the time in the KRGO-KRV category. In the meantime, they still showed high acceptability rates of bare plurals after STV by correctly accepting bare plurals as generic. Taken together, the results from KK suggest a lack of accessibility to Universal Grammar. That is KK who do not seem to show any sensitivity to the choice of NPs regarding preceding verbs. It can be interpreted that KK learners might have judged bare plurals as acceptable in both object positions (KRV and STV) as they would do in their L1 without any restriction from preceding verb features. Thus, the results suggest the role of L1 transfer in KK, at least, for English article acquisition. On the other hand, for KE, it appears that they follow target-like patterns despite the poverty of stimulus problem by not over-accepting bare plurals after kind-requiring verbs, thus lending evidence to UG accessibility. Consequently, the considerable difference between KK and KE reveals the facilitative role of ample naturalistic input in adult second language acquisition.

Furthermore, by comparing the results of bare plurals in the subject position by KK and KE, one can further find a suggestive role of naturalistic input. Consider Figure 7.2 below for the accuracy rates on bare plurals in the subject position by KK and KE.

As Figure 7.2 displays, KE displayed significantly higher accuracy rates than KK with both characterising and kind-referring generics. It is possible that as KE are exposed to more positive naturalistic input than KK, their high performance can be attributed to naturalistic input.

Figure 7.2: KK vs. KE on BP in subject positions



Recall the prediction that learners could perform best with bare plurals due to L1 influence and most frequent input of bare plurals. While admitting the influence of L1 as discussed above, this result also suggests a strong role of naturalistic input. The higher accuracy rates of KE compared to KK can suggest that the Korean learners are not heavily dependent on L1 transfer. In other words, if the learners were only dependent on L1 transfer, KK could have shown equally high accuracy rates regardless of different type of input.

7.1.2 Interpretation on ‘the+singular’ NPs

This section discusses the results for ‘the+singular’ NPs and, as discussed below, it is expected that Korean L2 learners would show more difficulties with ‘the+singular’ NPs than bare plural NPs because Korean is an articleless language. ‘A+singular’ NP forms are expected to also be problematic for L2 learners whose L1 lack articles but discussion for ‘a+singular’ NPs will be discussed separately in Section 7.1.3. The current section will present discussion on ‘the+singular’ NPs.

Hypotheses & Predictions

Two predictions were made in terms of the acquisition of the ‘the+singular’ NPs, which are repeated below.

Firstly, it is predicted that Korean learners would have more difficulties with ‘the+singular’ forms compared to bare plural forms. That is due to the fact that Korean is an articleless language and their generic NP form does not require any articles, as we have seen in Section 2.2. If Korean adult learners have successfully acquired ‘the+singular’ as generics, they would correctly judge them as acceptable in all structures, including CG (Characterising Generics), KRGS (Kind-Referring Generics in Subject position), KRGO-KRV (Kind-Referring Generics in Object position after Kind-Requiring Verbs), and KRGO-STV (Kind-Referring Generics in Object position after Stative Verbs).

Secondly, ‘the+singular’ generic forms require the nouns to be well-established entities or kinds. Thus, the test items included well established NPs as well as non-well established NPs in ‘the+singular’ category. The prediction is that, if they are able to acquire the semantic restriction that only well-established entities or kinds are compatible with ‘the’ in terms of genericity in English, they will correctly disallow ‘the+non-well established noun’ forms. However, reversely, if Korean L2 learners are not sensitive to the semantic restriction on the choice of nouns with ‘the’, they are expected to over-accept the definite article ‘the’ with non-well established entities.

Discussion

Let us consider the first prediction, which investigates whether Korean speaking learners whose native language does not have articles can acquire generic use of ‘the+singular’ NPs. Table 7.3 summarises the accuracy rates on ‘the+singular’ by KK and KE subjects.

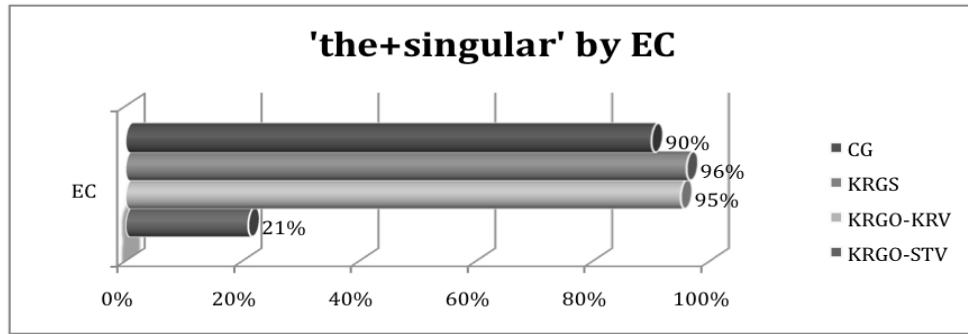
According to the results with ‘the+singular’ NPs by KK and KE, accuracy rates in each category fall to between 60% and 70%. The accuracy rates are not statistically different from each other in all test categories. In the meantime, it is EC who showed

Table 7.3: Accuracy rates on ‘the+singular’ by KK and KE

the+singular	Subject Position		Object Position	
	Characterising Generics	Generic NPs	Generic NPs after KRV	Generic NPs after STV
KK	60%	68%	65%	70%
KE	75%	78%	70%	61%

unexpected results with ‘the+singular’ NPs. Thus, before examining the learners’ behaviour in this category, let us first consider the EC results. Consider Figure 7.3 which summarises EC’s accuracy rates in ‘the+singular’ NPs.

Figure 7.3: ‘The+singular’ by EC



As Figure 7.3 above displays, EC showed unexpected results by displaying considerably lower accuracy rates with ‘the+singular’ NPs after stative verbs than the other three categories. This is far from expectation because the prediction was that EC would accept ‘the+singular’ as a generic NP in this structure. Thus, in order to investigate the unexpectedly low accuracy rates in the KRGO-STV category, more scrutinised observation is required. Thus, EC’s performance on each test sentence was examined. Each test item in this category is repeated in 7.1 below. KRGO-STV below is an acronym for Kind-Referring Generics in Object position after Stative Verbs.

- (7.1) a. **KRGO-STV1.** Rachael enjoys eating fruits every morning. She especially loves the orange.
- b. **KRGO-STV2.** Edward is generally healthy and takes regular exercise. But, he likes the cigarette.

In the test sentence (7.1-a), among total 21 English native controls, only 3 of them judged ‘the orange’ as acceptable as a generic NP. Also, in (7.1-b), only 6 of them judged ‘the cigarette’ as an acceptable generic NP. According to follow-up questions to the native speakers, they responded that they would have accepted ‘oranges’ instead of ‘the orange’ in KRGO-STV1 and ‘cigarettes’ instead of ‘the cigarette’ in KRGO-STV2.

This phenomena can be explained by the semantics of verbs. According to Carlson and Pelletier (1995), it was argued that ‘stative verbs’ favor a definite interpretations of the following nouns. Therefore, EC could have expected a definite interpretation of ‘the orange’ and ‘the cigarette’, thus thought the combination of the two sentences are awkward because the first sentences provide a generic context for the second sentences in (7.1-a) and (7.1-b). This argument can be further supported by the results of ‘the+singular’ after kind-requiring verbs because ‘the+singular’ forms are correctly judged as acceptable after kind-requiring verbs by EC. Thus, it implies that the semantics of the preceding verbs had a certain influence on the acceptability of ‘the+singular’ NPs.

The results of EC suggest relationship between semantics of nouns (well-establishedness) and syntactic position. Some of the native speakers suggested that if the definite article ‘the’ were to be appropriately used, for instance, ‘*the Californian orange*’ would have sounded better than ‘*the orange*’ in the object position. On the other hand, they said ‘the orange’ or ‘the’ cigarette’ sounded okay as generics when they occur in the subject position. Consequently, it seems that there is close relationship between syntactic position and semantics of nouns.

This speculation has an implication for linguistic literature for generics. Carlson and Pelletier (1995) only focused on the interpretation of ‘bare plurals’ and suggested that ‘bare plurals’ can be interpreted as generics in only some circumstances such as 1) subject position of the categorical sentences and 2) object position after stative verbs (cf., Section 2.1.5), whereas no further investigation on ‘the+singular’ generic NPs. Meanwhile, the empirical data found in this research suggest that ‘the+singular’ generic NPs also require certain semantic restrictions, according to their syntactic position. In other words, NPs such as ‘the+orange’ is acceptable as generics in the subject position but not acceptable as generics in the object position. The empirical data (similar results were observed from the translation task and the

untimed grammaticality judgement task) suggest that, in the object position after stative verbs, the nouns should be semantically well-established and more specific like ‘the Californian orange’.

One other explanation for the unexpected results of EC is that the semantics of the article ‘the’ which also denotes definiteness could have had an impact on the judgement. In other words, since neither the ‘orange’ in KRGO-STV1 or the ‘cigarette’ in KRGO-STV2 have been mentioned in the first sentence, EC could have thought the use of ‘the’ was not appropriate. If this is the case, learners would accept ‘a(n)+singular noun’ forms in the same test sentences as in 7.1 because the nouns were not mentioned previously. Even though the results on ‘a+singular’ NPs are going to be discussed in more detail in Section 7.1.3, let us briefly consider here whether EC incorrectly accepted ‘a+singular’ forms after stative verbs, which could lend support to the argument that EC interpreted the nouns in the test sentences based on indefiniteness. According to the result, EC correctly judged ‘a+singular’ NPs as not acceptable, which suggests that they did not judge the acceptability of nouns based on (in)definiteness. Thus, given the fact that generic contexts were provided, it is unlikely that learners interpreted the NPs in these questions as definite. Consequently, it appears that the divergent response of EC on ‘the+singular’ NPs are likely to be caused by the semantics of the preceding verbs or the semantics of the nouns.

However, whatever the reason might be, it is important that the results from the experiment are different to the original expectation and that EC rejected ‘the+singular’ generic forms after stative verbs. Regardless of the possible reasons for the phenomenon, it would be meaningful to investigate the learners’ response in comparison with those of EC in KRGO-STV category. Let us compare the native response to those of the L2 learners and examine if they follow EC patterns in object position after stative verbs.

Let us now observe how learners behaved in ‘the+singular’ NPs after two different types of verbs; kind-requiring verbs and stative verbs. Table 7.4 compares mean accuracy rates on this structure by KK, KE and EC. The arrows stand for the significant differences. The accuracy rates in this table are taken from Table 7.3. Table 7.4 is modified from Table 7.3 to show the accuracy rates of learners in comparison with those of EC.

Table 7.4: Accuracy rates on ‘the+singular’ in object position by KK, KE, and EC

<i>the+ singular</i>	KK	KE	EC
Kind Verbs	65%	70%	95%
Stative Verbs	70%	61%	21%

Recall that, as we have seen in Table 7.3, KK and KE did not show significant differences on their responses between subject and object position in ‘the+singular’ structures. KK and KE also seem to show similar accuracy rates in both object positions after kind-requiring and stative verbs. However, in comparison with the results of EC, it is remarkable that KK and KE both showed 70% and 61% accuracy rates, which are largely different to EC (21%) in this structure.

The results can be interpreted such that learners have knowledge of ‘the+singular’ as being a generic NP. Meanwhile, unlike EC, they over-accepted ‘the+singular’ nouns after stative verbs for some reason, thus showing high accuracy rates in this category.

One can also speculate that the learners’ high accuracy rates in the KRGO-STV category are caused by over-acceptance of ‘the+singular’ NPs based on definiteness, which means learners might have decided the acceptability of ‘the’ according to the definiteness of the nouns. However, given the generic contexts, it is highly unlikely that learners over-accepted ‘the+singular’ nouns to denote definiteness. According to the previous literature (Ionin and Wexler, 2003), overuse of the definite article

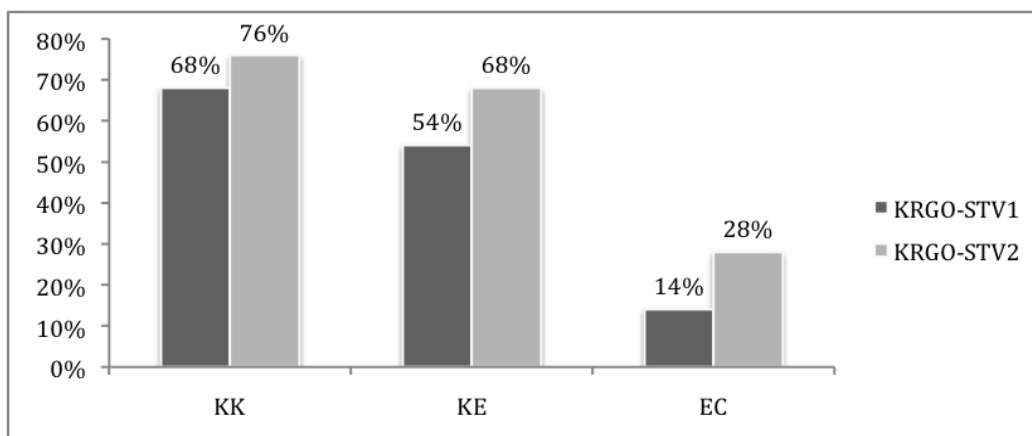
‘the’ in indefinite contexts by L2 learners without article systems in their L1 were contributable to the notion of specificity. In their research, L2 learners with articleless L1 overused ‘the’ to encode specificity. Thus, considering given generic contexts in the test items which exclude specificity, it is doubtful that learners over-accepted the definite article ‘the’ to denote specificity.

This argument can be further proven by the (in)definite test sentences which will be discussed shortly in section 7.1.5. To briefly explain here, in the (in)definite test sentences, learners performed target-like with ‘the’ in definite sentences but not target-like with ‘the’ in indefinite sentences by over accepting ‘the’ in indefinite sentences. If learners are affected by the definiteness of the article ‘the’, they should show similar judgment patterns in generic sentences in accordance with the (in)definiteness of nouns. However, both KK and KE did not seem to follow that pattern, thus learners were not influenced by definiteness in judging generic articles (See section 7.1.5 for more detailed discussion).

If that is the case, alternatively, the reason why learners showed target-variant responses can be explained regarding the semantics of the nouns used. As the native speakers commented, nouns including *orange* and *cigarette* were perhaps not considered as well-established entities. Thus, learners have knowledge that ‘the+singular’ NPs are generic in English, whereas they have not acquired the subtle semantic property that nouns should be well-established entities or kinds to occur with the definite article ‘the’. This can be further supported by the results of ‘the+non-well established entities’ where learners do not seem to be sensitive to the semantics of nouns. We will come back to this issue shortly in the current section.

Meanwhile, as we have done with EC, it would be interesting to examine accuracy rates more thoroughly by test items in KRGO-STV and further examine whether KK and KE follow native-like patterns for each test sentence. Figure 7.4 displays accuracy rates in each test item by KK, KE and EC, in order.

Figure 7.4: Accuracy rates in each test item in KRGO-STV by KK, KE, and EC



If we compare the response patterns between individual test items including KRGO-STV1 and KRGO-STV2 (see page 241), EC showed considerably higher accuracy rates in KRGO-STV2 than KRGO-STV1. KRGO-STV2 is a sentence with a stative verb of *love* and KRGO-STV1 is with a stative verb of *like*. It is notable that KE also displayed considerably higher accuracy rates in KRGO-STV2 than KRGO-STV1. For KK, while the differences between two sentences are not statistically significant. KK still showed a slightly higher accuracy rate in KRGO-STV2 than KRGO-STV1. Therefore, considering each test item, it seems that KK and KE follow EC patterns.

Let us consider the second prediction on ‘the+singular’ NPs. Recall that generic NPs are bare plurals and definite singular NPs. However, while bare plurals are always generic, the definite article ‘the’ can induce generic meanings only when it is used with well-established entities or kinds. Therefore, in order to investigate if learners would be able to learn the subtle semantic properties, non-well-established entities and the definite article ‘the’ sentences are tested in comparison with well-established entities. Table 7.5 below shows mean accuracy rates for non-well-established generic NPs. The arrows stand for significant differences between subject groups and test categories.²

²The relatively low accuracy rates of EC in ‘the+adj+singular’ structure was previously discussed in Section 6.1.4.

Table 7.5: Accuracy rates on (not)well-establishment of nouns by KK, KE, and EC

	adj +bare plural		*the+adj+singular	
	Mean	SD	Mean	SD
KK(n=44)	76%	0.998	55%	1.322
KE(n=33)	83%	0.142	56%	0.2
EC(n=21)	95%	0.87	82%	0.68

With respect to the use of ‘the’ with well-established entities or kinds, both KK and KE showed significant differences between ‘adj+bare plural’ and ‘the+adj+singular’ sentence structures (p value=0.002 and p value =0.001, respectively). At the same time, both KK and KE performed significantly worse than the native controls in the category of ‘the+adj+singular’ by showing 55% and 56% accuracy rates, respectively (p value =0.006 and p value =0.016). According to a comparison between KE and EC in the ‘adj+bare plural’ structure, KE learners have successfully acquired that bare plural forms do not receive a subtle semantic restriction thus not well-established nouns such as *green leaves* can be generic. However, as the arrow signifies in Table 7.5 above, KK show considerably lower accuracy rates than EC in the ‘adj+bare plural’ structure. However, the performance of KK is not considerably different from KE based on statistical analysis.

Meanwhile, considering the accuracy rates in the ‘the+adj+singular’ structure, it seems that both KK and KE fail to acquire that only well-defined/established entities and kinds can be used with the definite article ‘the’ in terms of a generic interpretation. In other words, both KK and KE failed to reject, for example, *the green leaf* as generic. It is surprising that KE did not perform any better than KK despite extensive naturalistic input.

One possible account for the low performance by KK and KE on ‘the+adj+singular’ structure would be that the semantic restriction is not obvious from the input and such features are not explicitly taught to L2 learners. Despite ample positive input,

the performance of KE was not different from those who had not been exposed to naturalistic input at all. Lacking salient input which tells learners that *the green leaf* is not generic, it is possible that learners could have over-generalised the taxonomic interpretation of the definite article ‘the’ (‘The brown bear is dangerous when it is hungry’) or well-established entities (‘The coke bottle is narrow’). Hence, the learners incorrectly allowed uses of the definite article ‘the’ with non-well-established entities.

On the other hand, the results of KK and KE on ‘the+non well-established nouns’ are not target-like but they are not entirely hopeless either. KK and KE showed 55% and 56% accuracy rates, respectively. These figures mean that KK and KE correctly disallowed ‘the’ use with non well-defined nouns more than half of the time. As the results from this task is rather indecisive, let us consider results from other tasks and re-examine the results on the use of ‘the’ with non well established entities later (cf., section 7.4.3).

7.1.3 Interpretation on ‘a+singular’ NPs

Hypotheses & Predictions

Recall that there are two types of genericity (sentence-level and NP-level generic sentences) and this is assumed to be a universal linguistic phenomenon (cf., Chapter 2, for more detailed explanation). Any language can express habitual sentences (sentence-level genericity) as well as kinds (NP-level genericity), thus both genericities are available in Korean and English.

However, morphological differences arise between the two languages in expressing two different genericities. Korean as an articleless language expresses both genericity with bare nouns and particle ‘nun’ as discussed in Section 2.2 previously. No morphological differences are present between sentence-level genericity and NP-level

genericity in Korean. In contrast, in English, bare plurals and ‘the+singular’s are generic NPs and ‘a+singular’ NPs are not a generic NP. However, ‘a+singular’ NPs can occur legitimately in characterising generic sentences alongside ‘bare plural’ and ‘the+singular’ NPs (sentence level generic sentences).

As discussed in Section 2.1.6, the two different generic NPs (bare plurals and the+singulars) have different semantic representations. Generic NPs with *the* represent the “referent as a single undifferentiated whole class or entities” (Downing and Locke, 2006, page 421) and generic NPs with zero article (bare plurals) imply that “all or most members of the class of entity possess the characteristic that is predicated of it” (Downing and Locke, 2006, page 421). Meanwhile, ‘a(n)’ generics imply “any individual member of a class of entity as typical of the whole class” (Downing and Locke, 2006, page 421). Hence, generic use of ‘a(n)’ receives a restriction. It cannot be used with kind-referring properties. That is because an individual member of noun cannot constitute a species.³ To sum up, ‘bare plural’ and ‘the+singular’ NPs are NP level generics and ‘a+singular’ NPs can only be used in sentence level generics alongside ‘bare plurals’ and ‘the+singulars’.

The prediction here is that if learners can distinguish the two different types of genericity between sentence level genericity and NP level genericity in English, they are expected to accept ‘a+singular’ NPs only in characterising generics, given that the morphological distinction between NP level generics and sentence level generics is not encoded in L1 Korean. If they are not sensitive to the distinction between the two different generics, they are expected to incorrectly over accept ‘a+singular’ NPs in NP level generic structures including KRGS (Kind-Referring Generics in Subject position), KRGO-KRV (Kind-Referring Generics in Object position after Kind-Referring Verbs), and KRGO-STV (Kind-Referring Generics in Object position after Stative Verbs).

³More detailed discussion on this distinction between generic NPs and generic sentences appears in Chapter 2.

Discussion

Now, let us investigate the results for ‘a+singular’ NPs in detail. Table 7.6 below summarises the responses for ‘a+singular’ NPs by KK , KE, and EC in the different test categories including CG, KRG, KRGO-KRV, and KRGO-STV. The shaded columns below are where ‘a+singular’ NPs is not acceptable as a generic.

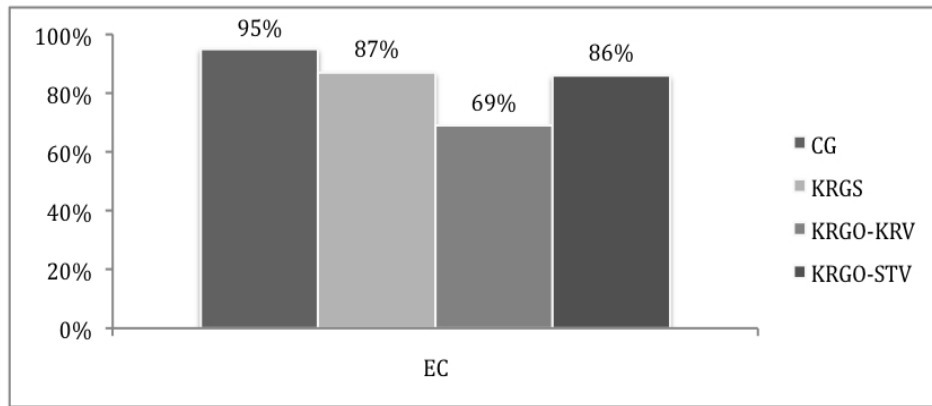
Table 7.6: Accuracy rates on ‘a+singular’s by KK, KE, and EC

a+singular	Subject Position		Object Position	
	CG	KRG	KRG after KRV	KRG after STV
KK	71%	62%	51%	46%
KE	75%	55%	56%	58%
EC	95%	87%	69%	86%

For KK, it appeared that they correctly accepted ‘a+singular’ NPs in characterising generics without much difficulty. On the other hand, they seemed to have more difficulty in disallowing ‘a+singular’ NPs as a generic NP by showing lower accuracy rates in KRG, KRGO-KRV, and KRGO-STV categories than in CG. KE performed considerably better in characterising generics than the three other categories, too. Similar to KK, KE also seem to have more problems with rejecting ‘a+singular’ forms as a generic NP. Based on the results, both KK and KE learners do not seem to have fully acquired the knowledge that ‘a+singular’ NPs are not generic NPs (NP level generics). Thus, it appears that KK and KE cannot distinguish the two different generic sentence types, that of NP level generics and sentence level generics.

Meanwhile, EC showed unexpected results with ‘a+singular’ NPs by showing rather low accuracy rates in the categories where they are not acceptable as generics. Therefore, it is crucial to examine the result of EC more closely. Figure 7.5 below shows the results for ‘a+singular’ by EC. The result of EC is already presented in Table 7.6 but it is repeated in Figure 7.5.

Figure 7.5: Results on ‘a+singular’s by EC

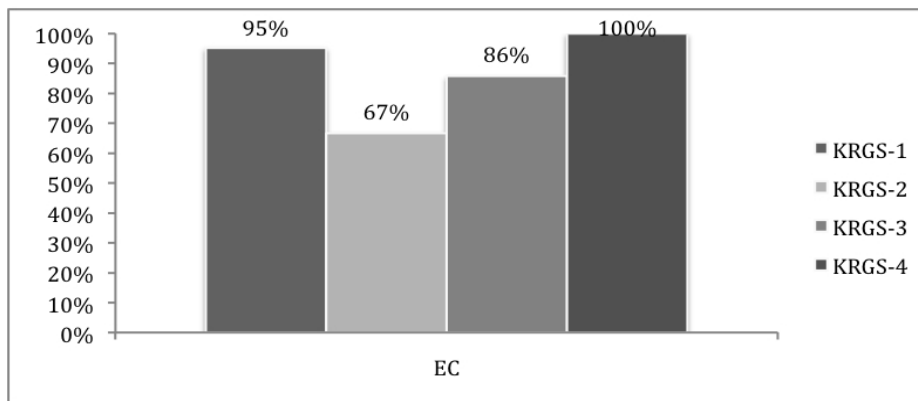


As it appears in Figure 7.5, in ‘a+singular’ NP structures, EC showed quite diverse responses. In characterising generics, EC correctly accepted ‘a+singular’ NPs as expected by showing 95% accuracy rates. However, the accuracy rates for the other categories are not as high as expected for native speakers. Let us scrutinize the unexpected results of EC in 3 categories (KRGS, KRGO-KRV, and KRGO-STV) in more detail, here EC showed relatively low accuracy rates, so the following sections compare the responses of EC to those of KK and KE.

‘A+singular’ in KRGS

Firstly, in kind-referring NPs in subject position (KRGS), EC displayed 87% accuracy rates as shown in Figure 7.5. In order to account for the relatively lower accuracy rates in this category, results for each test item were examined. Among 4 test items in the KRGS category, two of them (KRGS-2, KRGS-3) were found to be mainly responsible for the lower accuracy rates. Consider Figure 7.6. KRGS in the chart stands for Kind-Referring Generics in Subject position.

Figure 7.6: Results on each test item by EC



As it is shown in Figure 7.6, the second and the third (KRGs-2, KRGs-3) columns are distinguishably lower than the other two columns. The test sentences in this category are repeated in example 7.2 below. Infelicitous sentences are marked with # and this is so under a generic reading.

- (7.2) a. **KRGs-1.** Insects are not a problem for camping in Scotland. #But, a mosquito is widespread in Scotland.
- b. **KRGs-2.** Jane saw a bald eagle when she visited North America. #A bald eagle is extremely rare these days.
- c. **KRGs-3.** Sam saw a hedgehog in the wood the other day. #A hedgehog is common in woodlands.
- d. **KRGs-4.** Jamie can find a white lion only at the zoo. #A white lion is endangered by hunting and habitat loss.

For some reasons, interestingly, EC showed lower accuracy rates with generic NPs with the predicate ‘rare’ and ‘common’ than other kind-requiring predicates such as ‘widespread’ and ‘endangered’. It seems that the judgment patterns of EC can be explained by the kind of predicates. It has been argued that predicates like ‘rare’ and ‘common’ have different characteristics from kind predicates including ‘widespread’ and ‘endangered’ (Carlson, 1977b).

Quantificational Predicates

Predicates such as ‘rare’ or ‘common’ are normally regarded as kind-requiring/selecting predicates like ‘be extinct’ in most literature. However, according to Carlson (1977b), these predicates seem to be different from the kind-predicates because predicates such as ‘rare’ or ‘common’ can sometimes be used with indefinite NPs, unlike other kind predicates. See the examples 7.3 and 7.4 below.

- (7.3) a. The rhino will become extinct soon.
b. Rhinos will become extinct soon.
c. #A rhino will become extinct soon. (only good in a taxonomic reading)
- (7.4) a. The rhino is common.
b. Rhinos are common.
c. A rhino is common. (non-taxonomic reading)

(Carlson and Pelletier, 1995, p.95)

Examples 7.3 and 7.4 compare the differences between the predicates ‘extinct’ and ‘common’. Uses of ‘bare plural’ and ‘the+singular’ forms do not raise oddities as in (7.3-a), (7.3-b), (7.4-a), and (7.4-b). On the other hand, ‘extinct’ seems to have a kind-requiring/selecting feature whereas ‘common’ does not. According to Carlson and Pelletier (1995), (7.3-c) is universally not acceptable for all speakers whereas (7.4-c) is more acceptable. What is more, it is argued that predicates like ‘be common’ can easily occur with nouns of not well-established entities as in (7.5-b) below, whereas the same subject cannot occur with the predicate *extinct* as in (7.5-a). In the examples 7.5 ‘rhinos with blue eyes’ do not refer to a specific kind of rhino, but it rather refers to an accidental property of rhinos.

- (7.5) a. #A rhinoino with blue eyes will become extinct soon.
b. A rhino with blue eyes is common.

(Carlson and Pelletier, 1995, p.95)

The examples above suggest that predicates like ‘be common’ should not be treated as typical kind predicates such as ‘extinct’. It was suggested that these types of predicates do not have the same selectional restriction which implies that predicates like ‘extinct’ require only kind-referring nouns.

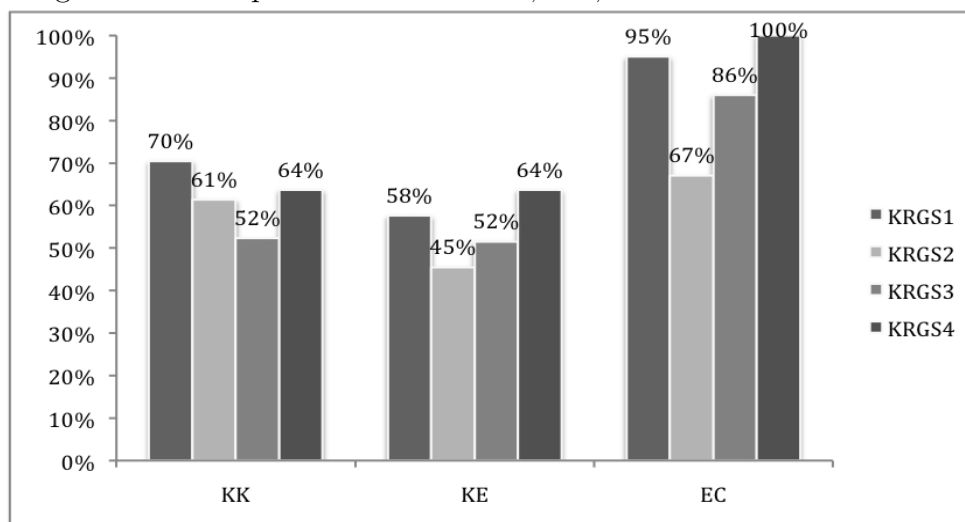
Some linguists maintain that it would be reasonable to analyze predicates such as ‘be common’ in a similar way to quantified NPs like ‘many rhinos’ (Barwise and Cooper, 1981; Westerstahl, 1985, 1989). However, as the analysis of predicates is not a main interest of the thesis, it will not be discussed in depth here (See Carlson and Pelletier (1995); Barwise and Cooper (1981); Westerstahl (1985, 1989) for more discussion). The important aspect here is that the predicates ‘common’ and ‘rare’ appear to have different characteristics from typical kind-predicates such as ‘endangered’ and ‘widespread’.

A different interpretation on predicates like ‘common’ and ‘rare’ which are suggested by Carlson and Pelletier (1995) was discussed. However, as was mentioned earlier, the widely accepted analysis of predicates like ‘common’ and ‘rare’ is that they are regarded as kind-predicates. Thus, analysis of the kind predicates is rather diverse and inconclusive and the semantics of the predicate category is not clearly distinctive. Consequently, the different interpretation of ‘common’ and ‘rare’ can account for the relatively low accuracy rates of EC with test sentences, KRGS2 (with *common*) and KRGS3 (with *rare*).

Then, let us examine how KK and KE performed in this category. If they follow native patterns by showing lower accuracy rates with KRGS2 and KRGS3, it would

suggest that the learners are equally sensitive to the semantics of predicates as EC. Figure 7.7 displays the responses on generic NPs in subject position by the subject groups KK, KE and EC. KRGS below stands for Kind-Referring Generics in Subject position.

Figure 7.7: Comparison between KK, KE, and EC on each test item



KK and KE presented overall lower accuracy rates than EC. However, for both KK and KE, the two test sentences with the lowest accuracy rates among each test item were KRGS2 and KRGS3, thus showing very much similar patterns to those of EC. What is more, if we compare the response pattern of KE and EC, it is very similar in that both KE and EC showed the highest accuracy rates with KRGS4, followed by KRGS1, KRGS3 and the KRGS2, in order. Consequently, even though Korean learners do not seem to have fully acquired the property that ‘a+singular’ NPs do not represent generics themselves, their response does not appear to be completely random. What is more, target-like patterns by KE suggest that with extensive naturalistic input, KE can access the semantic universals that constrain the linguistic knowledge of EC.

‘A + singular’ in KRGO-KRV

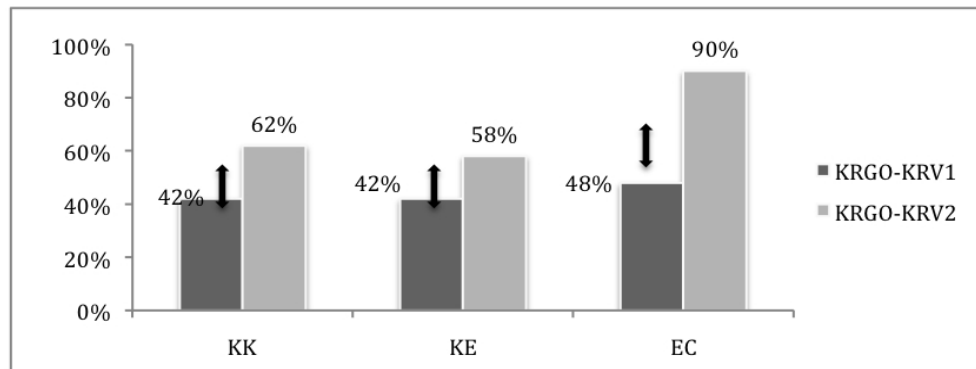
Let us now examine the response of EC with generic NPs after kind-requiring verbs where they displayed low accuracy rates of 69%, as shown in Figure 7.5 (KRGO-KRV). Let us investigate the test items in this category in more detail. Among the 2 test items, one of them (KRGO-KRV1) received considerably lower accuracy rates of 48% than the other (KRGO-KRV2) with 90% accuracy rates. The following example 7.6 shows the test items used in this category.

- (7.6) a. **KRGO-KRV1.** #John read a history book. He learned that the Wright Brothers first invented a plane.
- b. **KRGO-KRV2.** #Tom has never seen a white lion. Habitat loss and lack of food endangered a white lion.

One of the possible reasons why EC showed lower accuracy rates in KRGO-KRV1 could be that they understood the verb ‘invent’ as ‘make’ or ‘construe’. In other words, EC might not have considered ‘invent’ as a kind-requiring verb and rather regarded it as a common active verb such as ‘make’. Thus, they would have responded incorrectly by wrongly accepting ‘a plane’ as referring to an indefinite plane which was made by the Wright Brothers.

Then let us examine how learner groups behaved in this category in comparison with EC. Figure 7.8 summarises the accuracy rates of the KK, KE and EC in different sentence items. The arrow in the figure represents statistical differences.

Figure 7.8: Comparison between KK, KE, and EC on each test item in KRGO-KRV



As presented in Figure 7.8, like EC, KK and KE both showed higher accuracy rates in KRGO-KRV2 than KRGO-KRV1. Even if it looks chance level, the differences between KRGO-KRV1 and KRGO-KRV2 is significant by both KK and KE (p value=0.0001, p value< 0.0001). Hence, following EC patterns, KK and KE appear to have more problems with disallowing ‘a+singular’ forms after the kind-requiring verb ‘invent’. Thus, it can be interpreted that the results of the Korean subjects were not random but they follow native like patterns.

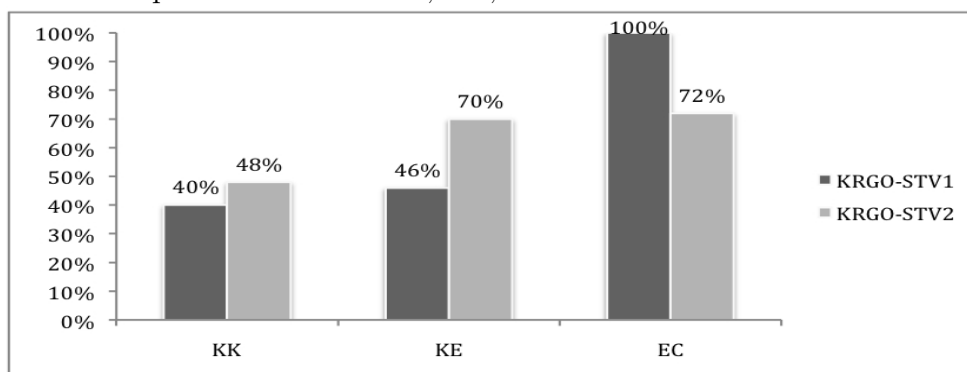
‘A+singular’ in KRGO-STV

Let us now investigate the EC responses with ‘a+singular’ after stative verbs, 86% accuracy rates were found as shown in 7.5 (KRGO-STV). There are 2 test items in this category which are presented in 7.7 below.

- (7.7) a. **KRGS-STV1.** Rachael enjoys eating fruits every morning. She especially loves an orange.
- b. **KRGS-STV2.** Edward is generally healthy and takes regular exercise. But, he likes a cigarette.

Figure 7.9 summarises the accuracy rates on ‘a+singular’ after stative verbs by KK, KE and EC.

Figure 7.9: Comparison between KK, KE, and EC on each test item in KRGO-STV



Interestingly, EC showed 100% accuracy rates with KRGO-STV1 but they showed 72% accuracy rates with KRGO-STV2. For some unknown reason, EC showed relatively low accuracy rates with KRGO-STV2. According to the follow-up question, the native speakers who wrongly accepted KRGS-STV2 said that the second sentence did not raise any oddity. One native speaker explained that the sentence was acceptable because it sounded like a colloquial usage that has become normalised. The reason could not be clearly accounted for, but whatever the reason might be it would be important to see how learner groups responded in this category.

For KK, overall, they showed relatively low accuracy rates of 40% with both KRGO-STV1 and KRGO-STV2. It seems like that KK learners have wrongly accepted ‘a+singular’ NPs after stative verbs quite often. On the other hand, KE showed rather different patterns from EC in that they correctly disallowed ‘a+singular’ NP KRGO-STV2 but not in KRGO-STV1. It seems like no similar patterns between EC and the learner groups were found. The rather random response of KK and KE could suggest that they have not acquired that ‘a+singular’ NPs are not generic NPs. However, as we have seen in other structures, CG, KRGS, and KRGO-KRV, the responses of KK and KE were not random but similar to those of native speakers. Therefore, it would not be sensible to claim that the learners are ignorant that ‘a+singular’ NPs are non-generic.

One possible explanation for the random response by the learners can be inconsistent input on ‘a+singular’ NPs after stative verbs. For ‘a+singular’ NPs after kind-requiring verbs, input would have been consistent as ‘a+singular’ NPs are always inappropriate to use because kind-requiring verbs always require kind-referring NPs as their object. Consider example 7.8 below.

- (7.8) a. #French settlers exterminated *a dodo*.
b. #John likes *a cigarette*.
c. John likes (to smoke) *a cigarette* (after dinner).

As exemplified in (7.8-a), ‘a+singular’ forms are always inappropriate after kind-requiring verbs such as *exterminate* because it is impossible to have indefinite NPs after kind-requiring verbs.

On the other hand, for ‘a+singular’ NPs after stative verbs like in (7.8-b), the sentence should raise oddity only with generic readings. However, under indefinite readings, ‘a+singular’ NPs can legitimately occur after stative verbs as in (7.8-c). Therefore, it seems that input regarding ‘a+singular’ NPs after stative verbs is not unambiguous. Consequently, the input of ‘a+singular’ after kind-requiring verbs is consistent, whereas input of ‘a+singular’ NPs after stative verbs is relatively ambiguous. Therefore, it is likely that the learners displayed rather random responses in this category based on not unambiguous input of ‘a+singular’ after stative verbs.

Let us sum up the discussion on ‘a+singular’ NPs. Firstly, in characterising generics (CG), EC showed high accuracy rates by correctly accepting ‘a+singular’. KK and KE both showed 70s% accuracy rates. Furthermore, it is notable that KE displayed a more target-like pattern by showing statistically comparable results to EC. In terms of test categories where ‘a+singular’ NPs are not allowed, EC displayed rather divergent results. However, considering each test item, it was found that KK

and KE seemed to follow the pattern of EC and their responses are found to be not random, especially in KRGS and KRGO-KRV categories.

We investigated if learners could distinguish two different types of generic given their L1 where no morphological distinctions manifest. Based on the results, while learners' accuracy rates were not as high as EC, learners show evidence that they could distinguish two different generics, that is between generic sentences and generic NPs. In CG, learners showed target-like accuracy rates. In addition, in the KRGS category where 'a+singular' nouns are not acceptable, KK and KE showed 62% and 55% accuracy rates, respectively as shown in Figure 7.5. Even though the accuracy rates are not very high, we have seen that EC also showed variant responses and, considering each test sentence, responses between learner groups and EC showed similar patterns. These accuracy rates can be interpreted as both KK and KE having knowledge that 'a+singular' is not appropriate. Furthermore, in object position (KRGO-KRV and KRGO-STV), while learners accuracy rates were relatively low, accuracy rates of EC were also not very high. Most of all, in terms of each item analysis, the response of KK and KE were not random and they followed similar patterns to EC depending on different predicate types. Thus, it can be concluded that learners are able to distinguish the two different generics.

7.1.4 'The+plural' NPs

Hypotheses & Predictions

As we have already seen in section 3.2.2, the semantics of the definite article varies depending on languages. In Romance languages, the definite article lexicalises the concepts of both maximality and kind-denoting reference. In other words,

definite plurals in Romance languages can have both generic meanings and non-generic/specific meanings. On the other hand, in English, the definite article ‘the’ lexicalizes only the concept of maximality but not kind-denoting (Chierchia 1995).

One might wonder why the English article ‘the’ does not have kind-denoting meaning because ‘the+singular’ forms are possible as generic NPs. Not much focus has been on the semantics of ‘the’ contributing to the generic interpretation in ‘the+singular’ forms. However, Chierchia’s argument which claims that the English article ‘the’ only denotes maximality can also explain ‘the+singular’ NPs as generics. We have discussed the semantic representation of the generic NP, ‘the+singular’, in Chapter 2 and it was argued that singular generics (‘the+singular NPs’) denote atomic kinds and they are realised as individuals (Carlson 1977a). In other words, definite singular generic NPs refer entity of kinds. Consequently, it would be logical to consider that ‘the+singular’ NPs can denote kind as it can be interpreted as a ‘maximal group of entity of kinds’ . Likewise, as Chierchia (1995) argues, ‘the+plural’ NPs are not generic but interpreted as specific in English, unlike in Romance languages where ‘the+plural’ NPs are generics. This section investigates if Korean learners whose language does not have articles can correctly acquire the semantics of the definite article ‘the’ in English.

More specifically, if Korean L2 learners of English correctly judge ‘the+plural’s as not generic, it would suggest that they have successfully acquired the semantics of the definite article ‘the’ in English. However, reversely, if they accept ‘the+plural’ as generic, it would suggest they have not acquired the interpretation of the English definite article ‘the’.

Discussion

Table 7.7 summarises the mean accuracy rates for ‘the+plural’ NPs by KK, KE, and EC. The arrows below stand for significant differences between subject groups.

Table 7.7: Accuracy rates on ‘the+plurals’ by KK, KE, and EC

<i>The+plural</i>	Subject position		Object position	
	Mean	SD	Mean	SD
KK(n=44)	51%	1.219	43%	1.014
KE(n=33)	60%	1.273	62%	1.063
EC(n=21)	96%	0.512	95%	0.402

EC performed as expected in the ‘the+plural’ category by showing 96% and 95% accuracy rates, regarding both syntactic positions. They correctly rejected ‘the+plurals’ as generic readings. However, both KK and KE appeared to have difficulties in disallowing ‘the+plurals’ as generic in both subject and object position. According to the results, both KK and KE seem to have failed to show target-like responses by displaying considerably lower accuracy rates than EC. This results suggest that both KK and KE did not manage to acquire the semantics of ‘the’ in English. However, if this is the case, learners should show similar results with ‘the+singular’ NPs because ‘the’ in this category has the same semantic meaning as in the ‘the+plural’ category, which is maximality.

Then, let us recall the results for ‘the+singular’ NPs by KK and KE. As discussed in Section 7.1.2, KE showed target-like accuracy rates with ‘the+singular’ NPs. On the other hand, the accuracy rates of KK were less-target like than KE but KK’s responses were not totally random as they showed similar patterns to EC. These results indicate that learners have acquired the correct semantics of ‘the’ in English. This, in turn, suggests that the learners’ low accuracy rates in the ‘the+plural’ category was not caused by their understanding of the semantics of ‘the’. Then, one can suggest that it is probably the plurality of NP forms which might have caused low accuracy rates in this category. In other words, it is possible that Korean speaking L2 learners might have incorrectly thought that both singular nouns and plural nouns can be used with ‘the’, thus incorrectly accepting ‘the’ with plural nouns. This speculation can be further supported by the learners’ L1 property. Consider the Korean generic sentences in 7.9.

- (7.9) a. Kongryong-tul-un ketayhata.
dinosaur-PLU-GEN were-huge
'Dinosaurs were huge'.
b. Kongryong-un ketayhata.
dinosaur-GEN were-huge
'Dinosaurs were huge'.

In Korean generic sentences, both bare plural forms as in 'Kongryong-tul (dinosaurs)' in example (7.9-a) and bare singular forms as in 'Kongryong (dinosaur)' in example (7.9-b) are acceptable. Thus, based on this L1 property, it is possible that Korean L2 learners might have thought that both 'plural' forms and 'singular' forms can be used as generics. Thus, Korean L2 learners might have incorrectly over-accepted 'the' with plural nouns as well as singular nouns.

So far, we have discussed the results for 'the+plural' NPs but as we have seen, their accuracy rates are rather indeterminate. Therefore, let us revisit and reinvestigate this issue in comparison with the results from the translation task later in Section 7.2.7.

7.1.5 Testing the 'Interface Hypothesis'

This study attempts to expand the testing ground of the 'Interface Hypothesis' by testing advanced L2 learners (Sorace, 2004; Sorace and Serratrice, 2009). The 'Interface Hypothesis' claims that properties involving external interfaces are more vulnerable and cause target-variant responses because of processing difficulties. This study argues that generic use of English articles involves internal interface, whereas (in)definite use of English articles involve external interface as we have seen earlier in Chapter 2. Thus, if L2 learners perform better in the article use of genericity (internal interface) than that of definiteness (external interface), the results would provide evidence supporting the 'Interface Hypothesis'.

Let us first examine the results of articles in terms of (in)definiteness. The following Table 7.8 displays accuracy rates by KK, KE, and EC. The arrows below indicate statistical differences.

Table 7.8: Accuracy rates on (in)definite articles by KK, KE, and EC

In/definiteness	*‘the’ indefinite context		‘the’in definite context		‘a’ in indefinite context		*‘a’ in definite context	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
KK(n=44)	50%	0.313	86%	0.186	77%	0.233	62%	0.266
KE(n=33)	53%	0.335	95%	0.083	70%	0.184	73%	0.275
EC(n=21)	98%	0.654	92%	0.184	89%	0.191	96%	0.102

From Table 7.8, it is obvious that both KK and KE display target-like responses with ‘the’ in definite contexts and ‘a’ in indefinite contexts. However, it appears that both KK and KE over-accepted the definite article ‘the’ in indefinite contexts, thus showing considerably lower accuracy rates than EC (p value<0.000, p value<0.000, respectively). In terms of ‘a’ in definite contexts, KE showed target-like responses but only KK seem to have over-accepted ‘a’ in definite contexts (p value<0.000). The results of the current study seem to be similar to the results from previous studies in that L2 learners whose L1 does not have articles have difficulties in disallowing ‘the’ in indefinite context (Ionin, 2003; Ionin et al., 2004).

Now, let us compare the results for the articles ‘the’ and ‘a’ in both generic and (in)definite contexts. The following table 7.9 presents mean accuracy rates for article use in generic and (in)definite sentences.

Table 7.9: Genericity vs. (In)definiteness by KK, KE, and EC

Average Accuracy Rates	'the'		'a'	
	In/definiteness	Genericity	In/definiteness	Genericity
KK(n=44)	68%	63%	70%	60%
KE(n=33)	74%	68%	72%	61%
EC(n=21)	95%	89%	90%	85%

In order to calculate the numbers above, accuracy rates in all categories of (in)definite and generic sentences were collapsed and average accuracy rates were then calculated. As Table 7.9 indicates, while there were no statistical differences, it appears that both KK and KE performed slightly better in (in)definite contexts than generic contexts. However, no statistical differences were found between article use of (in)definiteness and genericity by both KK and KE. Consequently, the predicted difficulty with (in)definite use of English articles in comparison to those of genericity was not found, thus the 'Interface Hypothesis' cannot be supported by this study.

Regarding the relative difficulties found with generic articles, I propose that such difficulties can be attributable to the subtle semantic constraints on generic article use, which are confounded by the type of generic sentence such as characterising generics and kind-referring generics or accompanying predicate types (Carlson and Pelletier, 1995). For instance, the article 'a' can only be used in characterising generic sentences but not as a kind-referring generic NP. Consider the examples in 7.10 and 7.11 below.

(7.10) A female kangaroo carries its young in its pouch.

(7.11) *A kangaroo is far from extinct.

‘A female kangaroo’ in 7.10 is legitimate because sentence 7.10 is a characterising generic sentence where genericity arises from sentences. However, ‘a kangaroo’ in 7.11 is inappropriate because ‘a kangaroo’ is not a kind-referring NP. Predicates such as *extinct*, as in 7.11 require kind-requiring NPs as their arguments. In sentences such as 7.11, learners showed difficulties and had low accuracy rates of 55% and 60% for KK and KE, respectively.

In addition, learners showed low accuracy rates regarding the use of ‘the’ with non-well established entities as was discussed in section 7.1.2. Both KK and KE learners showed low accuracy rates of 55% and 56% in the use of ‘the’ with non well-established nouns.

It was in these categories that learners had great difficulty. It is possible that the subtle semantic features have posed difficulties to second language learners. Then, let us consider the relative easiness of (in)definite uses of English articles. Learners performed equally well with (in)definite uses of English articles which involve external interface. It might be because (in)definite uses of English articles are more familiar than generic uses of English articles to Korean L2 learners. In fact, 21 English grammar books and English textbooks used in formal English classrooms for middle school and high school students were examined (cf., section 4.3.1). Among 21 books, none of them cover generic uses of English articles, whereas 6 of them included an explanation on (in)definite uses of English articles. Therefore, it is possible that the participants of the current research are familiar with (in)definite uses of English articles, but not generic uses as a result of instruction.

The results can be interpreted such that properties at external interface such as *syntax-discourse* are not necessarily more problematic than those involving internal interface like *syntax-semantics*. The current results indicate that the non target-like performance of highly advanced learners cannot be explained by predictions made on the distinction between internal vs. external interface within the ‘Interface

Hypothesis'. Rather, it suggests that it is subtle semantic features that lead to the difficulties for L2 learners.

Following (in)definiteness patterns?

The results on the article uses of (in)definiteness and genericity appeared to be quite similar, in terms of accuracy rates. The similar results between two different article properties raise a question of whether L2 learners can actually distinguish two different uses of articles. In other words, one can consider the possibility that learners might have judged the acceptability of generic articles based on (in)definiteness. Thus, it can be questioned whether despite the given generic contexts, learners judged the acceptability of article use according to the (in)definiteness of nouns. Therefore, it is necessary to examine whether learners followed (in)definite patterns when judging articles in generic sentences.

In order to investigate the influence of (in)definiteness of articles when judging the acceptability of generic articles, test sentences were re-organised and re-examined according to the definiteness of NPs. 24 relevant test items were selected and categorised into 4 groups as below. In these examples, infelicitous sentences are marked with # and this is so under (in)definite readings.

Group A: 'a' in indefinite sentence (n=7)

(7.12) Insects are not a problem for camping in Scotland. But, a mosquito is widespread in Scotland.

Group B: 'a' in definite sentence (n=5)

(7.13) Jamie could only see a white lion at the zoo. #A white lion is endangered by hunting and habitat loss.

Group C: *'the' in definite sentence* (n=5)

(7.14) Jane saw a bald eagle when she visited North America. The bald eagle is extremely rare.

Group D: *'the' in indefinite sentence* (n=7)

(7.15) John read a history book. #He learned that the Wright Brothers first invented the plane.

Let me restate how generic test items are re-organised in terms of (in)definite sense with the examples above. Category A is 'a' in indefinite sentences. Example 7.12 could have been unacceptable in terms of genericity because the predicate *widespread* would not take 'a+singular' nouns as generic nouns. However, if we assume that learners are following definiteness patterns, despite the provided generic contexts, in the judgment they should judge *a mosquito* in 7.12 as acceptable. *Mosquito* has not been mentioned previously in the context, thus it is *indefinite*.

Likewise, in Category B of 'a' in definite sentences, *a white lion* in 7.13 is not acceptable because it has been mentioned in the previous sentence. Again, in the category C of 'the' in definite sentences, *the bald eagle* in 7.14 can be judged as acceptable because it is definite as it has been introduced in the previous sentence. For the last category D, 7.15 would have been judged as acceptable in terms of genericity. However, as *the plane* has not been mentioned previously, if learners follow definiteness despite the given generic context, they would judge *the plane* as not acceptable. Categorised this way, 24 sets of test sentences were re-examined. The scores were re-calculated according to the (in)definiteness of the NPs.

Before we examine the results, let us recall the (in)definiteness patterns shown in the experiment where (in)definiteness was tested first. Earlier, we have seen from Table 7.8 that in (in)definite test items, both KK and KE showed high accuracy rates with ‘the’ in definite contexts. At the same time, both KK and KE over-accepted ‘the’ in indefinite context. In terms of ‘a’, both KK and KE displayed target-like results in the judgement of ‘a’ in indefinite contexts, whereas only KK over-accepted ‘a’ in definite context. Consequently, the following assumption can be made.

If learners are judging acceptability based on the (in)definiteness of nouns, they would follow the pattern they showed in the test items regarding (in)definiteness. To be more specific, learners, particularly KK, would over-accept ‘a’ in definite sentences, if they judge the acceptability of nouns based on definiteness. In addition, if the judgement is based on (in)definiteness, both KK and KE learners would over-accept ‘the’ in indefinite sentences. Table 7.10 shows the re-calculated results of KK, KE, and EC assuming that they are following (in)definite patterns.

Table 7.10: (In)definite judgement in generics by KK, KE, and EC

	EC	KK	KE
‘a’ in indefinite	44%	56%	56%
*‘a’ in definite	70%	50%	46%
‘the’ in definite	95%	64%	50%
*‘the’ in indefinite	33%	36%	43%

Table 7.10 shows accuracy rates for ‘a’ and ‘the’ when learners follow definiteness patterns in the judgment of articles in generic sentences. Let us first examine the result for ‘a’ in indefinite sentences. If learners follow definiteness patterns despite the given generic context, they should show high accuracy rates in this structure as they did in test items regarding (in)definiteness. However, both subject groups and the native control group showed very low accuracy rates. In addition, for ‘a’

in definite sentences, if they follow definiteness patterns, learners, particularly KK, should show low accuracy rates.

However, both KK and KE showed similar accuracy rates of 50% and 46%, respectively. In terms of ‘the’ in definite sentences, if the learners were to judge the acceptability based on (in)definiteness, they should all show target-like responses in this structure. However, the results of KK and KE are far from target-like. For ‘the’ in indefinite sentences, both KK and KE seem to show low accuracy rates. In this structure, one can suggest the relatively low accuracy rates can be accounted for by over-acceptance of ‘the’ in indefinite sentences. However, the judgment on the three previous structures did not conform to the suggested patterns. Consequently, one cannot conclude that learners judge the acceptability of articles based on (in)definiteness despite the given generic contexts.

To sum up, the results of the current study establish the following two findings. Firstly, the prediction based on the distinction between internal interface and external interface with the IH may not be sustainable regarding L2 acquisition of article uses. Secondly, external interfaces are not entirely problematic in the L2 acquisition of articles but complicated semantic features can cause great difficulties to L2 learners.

7.1.6 Summary

In this section, we have discussed the results of the timed acceptability judgment task regarding the hypotheses of the study. Firstly, for bare plurals, it was predicted that learners would show the highest accuracy rates with bare plurals based on most frequent L2 input and the effect of L1 transfer, and the prediction was confirmed for both KK and KE. In addition, evidence of UG accessibility for adult L2 learners was also found as Korean L2 learners overcome Poverty of Stimulus and showed native-like performance with bare plurals after kind-requiring verbs (KRG0-KRV).

For ‘the+singular’ NPs, overall KK and KE showed good results by showing over 70% accuracy rates across the categories. However, EC showed very low accuracy rates in the KRGO-STV category but, interestingly, learners displayed higher accuracy rates than EC in the KRGO-STV category. The responses of EC, KK, and KE in this category were accounted for by relevant linguistic explanations that ‘stative verbs’ might favor the definite interpretations of the following nouns. Additionally, the results of EC in KRGO-STV category present an implication for linguistics literature regarding genericity, that is semantics of nouns with ‘the’ receives syntactic restrictions. Meanwhile, both KK and KE appeared to have difficulty regarding the semantics of nouns with the definite article ‘the’ by over-accepting ‘non-well established’ nouns with ‘the’.

Regarding ‘a+singular’ NPs, we have seen rather unexpected results from EC in several test categories (KRGs, KRGO-KRV, and KRGO-STV) but their unexpected responses were explained with relevant linguistic theories, which categorized the predicate ‘common’ as a quantificational predicate. What was important was that Korean learners followed target-like patterns when the results were scrutinised for each test item. In other words, learners’ responses with ‘a+singular’ NPs were found to be not random but following native-like patterns. For definite plurals, learners showed difficulties rejecting ‘the+plurals’ for generics and it was interesting that in this category KE did not outperform KK at all. The low accuracy rates in ‘definite plural’ NPs were explained by the possible L1 transfer.

Lastly, results on (in)definite test sentences and generic test sentences were compared to test the ‘Interface Hypothesis’. The results of the current research did not confirm the ‘Interface Hypothesis’ as Korean L2 learners show similar accuracy rates in (in)definite and generic test sentences. Furthermore, in order to ensure that learners did not follow (in)definite patterns in the judgment of generic sentences, test sentences were re-examined according to (in)definiteness and it was revealed

that learners did not judge acceptability of articles based on (in)definiteness. In the next section, the results for the translation task will be discussed with respect of the hypotheses and predictions of the study.

7.2 Discussion of the translation task

Task 2 is a translation task and, as a production task, it investigates if learners use the appropriate articles or null article in different generic contexts. The rationale of this task is to test whether learners are able to produce the correct form of NP with/without articles and to compare their performance with the judgment tasks, which will therefore elucidate their overall knowledge of the generic use of articles (cf., Section 7.4). What is more, the translation task primes the subject into L1 transfer, as test sentences were given in Korean. Thus, role of L1 transfer will be examined in discussing data of the translation task. Table 7.11 summarises possible article uses in English generic sentences and their Korean equivalents in different generic sentence types (CG=Characterising Generics, KRGS=Kind-referring Generics in Subject position, KRGO-KRV=Kind-referring Generics in Object position after Kind-Requiring Verbs, and KRGO-STV=Kind-referring Generics in Object position after Stative Verbs).

Table 7.11: Generics in English and Korean

Sentence Type	English Generics	Korean Generics
CG	bare plural, the+singular, a+singular	BP(bare plural)/BS(bare singular) + <i>nun</i>
KRGS	bare plural, the+singular	BP/BS + <i>nun</i>
KRGO-KRV	?bare plural, the+singular	BP/BS + <i>nun</i>
KRGO-STV	bare plural, the+singular	BP/BS + <i>nun</i>

Let us repeat the predictions for this translation task. As Table 7.11 shows, ‘bare plural’ and ‘bare singular’ forms can be used as generics in Korean. Thus, if Korean

learners are influenced by their L1, they would use these two forms most frequently. In the meantime, 'bare plural' forms are the most preferred form of generics used by English native speakers, thus most frequent in the input L2 learners receive. Hence, a high usage rates of bare plurals by the L2 learners can be explained by both frequent input and L1 transfer. Despite the high proficiency level of the participants, if L1 transfer is the source of their knowledge, they would overuse bare singular forms as well.

Another prediction of bare plural usage is related to UG accessibility. In the KRGO-KRV sentence category, 'bare plurals' are not always generic but other forms such as 'the+singulars' are acceptable after kind-requiring verbs (Carlson and Pelletier, 1995). If Korean L2 adult learners are not sensitive to the semantic restriction on generic NP choices after kind-referring verbs, they would over-use bare plurals in this structure. On the other hand, if Korean L2 learners follow a native like pattern by preferring 'the+singular' forms over 'bare plural' forms after kind-requiring verbs, it would suggest firstly that they have correctly acquired generic use of articles and secondly the accessibility of Universal Grammar to adult L2 learners. That is because there is no a priori reason for the learners to prefer 'the+singular' forms over 'bare plurals'. In other words, no L2 input would make learners aware that the bare plural is not acceptable after KRV. Furthermore, such a feature does not manifest in their L1, either.

In terms of the use of 'a+singular' NPs, as has been shown in Table 7.11, they can occur in characterising generic sentences but not as kind-referring NPs, thus they can potentially serve as a diagnostic of whether the learners are able to distinguish the two types of generic. If learners are sensitive to two different types of genericity which are sentence level and NP level generics, they would not overuse the 'a+singular' form in NP level generic sentences. Reversely, if the learners have not acquired the knowledge that the 'a+singular' form is not a generic NP or if they

do not distinguish the two types of genericity, they would overuse ‘a+singular’ in NP-level generic sentences.

Regarding the use of the article ‘the’, as Table 7.11 shows, it can occur both in characterising generics and as kind-referring NPs. As discussed in section 2.1, ‘the+singular’ NPs are generic and they can occur in characterising generic sentences. It can be predicted that, as ‘bare plural’ forms are the most preferred generic form by native English speakers (Downing and Locke, 2006), learners would show less frequency of ‘the+singular’ NPs than ‘bare plural’ NPs in CG, KRGS, and KRGO-STV. On the other hand, in KRGO-KRV, bare plural forms are marginally acceptable by native speakers but ‘the+singular’ forms are always acceptable (Carlson and Pelletier, 1995). Thus, in this category, if learners are sensitive to the preceding verb types in the choice of following generic nouns, learners would use ‘the+singular’ forms more frequently than ‘bare plural’ forms.

Another prediction on ‘the+singular’ NPs would be that if learners have acquired the semantic restriction on the use of singular NPs when they occur with ‘the’, they will not overuse ‘the’ when the NPs are not well-established entities or kinds. However, if the learners overuse ‘the’ with non well-established entities or kinds, it would suggest that they have not acquired the semantic restriction on the choice of NP forms. In addition, recall that ‘the+plural’ forms are not kind-denoting in English because ‘the’ only lexicalises the concept of maximality. Therefore, ‘the+plural’ NPs can have a meaning of ‘the maximal group of entities’ which is specific, whereas ‘the+singular’ NPs can be kind-referring. If Korean speaking learners have acquired the semantic property of ‘the’ in English, they would correctly use ‘the’ with singular NPs but not use ‘the’ with plural NPs. On the other hand, if they overuse ‘the’ with plurals, it would suggest that they have not successfully acquired the English semantics of ‘the’. Now let us consider the results of the translation task in terms of predictions.

7.2.1 Uses of ‘bare plurals’ in translation task

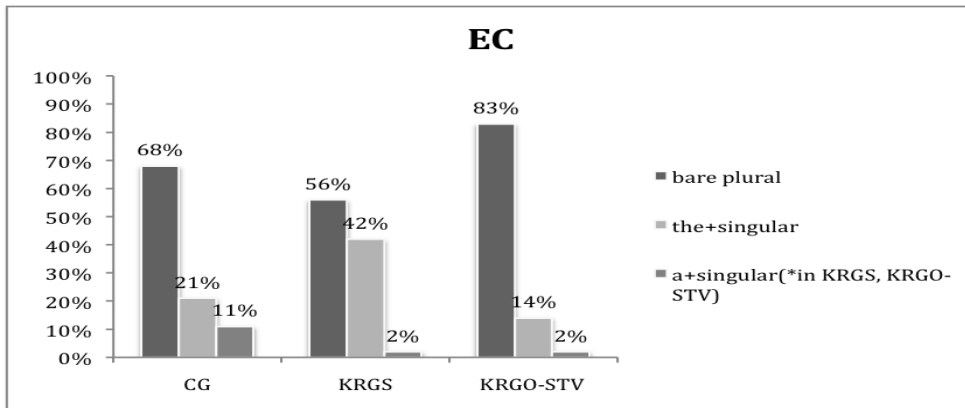
As was discussed, bare plural form is the most preferred form of generic NPs by English native speakers. According to Downing and Locke (2006), “the loosest and therefore the most frequent type of generic statement is that expressed by the zero article with plural count nouns”(Downing and Locke, 2006, p. 421). Thus, bare plural forms would be the generic NP form with the most frequent L2 input for L2 learners. Furthermore, bare plural NP forms are also generic in Korean, thus based on most frequent L2 input and influence of L1 transfer, learners are expected to use bare plural forms most frequently.

If the learners are dominantly dependent on L1 transfer, bare singular and bare plural NPs are expected to be used most frequently by L2 learners in the result of the translation task. In fact, if the learners are heavily influenced by L1, they would prefer using an ungrammatical form of bare singular NPs to bare plural NPs. That is because ‘bare singular’ generic forms are greatly preferred to ‘bare plural’ generic forms in Korean (cf., Chapter 5).

Bare plural NPs after kind-requiring verbs are not always regarded as generic NPs by English native speakers. Therefore, the response after kind-requiring verbs will be discussed separately. Let us first examine how EC performed in characterising generics (CG), kind-referring NPs in subject position (KRGs), and kind-referring NPs after stative verbs (KRGs-STV). Figure 7.10 displays the usage rates of different NPs by EC with bare plurals in several test sentence types.⁴

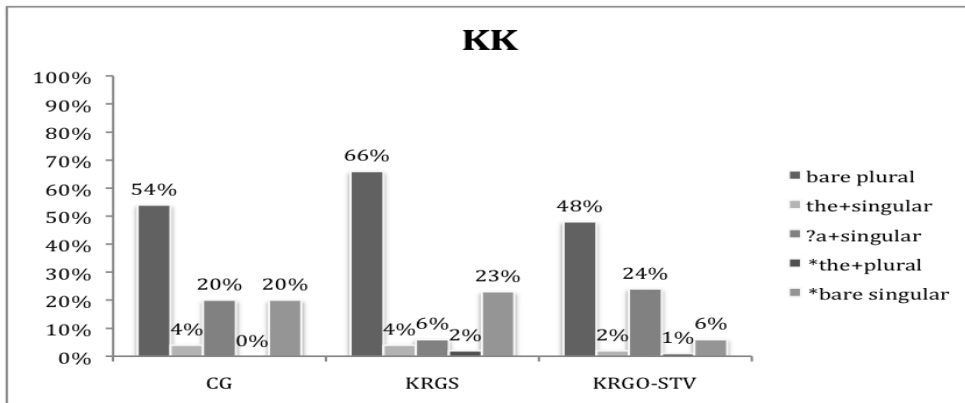
⁴The results of EC do not include ‘the+plural’ and ‘bare singular’ NPs since they did not use these forms. ‘A+singular’ is marked with a question mark because ‘a+singular’ is acceptable in CG but not acceptable in KRGs and KRGs-STV as generic.

Figure 7.10: EC production in CG, KRGS, KRGO-STV



As it was expected, EC used bare plural forms most frequently in all categories as presented above in Figure 7.10. Now let us examine the responses by the learners. Figure 7.11 shows the usage rates of bare plurals in different structures by KK, in comparison with other NPs.⁵

Figure 7.11: KK production in CG, KRGS, KRGO-STV

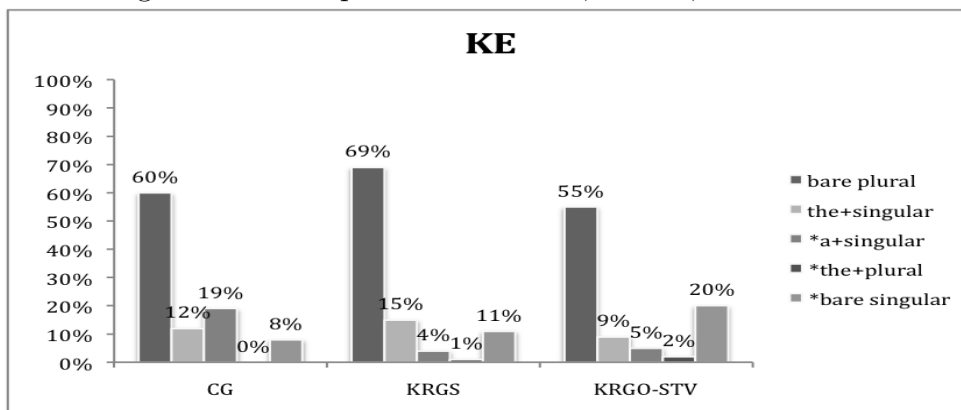


As shown in Figure 7.11, as was predicted, in the translation task, KK used bare plural forms more frequently than the other forms in all structures including CG, KRGS, and KRGO-STV. They greatly preferred using ‘bare plurals’ to all other NP forms including ‘the+singular’ and ‘a+singular’ NPs. Let us now consider the results of KE. In addition, KK showed quite high usage rates of the ungrammatical form of ‘bare singular’ NPs in CG and KRGS. It might suggest role of L1 transfer, but the important fact is that KK used bare plurals considerably more frequently

⁵‘A+singular’ is marked with a question mark because they are acceptable in CG but not acceptable in KRGS and KRGO-STV.

than bare singulars. Thus, this result suggest that L1 transfer did not play a dominant role in the choice of nouns. Figure 7.12 summarises the usage rates of KE.⁶

Figure 7.12: KE production in CG, KRGS, KRGO-STV



KE also showed the highest usage rates of bare plurals in all structures. They used bare plural forms most frequently in all the structures above (CG, KRGS, and KRGO-STV). Therefore, the prediction is confirmed by KK and KE as they all used bare plural forms most frequently. Regarding usage of bare singulars in comparison with those of bare plurals, KE employed bare plural NPs considerably frequently than bare singulars in CG, KRGS and KRGO-STV. Therefore, this suggests that KE learners were not heavily dependent on the L1 transfer in the choice of nouns⁷. Then, now let us investigate how KK and KE translated generic NPs after kind-requiring verbs (KRGO-KRV).

7.2.2 ‘Bare plurals’ vs. ‘the+singulars’ in KRGO-KRV

Bare plurals are marginally acceptable as generics after kind-requiring verbs by native English speakers, whereas ‘the+singular’ NPs are always acceptable as generics in this structure (Carlson and Pelletier, 1995). If Korean L2 adult learners are not sensitive to the semantic restriction of the preceding verb on the generic NP choice

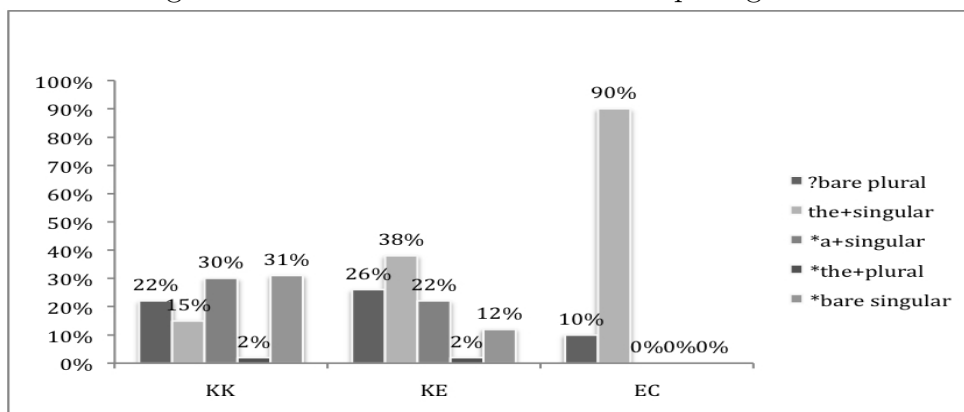
⁶‘A+singular’ is marked with a question mark because they are acceptable in CG but not acceptable in KRGS and KRGO-STV.

⁷Results on bare singular will be discussed in detail in section 7.2.6

after kind-referring verbs, they would over-use bare plurals in this structure. On the other hand, if Korean L2 learners are sensitive to the semantic restriction on the generic NP choices regarding the preceding verbs, thus following a native like pattern by preferring ‘the+singular’ forms over ‘bare plural’ forms after kind-requiring verbs as in 7.13, it would suggest the accessibility of Universal Grammar to adult L2 learners because there is no a priori reason for the learners to prefer ‘the+singular’ forms over ‘bare plurals’. Further, the semantic restriction on the following NPs according to the preceding verbs does not manifest in the learners’ L1 and these features are not explicitly taught to the learners.

Figure 7.13 summarises the usage rates of NPs by KK, KE, and EC in generic NPs after kind-requiring verbs.

Figure 7.13: Generic NPs after kind-requiring verbs



For EC, they greatly preferred using the definite article ‘the’ with singular NPs in this structure to bare plurals, as expected. They hardly used bare plural forms in this structure with only 10% usage rates.

On the other hand, as Figure 7.13 reveals, KK used rather diverse types of NP in object position after kind-requiring verbs. Among them only the ‘the+singular’ form is acceptable unequivocally. It was predicted that the learners would overuse

bare plural form, if they were not sensitive to the semantic restriction on the preceding verb. According to the results, KK showed 22% usage rates with bare plurals and 15% usage rates with ‘the+singular’.

KE used ‘the+singular’ forms most frequently with 38% usage rates, followed by ‘bare plural’ forms with 26% usage rates. The results of KE demonstrate that they did not use bare plural forms dominantly. The uses of ‘bare plural’ NPs and ‘the+singular’ NPs by the learner groups are not as skewed towards ‘the+singular’ NPs as shown in EC in Figure 7.13 above. However, one interesting point emerges when the usage rates of bare plurals and the+singulars in KRGO-KRV are compared with those in other structures such as CG, KRS and KRGO-STV. One can notice that the usage rates of bare plurals in KRGO-KRV is dramatically lower than in other structures, whereas the usage rates of ‘the+singular’ NPs are much higher.

Now, let us examine the numbers in a broader picture. It seems that both KK and KE learners did not use bare plural forms of generic NP dominantly after kind-requiring verbs compared to other structures. Let us discuss the results by KK first. Table 7.12 below compares the usage rates of ‘bare plurals’ and ‘the+singular’ NPs in the KRGO-KRV in comparison with the use of them in other structures (CG, KRGS, and KRGO-STV).

Table 7.12: Usage rates of BP and ‘the+singular’ by KK

KK	CG	KRGS	KRGO-KRV	KRGO-STV
Bare plural	55%	66%	22%	48%
The+singular	4%	4%	15%	2%

Table 7.12 compares the usage rates of ‘bare plurals’ and ‘the+singulars’ by KK in each sentence type. KK showed 22% usage rates of bare plurals in KRGO-KRV and this was the most frequently used type of NP in the KRGO-KRV category. However, in a broader picture, it seems that KK did not use bare plural NPs after

kind-requiring verbs (22%) as often as they would do in other structures such as CG, KRGS, or KRGO-STV.

Let us consider the use of ‘the+singular’ NPs in KRGO-KRV by KK in comparison with the other structures. One might speculate that 15% usage rates of ‘the+singular’ forms after kind-requiring verbs would be low compared to EC (KRGO-KRV). However, considering usage rates in other structures such as CG, KR, and STV, KK showed statistically significantly higher usage rates of ‘the+singular’ forms after kind-requiring verbs (p value=0.0001, p value=0.001, p value=0.0001, respectively). Therefore, the results for KK can confirm the prediction that they do not blindly use bare plurals after kind-requiring verbs.

What is more, while they are not exactly target-like, they provide suggestive evidence that KK learners are sensitive to the same semantic restriction of the preceding verbs just as native speakers by showing considerably higher usage rates with ‘the+singular’ NPs in the KRGO-KRV structure than others (CG, KRGS, and KRGO-STV) (p value=0.0001, p value=0.0001, p value=0.0001, respectively). Figure 7.13 compares the use of NPs in KRGO-KRV with other structures such as CG, KRGS, and KRGO-STV by KE.

Table 7.13: Usage rates of BP and ‘the+singular’ by KE

KE	CG	KRGS	KRGO-KRV	KRGO-STV
Bare plural	60%	69%	26%	55%
The+singular	12%	15%	38%	9%

As Table 7.13 reveals, regarding bare plurals, KE did not use bare plural forms in KRGO-KRV structure as frequently as they would do in other structures such as CG, KRGS, and KRGO-STV. In fact, the usage rates of bare plurals after kind-referring verbs are statistically significantly lower than those in CG, KRGS, and

KRGO-STV (p value=0.0001, p value< 0.0001, p value=0.0001, respectively). Furthermore, KE used ‘the+singular’ NPs significantly more frequently than those in CG, KRGS and KRGO-STV structures (p value = 0.0001, p value<0.0001, p value <0.0001, respectively). While the usage rates of ‘the+singular’ are not as high as EC, KE apparently follow native-like patterns by significantly preferring ‘the+singular’ NPs after kind-requiring verbs.

Now let us bring together the responses of KK and KE. According to the results for KK and KE on bare plurals, both learner groups did not over-use bare plural forms in the KRGO-KRV structure. However, in terms of the usage rates for ‘the+singular’ NPs, both learner groups did not employ the form as much as EC did. However, in comparison with the usage rates of ‘the+singular’ NPs in other structures, it was obvious that both KK and KE employed them significantly more frequently than they did in the other structures. What is more, for the KE learners, they followed target-like patterns by preferring ‘the+singular’ forms to ‘bare plural’ forms. Therefore, the results provide suggestive evidence that adult learners have access to UG because they are sensitive to the semantic constraints of preceding verbs in the choice of following generic NP. Furthermore, the difference between KK and KE supports the role of positive input in this category. The following section will discuss further ‘the+singular’ NP usages rates in all categories including CG, KRGS, KRGO-KRV, and KRGO-STV by KK and KE.

7.2.3 Uses of ‘the+singular’ NPs by KK, KE, and EC

‘The+singular’ NPs are generic NPs and thus can occur in every test category including CG, KRGS, KRGO-KRV, and KRGO-STV. Table 7.14 summarises usage rates of ‘the+singular’ NP forms by KK, KE and EC.

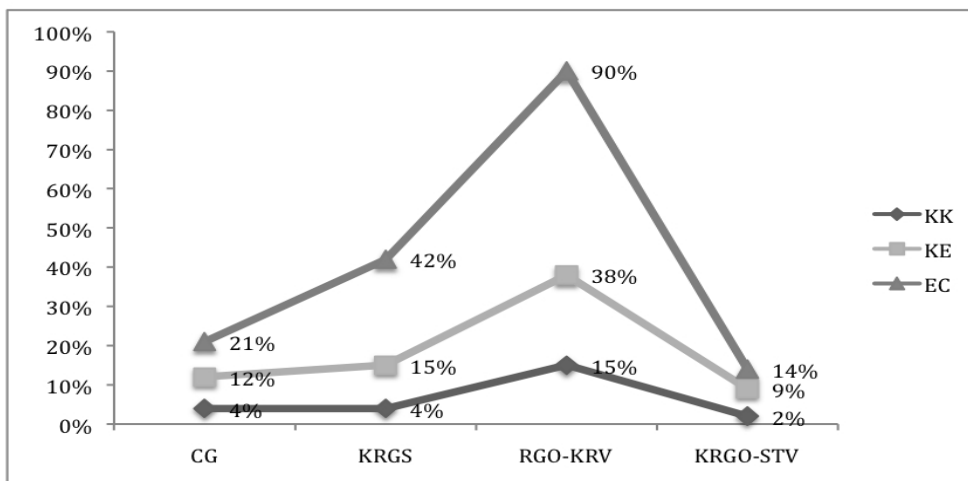
Table 7.14: Usage rates of ‘the+singular’ by KK, KE, and EC

The+singular	CG	KRGS	KRGO-KRV	KRGO-STV
KK	4%	4%	15%	2%
KE	12%	15%	38%	9%
EC	21%	42%	90%	14%

According to the usage rates as shown in Table 7.14, EC seems to have used ‘the+singular’ forms most frequently compared to KK and KE in all 4 categories. It is notable that despite the fact that ‘the+singular’ forms are acceptable, KK showed very low usage rates. Except ‘KRGO-KRV’, KK only marginally used ‘the+singular’ forms. On the other hand, KE appear to use ‘the+singular’ forms significantly more frequently than KK across different categories (p value<0.0001, p value<0.0001, p value<0.0001, and p value<0.0001, respectively). Thus, the result suggests that KE learners with ample naturalistic input are more familiar with ‘the+singular’ forms as generics than KK who lack such input.

One more interesting observation from the uses of ‘the+singular’ is that the usage patterns in each generic sentence category are similar to each other. Consider Figure 7.14 below.

Figure 7.14: ‘The+singular’ usage patterns by KK, KE, and EC

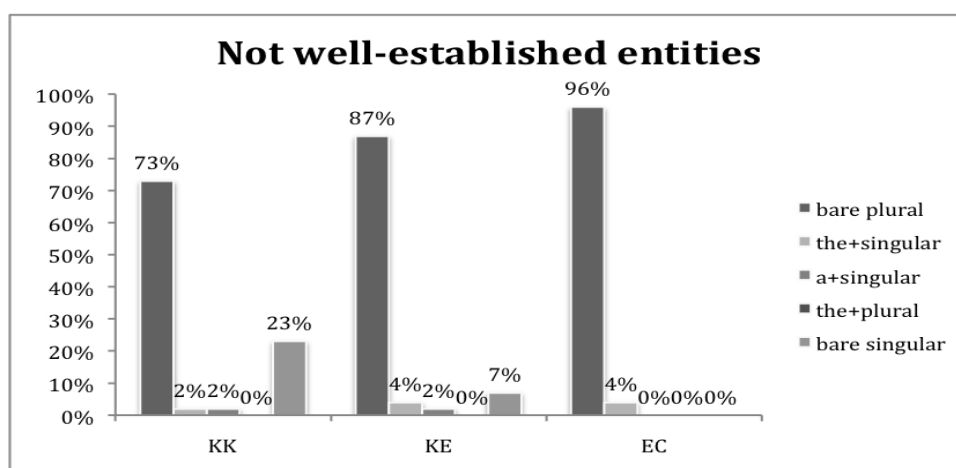


Recall that ‘the+singular’ forms are an appropriate form of generic in all the sentence categories above including CG, KRGS, KRGO-KRV, and KRGO-STV. However, interestingly, the usage patterns by learners (both KK and KE) are parallel with those of EC. All three groups used ‘the+singular’ forms most often in the KRGO-KRV category and it is followed by the KRGS category and CG category. They all showed the lowest usage rates of ‘the+singular’ in the KRGO-STV category. Likewise, usage patterns of ‘the+singular’ generics are similar between two learner groups and EC. What is more, as Figure 7.14 above shows, KE performed considerably better than KK, thus showing a more target like response. It provides evidence that positive input has a facilitating role in adult SLA.

7.2.4 The concept of well-establishment and use of ‘the’

Recall that the definite article ‘the’ should be used with well-established noun entities or kinds in terms of generic NPs. If learners have acquired the semantic restriction of NP choice with the definite article ‘the’ in terms of generic NPs, they would not overuse ‘the’ when they translate nouns which are not well-established entities. Reversely, if they have not acquired the semantic restriction of NPs, learners would overuse ‘the’ with not well-established entities. Figure 7.15 displays the usage rates for ‘the’ with not-well established nouns by KK, KE and EC.

Figure 7.15: Usage rates of ‘the’ with not-well established nouns by KK, KE, and EC

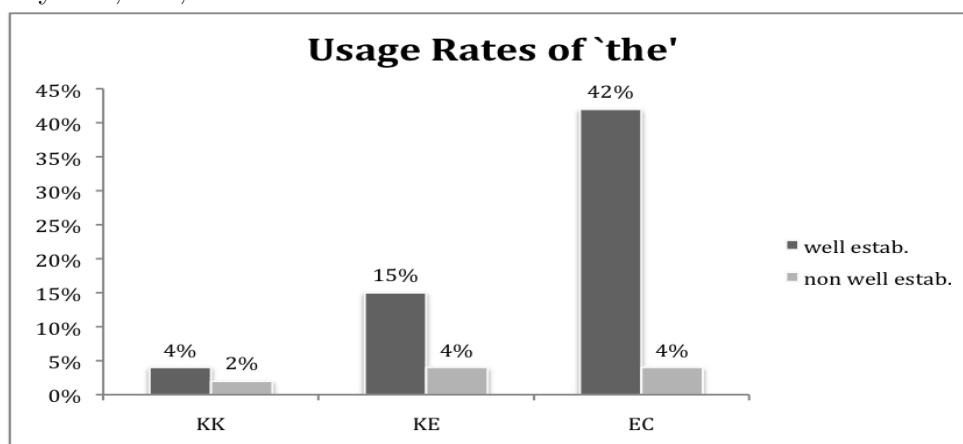


According to the results, EC dominantly employed bare plurals in this structure by showing 96% usage rates, while marginally using the definite article ‘the’ with non-well established entities. KK also followed the EC pattern in that they used bare plurals most frequently with 73% usage rates. KK also performed target-like by not over using the definite article ‘the’ when the nouns are not well-established entities or kinds. For KE, they also dominantly employed bare plural forms in this structure with 87% usage rates. They displayed target like results by marginally using ‘the’ with non-well established nouns.

Meanwhile, recall that bare plural forms are the forms used with great preference by KK and KE, as shown in Figure 7.11 and Figure 7.12. They did not use ‘the+singular’ forms very often as we have seen earlier. Thus, it might not be the case that learners did not actually acquire the semantic restriction on the nouns used. They did not use ‘the+singular’ forms much as they would always prefer using ‘bare plural forms’ as they did in other structures (CG, KRGS, and KRGO-STV).

Alternatively, one can also argue that the high usage rates of bare plural forms with non-well established nouns are due to plain L1 transfer. However, if we consider usage rates for ‘the’ with well-established nouns, learners seem to know that ‘the’ can be used only with ‘well-established’ nouns. Let us recall the learners’ usage rates of ‘the’ with well-established nouns from the KRGS category in 7.11 and 7.12. The usage rates of ‘the’ with well-established nouns are repeated in Figure 7.16 in comparison with the usage rates for ‘the’ with non-well established entities of nouns in Figure 7.15.

Figure 7.16: Usage rates of ‘the’ with well established nouns vs. not-well established nouns by KK, KE, and EC



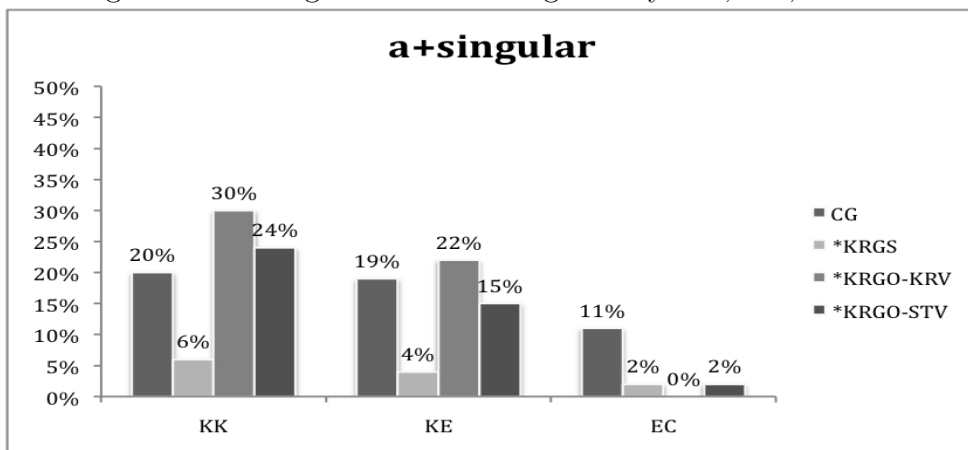
Let us consider the comparison of usage rates between well-established entities and non-well-established entities by KK first. It seems that KK did not use the definite article ‘the’ very often for both structures. Thus, it is difficult to predict whether they knew that ‘the’ should be used with well-established kinds because it is also possible that KK learners did not use ‘the’ in both structures as they prefer bare plural generics.

However, for the case of KE, while they showed considerably lower usage rates of ‘the’ with well-established nouns than EC (p value < 0.0001), they also showed considerably higher usage rates of ‘the’ in well-established structures than non-well established structures (p value < 0.0001). It means that the low usage rates of ‘the’ in the non-well established category were not caused by a simple preference for bare plurals amongst KE learners. In other words, if the low usage rates of ‘the’ were caused by learners’ preference for bare plurals, then they should have also shown low usage rates with ‘the’ in the well-established category. Thus, this result can be interpreted as that KE learners seem to know that the definite article ‘the’ can only be used with well-established entities or kinds regarding generics. Furthermore, considering that exposure length to naturalistic input for most of the population in KE is 3-4 years, there is a high chance that the Korean learners in KE will become more similar to EC as they stay longer in English speaking countries.

7.2.5 Sentence level generics vs. NP level generics

The indefinite article ‘a’ is not used to refer in generic NPs. Only ‘the+singular’ and ‘bare plural’ forms are possible as generic NPs in English. However, in characterising generics where genericity originates from sentences rather than NPs themselves, ‘a+singular’ NPs are allowed in the subject position of generic sentences. However, in other structures including KRGS, KRGO-KRV, and KRGO-STV, ‘a+singular’ forms are not appropriate as generic NPs. If learners are sensitive to two different types of genericity (sentence level and NP level generics), they would not overuse the ‘a+singular’ form in NP level generic sentences. Reversely, if they have not acquired that ‘a+singular’ form is not generic NPs, they would inappropriately use ‘a+singular’ in NP-level generic sentences. Figure 7.17 summarises the usage rates of indefinite article ‘a’ with singular nouns in each category including CG, KRGS, KRGO-KRV, and KRGO-STV.

Figure 7.17: Usage rates of ‘a+singular’ by KK, KE, and EC



Let us first consider the uses of ‘a+singular’ NPs in subject position, thus CG and KRGS categories. In characterising generics, KK and KE legitimately employed ‘a+singular’ NPs 20% and 19% of the time, respectively. However, in KRGS, learners show very low usage rates of the indefinite article ‘a’ with singular nouns as kind-referring NPs in subject position, which displays a rather sharp contrast in the usage rates of ‘a+singular’ NPs between CG and KRGS structures. Therefore,

this contrast seems to indicate that learners have acquired the two different generic forms - sentence level and NP level generics.

However, when it comes to generic NPs in object position, learners show rather unexpected patterns. It is noticeable that KK and KE incorrectly used ‘a+singular’ forms highly frequently with 30% and 22% usage rates, respectively, in the KRGO-KRV category. Likewise, in the KRGO-STV category, both KK and KE showed high usage rates for ‘a+singular’ NPs with 24% and 15%, respectively. From this, one could suggest that KK and KE have not acquired the property that ‘a+singular’ NPs are not generic NPs. However, this speculation cannot be supported, because they appeared to distinguish between two different generic types by hardly using ‘a+singular’ NPs in kind-referring NPs in subject position. If this is the case, overuse of ‘a+singular’ NPs in KRGO-KRV and KRGO-STV could be specific to the syntactic position they occur in. In general, it is in the object position where Korean speaking L2 learners have difficulties regarding the use of ‘a+singular’.

One possible explanation for this phenomenon would lie in the nature of the Korean language. We have seen earlier in Section 2.2.2 that for kind-referring NPs in the object position in Korean, generic particle ‘nun’ is deleted and object particle ‘lul’ is added to nouns instead. Consider the examples in 7.16 below.

- (7.16) a. Syokuli-ka transistor-lul balmyeong-hass-ta.
 Shockley-SUB transistor-ACC(GEN) invent-PAST-DEC
 ‘Shockley invented the transistor’
- b. hyunmi-nun koyangi-lul silhehan-ta.
 Hyunmi-TOP cat-ACC(GEN) hate-DEC
 ‘Hyunmi hates cats’

As (7.16-a) and (7.16-b) show, the generic particle ‘nun’ is all deleted and object particle ‘lul’ attached to the nouns in object position in Korean. In the absence

of a generic marker ‘nun’ in object position in the Korean test sentences, the interpretation of nouns in the Korean sentences might have been ambiguous between a generic reading and an indefinite reading. In other words, ‘transistor’ and ‘cat’ in Korean can have both indefinite and generic interpretations as default. What is more, generic contexts were provided for the previous timed-acceptability judgment task, while no contexts were given to the learners in translation task. Therefore, in the absence of the generic marker ‘nun’ and a generic context, there is a chance that learners might have regarded the nouns in object position in Korean as indefinite NPs, thus overusing ‘a+singular’ NPs in object position in English. Therefore, the over-use of ‘a+singular’ NPs in the object position is attributable to an L1 effect.

Consequently, Korean speaking L2 learners can distinguish between sentence-level generics and NP-level generics, thus correctly using ‘a+singular’ NPs in characterising generic sentences and hardly using them for kind-referring generics in the subject position. On the other hand, they showed rather unexpected responses in object position (KRG0-KRV and KRG0-STV), resulting from a lack of clear generic marker ‘nun’ in the Korean test sentences. This result shows L1 effect, possibly caused by the Korean sentences provided as stimuli for translation. Therefore, in order to investigate learners’ response without a priming effect from Korean test sentences, it would be crucial to consider the results from the judgment tasks. Therefore, the results for ‘a+singular’ in object position from the translation task will be compared to those from judgment task later in section 7.4.4.

7.2.6 Uses of ‘bare singular’ forms

Bare singular NPs are not grammatical in English but they are generic nouns in Korean. Therefore, if Korean adult learners overuse ‘bare singular’ forms, it would provide evidence of L1 transfer. In fact as we have seen from the Korean Experiment in Chapter 5, Korean learners prefer ‘bare singular’ generic forms to ‘bare plural’

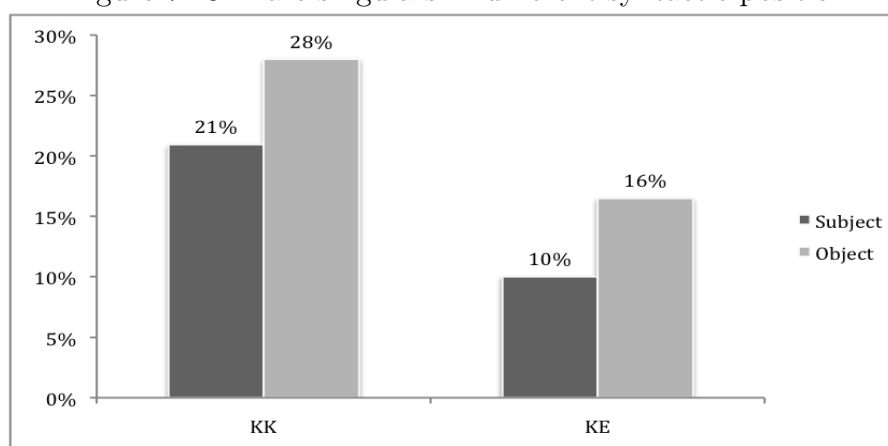
generic forms. Therefore, this leads to the prediction that Korean learners would use ‘bare singular’ forms more frequently than ‘bare plural’ forms, if they follow L1 patterns. Table 7.15 summarises the usage rates of bare singular NPs by KK and KE subject groups. The arrows below stand for statistically significant differences.

Table 7.15: Usage rates of bare singulars by KK and KE

Bare singular	KK	KE
CG	20%→	8%
KRGS	23%→	11%
KRGO-KRV	31%→	12%
KRGO-STV	26%	20%

Bare singular forms are ungrammatical NP forms in English. However, despite the high proficiency level of learners, it is surprising that KK and KE illegitimately used bare singular forms in all categories. KK used bare singular forms more frequently than KE. According to statistical analysis, KE used bare singular NPs considerably less than KK in CG, KRGS, and KRGS-KRV but not in KRGO-STV. Meanwhile, it is interesting that the usage rates of bare singular NPs seem to be affected by their syntactic position, too. Consider Figure 7.18 below.

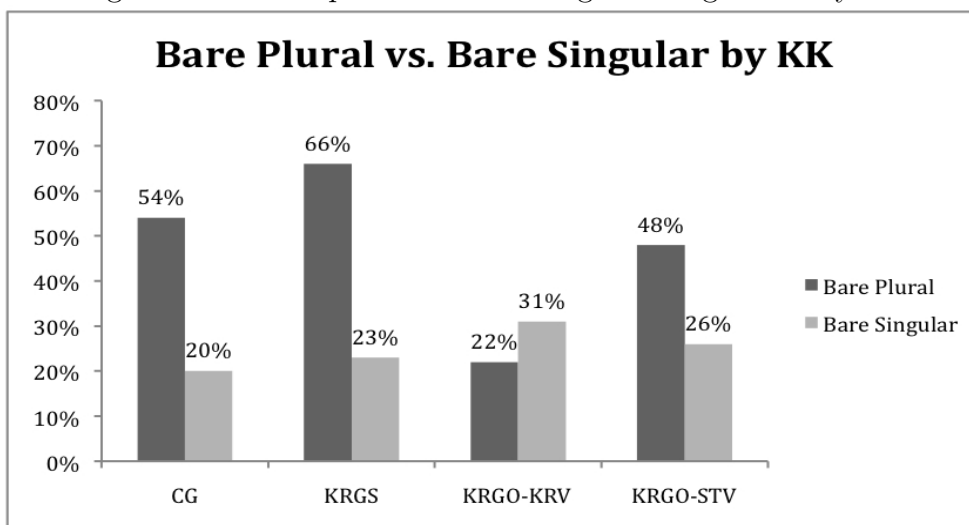
Figure 7.18: Bare singulars in different syntactic position



As Figure 7.18 reveals, it seems that KK and KE have tendency to use bare singular NPs more frequently in object position than subject position. However, the

differences are not found to be statistically significant. Hence, this result can be interpreted as learners incorrectly using bare singular forms, regardless of the syntactic position. In fact, if learners have over-used bare singular NPs following L1 transfer, there is no reason for them to show different usage rates in different syntactic positions. There is no a priori reason why Korean speaking L2 learners show different usage rates between different syntactic positions because bare singular forms in Korean are always acceptable as generic both in subject and object position. Then, if the learners were heavily dependent on L1 transfer in using generic NPs, they should have shown higher usage rates of ‘bare singular’ NPs than ‘bare plural’ forms. While both bare plural forms and bare singular forms are used as generic NPs in Korean, ‘bare singular’ NPs are the preferred generic forms (cf., Section 2.2.2 and cf., Chapter 5). Figure 7.19 shows a comparison of usage rates between bare singular NPs and bare plural NPs in the translation task for KK.

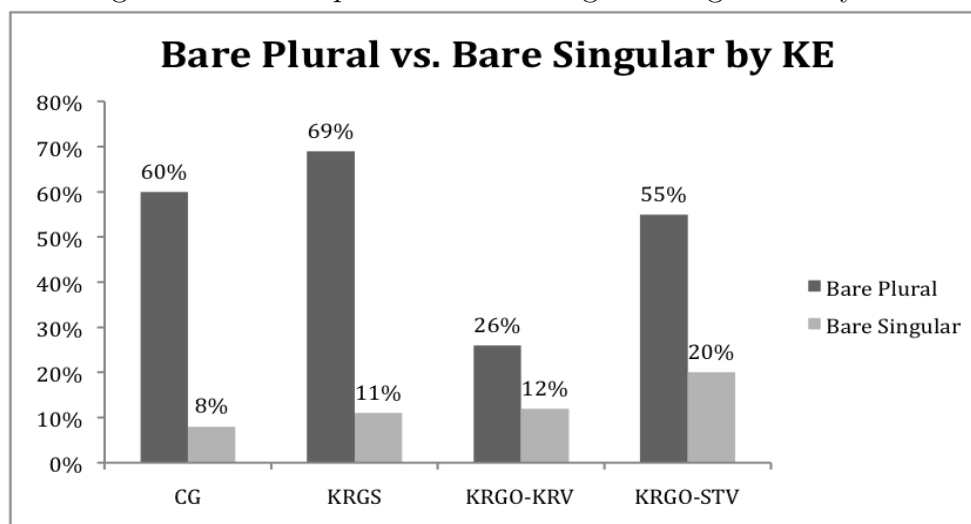
Figure 7.19: Bare plural vs. bare singular usage rates by KK



As Figure 7.19 shows, KK used bare plural forms considerably more frequently than bare singular forms in most categories except in KRGO-KRV. In KRGO-KRV, bare plurals are not an appropriate generic form, thus KK correctly showed relatively low usage rates in this category. The comparison shows that KK did not use ‘bare singular’ forms dominantly and this result means that KK were not entirely

influenced by their L1 in the use of NPs in the translation task. KE showed similar results to KK, as displayed in Figure 7.20.

Figure 7.20: Bare plural vs. bare singular usage rates by KE



KE used bare plural forms considerably more often than bare singular forms in all categories. If KE learners were heavily influenced by L1 transfer, they should have shown higher usage rates of ‘bare singular’ forms because ‘bare singular’ generic forms are preferred to ‘bare plural’ generic forms in Korean. It seems to represent that L1 influence did not play a dominant role in the use of generic NPs in this task.

In fact, ‘bare singular’ forms are ungrammatical NP forms in English, thus learners are unlikely to have received L2 input of ‘bare singular’ forms. In addition, instruction on NP forms is very limited in formal classrooms in Korea. English classroom instruction also does not clearly or directly state that bare singular forms in English are ungrammatical. Therefore, this raises a poverty of stimulus problem for the acquisition of ‘bare singulars’. While bare singular NPs have a *POS* problem, bare plural generic NPs are ample in the L2 input. This would be the reason why both KK and KE showed difficulties with ‘bare singular’ NPs. Meanwhile, we have seen that KE showed considerably less usage rates of bare singulars than KK in

Table 7.15. This result suggests that *POS* can be overcome with ample naturalistic input.

7.2.7 Uses of ‘the+plural’ forms by KK and KE

Recall that ‘the+plural’ forms in English are not generic nouns as discussed in section 3.2.2. While the definite article in Spanish type languages can denote maximality as well as kinds, ‘the’ in English only encodes maximality but not kinds. Thus, ‘the+plural’ nouns are not generic nouns but refer specific entities in English.

Therefore, the prediction is that Korean learners would not use ‘the’ with plural nouns if they have acquired the semantic property of English ‘the’ namely that the definite article ‘the’ does not encode kinds but it refers to maximal group of nouns with plural nouns. On the other hand, if they overuse ‘the’ with plurals for genericity, it would suggest that they have not successfully acquired the semantics of ‘the’ in English. Table 7.16 summarises the usage rates on ‘the+plural’ by KK and KE.

Table 7.16: ‘The+plurals’ by KK and KE

The+plural	KK	KE
CG	0%	0%
KRGS	2%	1%
KRGO-KRV	2%	2%
KRGO-STV	1%	2%

As Table 7.16 above shows, both KK and KE hardly employed the definite article ‘the’ with plurals. The results suggest that learners have successfully acquired that the semantic feature of the English definite article does not include ‘generic’ but only encodes ‘maximality’. However, if this is the case, KK and KE should be able to correctly use ‘the’ with singular NPs as well, because ‘the’ in ‘the+singular’ category also encodes maximality.

For KK, as seen earlier in Figure 7.16, they rarely used the definite article ‘the’ with singular NPs. Thus the results of KK can be interpreted as they might not have used ‘the’ with plural NPs just because they did not prefer using ‘the’. In other words, it is possible that KK did not use ‘the’ with plural NPs as they would do in all other structures including CG, KRGS, KRGO-STV and KRGO-KRV.

Consequently, it is not clear whether KK have acquired the semantics of the English article ‘the’. Therefore, in order to understand the response of KK more comprehensively, data from the judgment task should be considered and compared to that from production task (translation task). In section 7.4, the results obtained from the current translation task will be compared to those from the timed acceptability judgment task and untimed grammaticality judgment task.

Regarding KE, we have seen earlier that KE employed ‘the’ with singular NPs relatively often by showing 15% usage rates. (cf., Figure 7.16). On the other hand, KE hardly used ‘the’ with plural NPs as we have seen in Figure 7.16. These results suggest that the learners did not blindly avoid using ‘the+plural’ forms but KE learners have acquired the article semantics of ‘the’, thus correctly using ‘the’ with singular NPs and correctly not using ‘the’ with plural NPs.

7.2.8 Summary

In this section, we have examined production data on the use English generic articles in light of the hypotheses of this research. Firstly, for bare plural NPs, all participant groups including EC used bare plurals most frequently in CG, KRGS, and KRGO-STV structures. In KRGO-KRV, EC marginally used bare plurals and KK and KE showed target-like patterns, thus showing suggestive evidence of UG accessibility by adult L2 learners despite the poverty of stimulus problem. For the use of ‘the+singular’s, both KK and KE used this form less frequently than EC.

However, the usage patterns of KK and KE are very similar to those of EC. Regarding the use of ‘the’ with not well-established nouns, following EC patterns, both KK and KE successfully used bare plural forms with non-well established nouns. In terms of ‘a+singular’, KK and KE learners showed evidence that they can distinguish NP-level generics from sentence level generics by not over-using ‘a+singular’ NPs in the KRGS category. However, it was notable that KK and KE overused ‘a+singular’ in object position including, KRGO-KRV and KRGO-STV categories. These results of ‘a+singular’ in object position will be further investigated alongside the results from the two judgment tasks (cf., Section 7.4).

7.3 Comparison between implicit and explicit tasks

In this section, we compare the learners’ performance on generic articles in the timed-acceptability judgement task and untimed grammaticality judgment task. Recall that one of the important aspects of the current research is to employ two different types of tasks; implicit (Timed Acceptability Judgment Task) and explicit (Untimed Grammaticality Judgment Task) (See Section 4.3.1 for a more detailed discussion). The reason why two different types of tasks were employed was to disentangle acquired (implicit) knowledge from explicit knowledge⁸. This is to ensure the validity of the experimental instruments. Very few SLA studies to date have made attempts to develop test tools that disentangle implicit and explicit knowledge. Learners who display target-like behaviour can be interpreted as accessing

⁸As already discussed in Section 4.3.1, the terms ‘implicit’ knowledge and ‘acquired’ knowledge will be used interchangeably in this thesis.

In addition, the distinction between implicit knowledge and explicit knowledge is discussed in more details in Section 4.3.1

underlying linguistic knowledge through UG. Or, alternatively, it can also be interpreted that they are accessing explicit strategies. For such reason, teasing apart these two possible explanations is necessary.

In order to disentangle the two possible approaches (generative approach and strategy-based approach), different tasks were employed in the current research. The tasks were designed to compare learners' performance in different tasks. An implicit task taps into more acquired knowledge (implicit) and an explicit task taps into more explicit and meta-linguistic knowledge or strategies.

Task 1 is a timed-acceptability judgment task and it is regarded as an implicit task since the subjects do not know what is being tested. In addition, they were shown the test items for few seconds online to prevent them from thinking over the test items, therefore avoid the possibility of accessing explicit metalinguistic knowledge. Task 3 is an untimed grammaticality judgment task and it is an explicit task. Subjects were clearly given instruction on what was being tested and the tested NPs were underlined. Additionally, participants were given plenty of time so that they could think about their responses, thus leading them to refer to their explicit knowledge/strategies. Predictions regarding the implicit and explicit tasks are as follows.

- (7.17) Learners can show consistent responses across the tasks.
- a. If learners have acquired an L2 property x , they should be able to perform consistently target-like in both task 1 and task 3.
 - b. If learners show consistently non target-like responses in both task 1 and task 3, it suggests that they have not acquired an L2 property x .

- (7.18) Learners can show inconsistent responses across the tasks.

- a. If learners perform target-like in task 1 but not target-like in task 3, it can suggest that learners seem to have acquired x , but their explicit strategies are incorrect. This suggests that inconsistent explicit strategies can interfere with acquired knowledge.
- b. If they perform target-like in task 3 but not in task 1, it would suggest that learners have not acquired a certain feature x . Despite the target-like results in task 3, one cannot say that they have acquired a feature x because they showed non target-like behaviour in an implicit task in which involvement of explicit knowledge is minimised.

The predictions in 7.17 are clear cut, thus no further explanation is required, whereas for the predictions in 7.18, there are some points to clarify.

Regarding prediction (7.18-a), even though task 3 taps into more explicit strategies by not putting time-pressure on the learners, use of implicit knowledge in completing task 3 cannot be excluded. Thus, one could argue that if the learners have acquired certain feature x , they should perform target-like in task 3 as well as in task 1 as ‘acquired knowledge’ is automatised and therefore more systematic than explicit knowledge. However, it seems that explicit strategies do not necessarily play a helpful role for L2 learners.

In fact, as we have seen from Section 4.3.1, explicit knowledge can be characterised as often imprecise, inaccurate and inconsistent (Sorace, 1985, See Ellis 2005). It could also mean that incorrect explicit knowledge actually interferes with learners’ acquired knowledge, thus contributing to the target-variant results by L2 learners.

In terms of English generic articles, it is possible that some learners might have developed explicit knowledge which does not necessarily correspond to target properties. The learners have not been given uniform instruction on English generic article use, and this may lead to individual variation. Furthermore, as seen earlier

in Section 2.1, article use in English genericity is rather complex. For instance, use of the same generic NPs such as bare plurals are restricted by the semantics of preceding verbs, therefore providing complex input. These could have caused inconsistent, or even inaccurate explicit strategies.

As predicted in (7.18-a), when explicit knowledge is inaccurate, it could interfere with acquired knowledge and cause less target-like L2 performance. In other words, incorrect explicit rules compete with acquired knowledge, thus contributing to non-target-like results in the explicit task. This argument can be further supported by the ‘Competing Systems Hypothesis’ suggested by Rothman that argues that systems of learned pedagogical rules (explicit knowledge) contribute to target-deviant L2 performance at the most advanced stages of L2 acquisition via its competition with the generative system (Rothman, 2008).

While we are not particularly considering pedagogically learned rules in this experiment, it is true that pedagogically learned rules and analyzed explicit rules⁹ share many similar features in that they both are distinguishable from acquired knowledge. Furthermore, pedagogically learnt rules and analyzed rules are categorised as explicit knowledge (Ellis, 2004), thus both are often imprecise and inaccurate as characterised by Sorace (1985). The ‘Competing Systems Hypothesis’ seems to be parallel with the prediction in (7.18-a) in that explicit strategies can cause target-variant responses by L2 learners.

For prediction (7.18-b), target like results in task 3 can suggest that learners have developed correct explicit knowledge or explicit strategies. Furthermore, target-like results on task 3 do not necessarily mean learners have acquired a certain feature x but it rather suggests that learners have used explicit strategies. Recall that in the background of employing task 3, it was assumed that if learners’ target-like

⁹In Section 4.3.1, it was argued that the explicit rules or knowledge of the Korean L1 learners are analyzed rules and not pedagogically learned rules as they have not been explicitly taught on English generic article uses.

responses are due to explicit strategies or knowledge, learners would perform less target-like on tasks that minimise the involvement of explicit strategies that is, task 1. In the meantime, since learners show the ability to perform target-like when they were encouraged to use explicit strategies, they may have correct explicit strategies for x but haven't acquired the feature x yet.

Based on the 4 predictions presented in 7.17 and 7.18, let us now compare the experimental results obtained from implicit and explicit task in the following sections.

7.3.1 Comparison of bare plurals between task 1 and task 3

Firstly, let us compare the response on bare plural NPs in subject position in task 1 and task 3 by KK. Table 7.17 compares the accuracy rates of bare plurals between two tasks for KK first. P values show significant differences between task 1 and task 3. CG below stands for characterising generics and KRGS means kind-referring generics in subject position.

Table 7.17: Accuracy rates on 'bare plurals' in task 1 and task 3 by KK

Bare plurals by KK	TASK1	TASK3	P value
CG	79%	96%	<u><0.0001</u>
KRGS	63%	92%	<u><0.0001</u>

KK consistently showed high accuracy rates in CG and KRGS for task 3 with 96% and 92% accuracy rates, respectively. Meanwhile, they performed considerably better in task 3 than task 1 as the p values represent. Recall that task 1 is an implicit task and task 3 is an explicit task. These results demonstrate that KK performed better in the explicit task than the implicit task.

On the basis of the target-like response of KK in task 3, it seems likely that KK have established correct explicit strategies on bare plurals as generics. It is likely

that the learners may have formulated correct explicit strategies from the input. One can also speculate that they may have learnt it from textbooks. However it is unlikely that they have learnt generics from textbooks because, to my knowledge, textbooks and English grammar books that are published in Korea devote little space in generic articles. I have researched 21 books including English grammar books and textbooks but none of them devoted space to generic articles (cf., section 4.3.1).

However, even though the learners have not been taught bare plurals as generics by textbooks, they might have been corrected, for example, in their writings by teachers. Hence, since explicit knowledge can be formed by any input they are exposed to (perhaps mainly classroom-based input), the learners could have managed to formulate correct explicit knowledge or strategies that bare plurals refer to generic NPs, thus performing better in task 3 than task 1 in both the CG and KRGS categories.

Let us now consider how KK performed in comparison with EC. As we have seen earlier in Table 6.2 and Table 6.3, KK showed non target like responses in both CG and KRGS of task 1 by showing considerably lower accuracy rates than EC. On the other hand, they showed consistently target like responses in both CG and KRGS of task 3 as we have seen from Table 6.12 and Table 6.13 earlier. The target-like accuracy rates of KK in CG and KRGS support the possibility that KK have formulated explicit strategies regarding bare plurals as generic NPs. Consequently, non target-like accuracy rates in task 1 and considerably lower accuracy rates in task 1 than task 3 suggest that KK did not yet successfully acquire knowledge on bare plurals as generics.

Let us consider the accuracy rates on bare plurals in task 1 and task 3 by KE. Table 7.18 displays comparison on bare plurals between task 1 and task 3 by KE learners. ‘—’ in the table signifies no statistical differences between tasks.

Table 7.18: ‘Bare plurals’ in task 1 and task 3 by KE

<i>Bare plurals</i> by KE	TASK1	TASK3	<i>P</i> value
CG	92%	93%	–
KRGS	84%	90%	–

As Table 7.18 shows, KE displayed consistently high accuracy rates in both CG and KRGS across the tasks. Furthermore, considering their accuracy rates in comparison with EC, they are not statistically different from EC in all categories of CG and KRGS in both tasks, as seen in Table 6.2 and Table 6.3 earlier. The results can be interpreted as evidence that KE have successfully acquired bare plurals as generics as they showed consistently target-like results. What is more, this result also suggests that with extensive exposure to naturalistic input, KE learners managed to develop correct explicit strategies which correspond to EC regarding ‘bare plurals’.

Now, let us consider how the learners performed with bare plural generic NPs in object position including KRGO-STV (Kind-referring Generics in Object position after Stative Verbs) and KRGO-KRV (Kind-referring Generics in Object position after Kind-requiring Verbs). Recall that the interpretation of bare plurals in object position varies depending on the preceding verbs. Stative verbs (STV) allow bare plurals to have a generic interpretation but kind-requiring verbs (KRV) do not always allow them as generic meanings. Let us consider the results on KRGO-STV first. Table 7.19 shows accuracy rates on bare plural generic NPs after stative verbs in task 1 and task 3. The figures in brackets below indicate the actual numbers of accurate responses out of the overall number of items.¹⁰

¹⁰The overall numbers in task 1 and task 3 are different because the number of items tested are different in two tasks.

Table 7.19: Accuracy rates on KRGO-STV in T1 and T3 by KK, KE, and EC

Bare Plural(STV)	KK		KE		EC	
	Task1	Task3	Task1	Task3	Task1	Task3
Accuracy	80%	89%	79%	84%	95%	96%
Rates	(70/88)	(158/176)	(52/66)	(111/132)	(40/42)	(81/84)

Bare plurals are acceptable after stative verbs as generic NPs in object position and EC performed consistently in both task 1 and task 3 in this category. For the learner groups, both KK and KE showed consistently high accuracy rates in task 1 and task 3. No statistical differences were found between the results for task 1 and task 3 in this category by EC, KK and KE. Furthermore, in comparison with EC, KK and KE both showed target like accuracy rates in both task 1 and task 3 (cf., Table 6.6 and Table 6.15). Thus, this result could indicate that both KK and KE have successfully acquired the English feature that bare plurals are acceptable after stative verbs.

Recall that bare plurals were not always judged as acceptable for generics by EC after kind-requiring verbs. Therefore, if the learners are not sensitive to the preceding verbs in terms of their choice of following NPs, they would judge bare plurals as acceptable as they would do after stative verbs. Table 7.20 show rates of learners' responses where they accepted or did not accept bare plurals after kind-requiring verbs (KRGO-KRV). The shaded columns below are where learners show significant differences between accepted and not-accepted responses. The figures in brackets below indicate the numbers of accepted or not-accepted responses out of overall number of items on the test.¹¹

¹¹The overall numbers in task 1 and task 3 are different because the number of items tested are different in two tasks.

Table 7.20: Comparison on responses of bare plurals in KRGO-KRV between T1 and T3 by KK, KE, and EC

Response on Bare Plural(KRV)	KK		KE		EC	
	Task1	Task3	Task1	Task3	Task1	Task3
Not-Accepted	30% (27/88)	36% (79/220)	65% (43/66)	39% (65/165)	70% (29/42)	73% (76/105)
Accepted	70% (61/88)	64% (131/220)	35% (23/66)	61% (100/165)	30% (13/42)	27% (29/105)

As expected, EC did not always accept bare plurals as generic as shown from the results of both task 1 and task 3. In other words, they tended not to accept bare plurals after kind-requiring verbs in both tasks, as shown by learners' accepted response 70% and 73%. Thus, their pattern of judgement is similar across the tasks.

However, both learner groups displayed rather different patterns from EC. KK tended to accept bare plurals as generics after kind-requiring verbs as shown with 70% and 64%, respectively, thus showing the opposite pattern to EC. Thus, it seems to indicate that KK have not acquired the restriction that kind-requiring verbs impose on bare plurals in object position.

On the other hand, KE showed somewhat different responses between task 1 and task 3. In task 3, the explicit task, they showed significantly higher rates of 'accepted' readings than 'non-accepted' readings of bare plurals as generics after kind-requiring verbs and this is a non-target like pattern. On the other hand, they showed more target-like responses by showing more 'non-accepted' rates than 'accepted' rates in bare plurals after KRV in task 1. The results indicate that KE seemed to show evidence of acquisition of the subtle semantic restriction of preceding verbs in the choice of following NP in task 1. This, in turn, implies that KE learners have accessed the semantic universal that is available to EC. This is

based on the fact that they have never been taught such distinction and there is no a priori reason for the learners to judge bare plurals after kind-requiring verbs as not acceptable, a *POS* effect (See Section 3.6.1 for more detailed explanation of the POS effect in KRGO-KRV).

In fact, if they just relied on L1 transfer, they could have judged bare plurals after kind-requiring verbs as acceptable just like in other categories (e.g. CG, KRGS, KRGO-STV). Therefore, based on the results from task 1, KE provided suggestive evidence that they have acquired bare plurals as generics and their results show that they are sensitive to the preceding verbs.

However, in task 3, KE displayed opposite patterns to EC by showing higher percentages with ‘non-accepted readings than ‘accepted’ readings for KRGO-KRV. It may suggest that they have incorrect explicit strategies and their acquired knowledge demonstrated in task 1 was affected by the incorrect explicit knowledge. It might be possible that KE learners could have over-generalised the rule that ‘bare plurals’ are generics, thus over-accepting bare plurals as generic in the KRGO-KRV category in task 3. This overgeneralization might be a part of their explicit knowledge and it was tapped in on the setting of task 3, overriding the implicit knowledge.

Taken together, KK showed target-like results in task 3 (explicit task) but not in task 1 (implicit task) in the subject positions (CG and KRGS). Based on the results, one can suggest that KK have not acquired bare plural as generics because the accuracy rates in task 1 (implicit task) were not as target-like as in task 3. However, the accuracy rates in task 1 were still not low but rather high. Furthermore, in object position after stative-verbs, KK performed target-like across the tasks, and have thus acquired bare plurals as generic NPs. However, considering the judgment patterns on bare plurals as generics after kind-requiring verbs, one cannot conclude that they have acquired the semantic restriction of preceding verbs in the choice

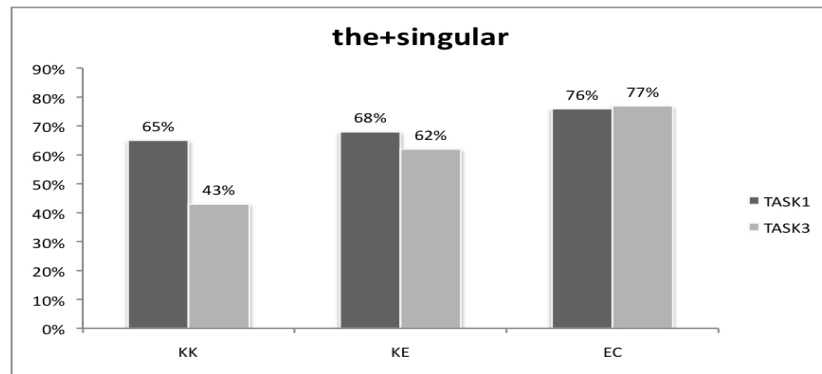
of following NPs. That is because KK preferred bare plurals as acceptable after kind-requiring verbs unlike EC across the tasks. Based on these results, one can conclude that while KK seem to have acquired that bare plurals are generics in general, their performance did not show evidence on the knowledge of generic NPs which are sensitive to the semantics of preceding verbs.

For KE, they showed consistently target-like results across the tasks in both subject positions (CG and KRGS), thus displaying clear evidence for acquisition of ‘bare plural’ NPs as generics. Furthermore, in the object position after stative verbs, they displayed target-like results across the tasks. On the other hand, in the object position after kind-requiring verbs, KE showed inconsistent patterns by performing less target-like in the explicit task (task 3). This can be interpreted as KE having acquired bare plurals as generic, and they seem to have acquired the subtle semantic restrictions of preceding verbs in terms of bare plural generic interpretations based on target-like responses in task 1. However, less target-like results in task 3 suggest that their acquired knowledge was overridden by explicit strategies which might be discrepant from the implicit knowledge.

7.3.2 Comparison of ‘the+singular’ NPs between task 1 and task 3

Let us now compare the responses on ‘the+singular’ NPs in task 1 and task 3 for KK, KE and EC. Recall that ‘the+singular’ NPs are always acceptable in subject and object position regardless of their syntactic position. Consider the performance of all groups in both the implicit (task 1) and explicit (task 3) tasks. Figure 7.21 presents the mean accuracy rates with ‘the+singular’ in task 1 and task 3 by KK, KE and EC.

Figure 7.21: Comparison on average accuracy rates on ‘the+singular’ between T1 and T3 and T3



Let us first discuss the results of EC. According to the average accuracy rates, EC showed similar mean accuracy rates over the two tasks with 76% and 77%, respectively. Recall that the relatively low accuracy rates for EC are because of particularly low accuracy rates on ‘the+singular’s after stative verbs as we have already discussed in Section 7.1.2. KE seemed to show consistent results between task 1 and task 3 with 68% and 62% average accuracy rates, respectively. However, KK showed considerably higher accuracy rates in task 1 than task 3 by showing 65% and 43% average accuracy rates, respectively. As EC showed rather unexpected results, considering only the average accuracy rates can be misleading. Thus, let us compare accuracy rates between T1 and T3 in each category. Table 7.21 below compares the response of EC between task 1 and task 3 by test category. The arrows stand for significant differences.

Table 7.21: Comparison on ‘the+singular’ between T1 and T3 by EC

The+singular by EC	TASK1	TASK3
CG	90%	87%
KRGS	96%	92%
KRGO-KRV	95%	92%
KRGO-STV	21%	36%
Average	76%	77%

As Table 7.21 shows, EC performed consistently in both task 1 and task 3 by showing high accuracy rates in CG, KRGS, and KRGO-KRV and showing drastically

low accuracy rates in KRGO-STV in both tasks.¹²

Let us now investigate the comparison between task 1 and task 3 by learner groups. Consider Table 7.22 for the results by KK in both task 1 and task 3. ‘*P*’ values show significant differences between task 1 and task 3. ‘–’ signifies a statistically not significant difference between task 1 and task 3.

Table 7.22: Comparison on the accuracy rates of ‘the+singular’ between T1 and T3 by KK

The+singular by KK	TASK1	TASK3	<i>P</i> value
CG	60% (105/176)	50% (89/176)	-
KRGS	68% (118/173)	45% (79/176)	<u><0.0001</u>
KRGO-KRV	65% (58/88)	45% (80/176)	<u><0.0018</u>
KRGO-STV	70% (62/88)	32% (43/132)	<u><0.0001</u>
Average	65%	43%	<u><0.0001</u>

Regarding average accuracy rates, KK showed considerably better performance in task 1 (65%) than task 3 (43%). They performed significantly better in task 1 than task 3 in all categories except CG. It is notable that KK learners performed better when they did not know what was being tested. It is possible that the considerably lower accuracy rates in task 3 than in task 1 might be a result of the influence of incorrect explicit strategies.

Incorrect explicit knowledge on ‘the+singular’ could have particularly contributed to the considerably lower accuracy rates in the explicit task than in the implicit task. Meanwhile, let us investigate whether learners’ accuracy rates shown in Table 7.22 are close to EC. Table 7.23 shows whether learners’ accuracy rates are target-like or not. TL in the table stands for target-like accuracy rates and NTL stands for non target-like accuracy rates in comparison with the accuracy rates of EC.

¹²The accounts for the low accuracy rates on the+singulars after stative verbs are discussed in more details in Section 7.1.2.

Table 7.23: Target-likeness of ‘the+singular’ between T1 and T3 by KK

The+singular by KK	TASK1		TASK3	
CG	60% (105/176)	NTL	50% (89/176)	NTL
KRGS	68% (118/173)	NTL	45% (79/176)	NTL
KRGO-KRV	65% (58/88)	NTL	45% (80/176)	NTL
KRGO-STV	70% (62/88)	NTL	32% (43/132)	TL

Considering the accuracy rates by KK in comparison with EC, their behaviour is far from being target-like. In both tasks, KK showed consistently non target-like responses in task 1 and in task 3 except for the KRGO-STV category in task 3. In terms of target-likeness, KK showed target-like responses only in KRGO-STV in task 3 by judging ‘the+singular’ NPs as grammatical 32% of the time. However, it is not reasonable to say that KK showed low accuracy rates following the native pattern. That is because they showed non-target like results in every other category in terms of accuracy rates. In other words, it is possible that the target-likeness of KK in KRGO-STV in task 3 happened to be target-like only because EC showed unusually low accuracy rates.

So far, we have seen that KK performed considerably better in task 1 than in task 3. Meanwhile, even though KK performed better in task 1 than in task 3, the results for task 1 were found to be not target-like. In other words, in both task 1 and task 3, KK did not show target-like accuracy rates compared to EC. Thus, this can be interpreted as KK did not successfully acquire ‘the+singular’ forms as generic NPs.

Meanwhile, in the original predictions, as shown in (7.17-b), it was predicted that if learners show consistently non target-like responses in both task 1 and task 3, it would suggest that they have not acquired an L2 property. A scenario whereby learners would show significant differences between tasks when they are both non

target-like was not included in the original predictions. However, it is an interesting issue that learners show significantly higher accuracy rates in task 1 than in task 3 even when they are all non target like in both tasks. It means that learners performed better when they did not know what was being tested. This suggests that learners' explicit knowledge might not be correct and could competes with learners' implicit knowledge, thus resulting in worse performance in the explicit task.

Let us now consider the results for KE. Table 7.24 below compares accuracy rates on 'the+singular' in task 1 and task 3 by KE. Statistical differences are presented with '*p* values'. '-' signifies non statistical differences between tasks.

Table 7.24: Comparison on 'the+singular' between T1 and T3 by KE

The+singular by KE	TASK1	TASK3	<i>P</i> value
CG	75% (91/130)	64% (84/132)	-
KRGS	78% (95/132)	71% (94/132)	-
KRGO-KRV	70% (46/66)	72% (95/132)	-
KRGO-STV	61%(40/66)	39% (39/99)	=0.0107
Average	70%	62%	-

According to Table 7.24, KE showed no significant differences between task 1 and task 3 in terms of average accuracy rates. Regarding the results in each category, KE showed consistently high accuracy rates in most categories including CG, KRGS, and KRGO-KRV. In only one category where EC unexpectedly showed very low accuracy rates (KRGO-STV), they showed a larger difference between task 1 and task 3. In addition, it is interesting that KE showed considerably low accuracy rates only in the KRGO-STV category compared to CG, KRGS, and KRGO-KRV in task 3, following the EC pattern. As we have seen that KE learners showed similarly high accuracy rates in both task 1 and task 3, we should investigate if their results are target-like in terms of accuracy rates. Table 7.25 shows whether

learners' accuracy rates are target-like or not. TL in the table stands for target-like accuracy rates and NTL stands for non target-like accuracy rates in comparison with the accuracy rates of EC.

Table 7.25: Target-likeness of 'the+singular' between T1 and T3 by KE

The+singular by KE	TASK1		TASK3	
CG	75% (91/130)	TL	64% (84/132)	TL
KRGS	78% (95/132)	TL	71% (94/132)	TL
KRGO-KRV	70% (46/66)	TL	72% (95/132)	TL
KRGO-STV	61% (40/66)	NTL	39% (39/99)	TL

As shown in Table 7.25, KE showed target-like accuracy rates in most categories in both tasks except one category in task 3 (KRGO-STV). Consistently target-like results in both task 1 and task 3 can be interpreted as KE having successfully acquired 'the+singular' forms as generics.

For the 'the+singular's in KRGO-STV, the target-like patterns of KE in task 3 can be interpreted as they might have somehow managed to formulate explicit strategies which correspond to the L2 property (whatever it might be). In task 3, KE had enough time to monitor their performance and correct their answers where necessary. Thus, based on the explicit strategies, they might have performed more target-like in task 3 than in task 1 in the KRGO-STV category.

Recall that in the interpretation of KK's results on 'the+singular', it was argued that non target-like behaviour on task 3 was because of explicit strategies. Thus, it seems contradictory to say explicit knowledge actually helped KE learners in this case. However, considering the overall results of KK and KE, it is highly likely that when learners have clearly acquired a certain feature x as KE did, explicit strategies with time to think about the test items can actually help learners to produce more

correct results. On the other hand, when learners did not fully acquire a certain feature x as KK did with ‘the+singular’ NPs, explicit strategies did not seem to have a positive influence as has been borne out from the results of KK.

Let us summarise the results on ‘the+singular’ by KK and KE. The response of KK appeared to be indeterminate in terms of acquisition of ‘the+singular’ as generic NPs. They showed non target-like responses in both task 1 and task 3 but they performed considerably better in the implicit task (task 1) than explicit task (task 3). This phenomenon has been interpreted as evidence that KK learners have not fully acquired knowledge of ‘the+singular’ as generic. In the meantime, better performance in the implicit task than the explicit task suggested that when learners have not yet acquired a certain L2 feature, explicit strategies could compete with acquired knowledge, thus resulting in worse performances in the explicit task.

In terms of KE, they showed overall similar results in both task 1 and task 3 in terms of average accuracy rates. Meanwhile, considering the responses in each category, KE performed target like in most categories except the KRGO-STV category. However, the category where KE showed divergent responses was the category where EC also showed unexpectedly low accuracy rates. KE displayed more target-like responses in the task 3 (explicit task) than in task 1 (implicit task). Considering overall target like results with ‘the+singular’ NPs, one can suggest that KE have acquired the generic use of ‘the’ in English. Meanwhile, more target-like results in KRGO-STV in task 3 (explicit task) than in task 1 (implicit task) suggest that the learners have established correct explicit strategies.

The important findings from the comparison between KK and KE in the two different types of task are that KK are more vulnerable than KE to the task that taps into explicit knowledge as we have seen similar results from bare plurals in the subject position. One possible explanation of low accuracy rates in the explicit task by KK would be the Competing Systems Hypothesis by Rothman (2008). Rothman

(2008) argues, in the competing systems hypothesis, that a system of pedagogically learned rules contributes to inconsistent L2 performances by competing with the generative system. It is particularly so when L2 grammar is taught in simplified forms to learners. He tested English learners on Spanish aspect. It is said that linguistic concept of Spanish aspect is not introduced to Spanish L2 learners. The reason was because, for linguistically naive learners, teaching the grammatical aspect of Spanish is regarded as not appropriate because Spanish aspect feature has more exceptions rather than rules. As a result, teachers often explain it in absolute terms. Therefore, an oversimplification of the rules of L2 can result in the non target-like behaviour of L2 learners. The results of his study provided evidence in support of the Competing Systems Hypothesis.

The Competing Systems Hypothesis can be adopted in interpreting the results in the current study. Based on the Competing Systems Hypothesis, it can be suggested that given plenty of time to complete the explicit task, KK learners' explicit knowledge, which is similar to Rothman (2008)'s pedagogically learnt rules, competed with generative system and resulted in non target-like and worse results in the explicit task than in the implicit task by KK.

7.3.3 Comparison of 'a+singular' NPs between task 1 and task 3

Let us now examine the results of 'a+singular' NPs in task 1 and task 3 for KK, KE, and EC. Recall that for 'a+singular' NPs, their properties are more complicated than 'the+singular'. 'A+singular' NPs are not kind-referring NPs and can only occur in characterising generic sentences in which genericity originates from sentences. Let us compare the accuracy rates for task 1 and task 3 and examine whether the learners successfully performed native-like across the task. Let us investigate the results for the KK group first. Table 7.26 compares the accuracy rates

between task 1 and task 3 in each category. Statistical differences are presented with ‘*p* value’. ‘–’ signifies non statistical differences between tasks.

Table 7.26: Comparison on ‘a+singular’ between T1 and T3 by KK

<i>a</i> +singular by KK	TASK1	TASK3	<i>P</i> value
CG	71% (124/176)	83% (146/176)	–
*KRGS	62% (109/17)	40% (142/352)	<0.0001
*KRGO-KRV	51% (45/88)	40% (72/176)	–
*KRGO-STV	46% (41/88)	51% (91/176)	–
Average	58%	52%	–

In terms of overall average accuracy rates, KK showed a similar performance in both task 1 (58%) and task 3 (52%). Considering each task category, KRGS is the only category where KK displayed statistically significant differences between task 1 and task 3. In the other categories of CG, KRGO-KRV and KRGO-STV, KK showed similar accuracy rates between task 1 and task 3.

In CG, ‘a+singular’ NPs are acceptable and KK seem to perform well in this category across the tasks. However, for KRGS, where ‘a+singular’s are appropriate, learners showed variant responses between two tasks. They performed considerably better in the implicit task than in the explicit task. For KRGO-KRV and KRGO-STV, KK showed equally relatively low accuracy rates in both task 1 and task 3. Before we discuss this further, target-likeness of the accuracy rates would be useful to interpret this result. Table 7.27 shows target-likeness or non target-likeness of the accuracy rates of KK and KE in comparison with those of EC. TL in the table stands for target-like responses and NTL signifies not target-like responses.

Table 7.27: Target-likeness on ‘a’ between T1 and T3 by KK

<i>a</i> +singular by KK	TASK1		TASK3	
CG	71%(124/176)	TL	83%(146/176)	TL
*KRGS	62%(109/176)	NTL	40%(142/352)	NTL
*KRGO-KRV	51% (45/88)	TL	40%(72/176)	NTL
*KRGO-STV	46% (41/88)	NTL	51% (91/176)	NTL

As Table 7.27 shows, KK displayed consistently target-like results in both task 1 and task 3 in CG. The results suggest that KK learners have successfully acquired that ‘a+singular’ NPs are allowed in characterising generics by showing consistently target-like responses across the different tasks.

If learners have acquired different types of generics (generic NPs and generic sentences), they should not over-accept ‘a+singular’ forms as generic in other structures such as KRGS, KRGO-KRV, and KRGO-STV. In general, it looks as if KK showed relatively lower accuracy rates in those categories where ‘a+singular’s are not acceptable as generic than in CG.

Overall, they showed non target-like responses in all categories where ‘a+singular’ is not appropriate (KRGS KRGO-KRV, and KRGO-STV) except one category, KRGO-KRV, in task 1. However, recall that in the KRGO-KRV category, EC showed unexpectedly low accuracy rates (cf., Section 7.1.3). Therefore, a target-like response in the KRGO-KRV category by KK does not necessarily mean that the learners have acquired the property, as discussed in section 7.1.3.

Thus, overall KK seem to have difficulties in rejecting ‘a+singular’ NPs for generic interpretation in KRGS, KRGO-KRV, and KRGO-STV. However, in the KRGS category, it is notable that KK performed considerably better in task 1 than task 3 (p value < 0,0001) as shown in Table 7.26. It shows similar results to those found

in ‘the+singular’ NPs by KK where they performed better in task 1 than in task 3. It was suggested that worse accuracy rates in task 3 than in task 1 were caused by possibly incorrect explicit knowledge. These results back up the argument that explicit knowledge can actually contribute to target-variant responses, thus showing better performance in an implicit task that minimises explicit knowledge.

To sum up, it seems that KK have successfully acquired the knowledge that ‘a+singular’ NPs can be used in CG by performing consistently target-like in both task 1 and task 3. However, when it comes to the sentence types where ‘a+singular’ NPs are not appropriate, KK showed rather random patterns.¹³ It is in the KRGS category where KK showed significant differences between task 1 and task 3, in terms of accuracy rates. In this category, while KK showed performance which was far from target like as shown in both task 1 and task 3, the accuracy rates in task 1 were considerably higher than those in task 3.

Now let us examine the responses by KE in task 1 and task 3 with ‘a+singular’ NPs. Table 7.28 compares the results for ‘a+singular’ NPs between task 1 and task 3.

Table 7.28: Comparison on ‘a+singular’ between T1 and T3 by KE

a+singular by KE	TASK1	TASK3	<i>P</i> value
CG	75%(100/132)	70%(93/132)	–
*KRGS	55% (72/132)	42%(110/264)	=0.0185
*KRGO-KRV	56% (37/66)	48% (64/132)	–
*KRGO-STV	58% (38/66)	56% (75/132)	–
Average	61%	54%	–

In terms of overall average accuracy rates, based on statistical analysis, no significant differences were found between task 1 and task 3 by KE. On the other hand,

¹³For further discussion, see Section 7.1.3.

considering each test category, KE like KK, also showed significant differences between task 1 and task 3 only in the KRGS category. In this category, KE showed considerably higher accuracy rates in task 1 than in task 3. However, in the other categories, no statistical differences were found between task 1 and task 3.

In CG, they showed high accuracy rates of 75% and 70% in both tasks, respectively. However, in KRGO-KRV and KRGO-STV, KE consistently showed relatively low accuracy rates in both task 1 and task 3. Overall, it looks as if KE has difficulty with categories where ‘a+singular’ NPs are not appropriate including KRGS, KRGO-KRV, and KRGO-STV. Let us investigate whether their results are close to EC or not. Table 7.29 displays the target-likeness or non target-likeness of KE results in comparison with the accuracy rates of EC. TL in the table below represents target-like responses and NTL shows non target like responses.

Table 7.29: Target-likeness and non target-likeness of ‘a’ between T1 and T3 by KE

a+singular by KE	TASK1		TASK3	
CG	75%(100/132)	TL	70%(93/132)	TL
*KRGS	55% (72/132)	NTL	42%(110/264)	NTL
*KRGO-KRV	56% (37/66)	TL	48% (64/132)	TL
*KRGO-STV	58% (38/66)	TL	56% (75/132)	NTL

Let us now examine the target-likeness in characterising generics (CG) where ‘a+singular’ NP forms are allowed. KE showed target like results in this category across the tasks. Therefore, based on consistent results across the tasks, one can conclude that KE have acquired the property that ‘a+singular’ NPs are allowed in generic sentences.

However, in the KRGS category where ‘a+singular’ NPs are not allowed as generics, KE showed consistently non target-like responses. Furthermore, it is this category

where KE showed significant statistical differences between the two tasks. KE displayed considerably higher accuracy rates in task 1 than those in task 3.

Regarding the use of ‘a+singular’ NPs in object position, KE showed target-like results in KRGO-KRV in both tasks. In this category, EC showed unexpectedly low accuracy rates and KE showed target-like patterns, in terms of accuracy rates.¹⁴ Meanwhile, in KRGO-STV, they showed target-like results in task 1 but not in task 3. Again, the target-like results in KRGO-STV are because of the unexpectedly low accuracy rates shown by EC. Furthermore, the accuracy rates between task 1 and task 3 are not different from each other, thus the results in the KRGO-STV category are rather indeterminate.

To sum up, based on the results for CG, KE seem to have acquired that ‘a+singular’ can be used in the CG by showing consistently target-like results both in task 1 and task 3. However, results from KRGS, KRGO-KRV, and KRGO-STV are rather inconclusive. Based on the results in these categories, one might suggest that KE have failed to successfully acquire ‘a+singular’ as a non-generic NP. However, as discussed in Section 7.1.3, the results on in these categories (KRGO-KRV, KRGO-STV) are not random but follow native-like patterns which suggests evidence of acquisition. Thus, it would be interesting to compare this result from the judgment task to production data and investigate whether the learners correctly used ‘a+singular’ NPs. Let us revisit this issue later in section 7.4.4.

Now let us bring together the results with ‘a+singular NPs’ by KK and KE. In terms of CG, based on the both KK and KE’s target-like results in both task 1 and task 3, one can conclude that KK and KE have successfully acquired that ‘a+singular’ NPs can be used in characterising generics (CG). However, in the KRGS category, both KK and KE showed non-target like results by over accepting ‘a+singular’ NPs. Furthermore, KK and KE equally performed considerably better in task 1 than

¹⁴For further discussion, see Section 7.1.3.

in task 3. This result suggests the explicit strategies of KK and KE contributed to the considerably lower accuracy rates in the explicit task (task 3). Based on this result, it is possible that KK and KE have formulated or developed incorrect explicit knowledge that ‘a+singular’ NPs can refer to generic NPs. In the KRGO-KRV category, while KK showed target like results only in task 1 but not in task 3, KE showed consistently target like results in both tasks. This is the category where KK and KE showed differences. In KRGO-STV, KK showed non target-like results across the tasks but KE showed differences between task 1 and task 3 in terms of target-likeness.

7.3.4 Comparison of ‘the+plural’ NPs between task 1 and task 3

As discussed in detail in section 7.1.4, ‘the+plural’ NPs are not generic but specific in English. Let us examine if the learners show consistent responses in this category across the different tasks. As was shown in Table 6.8 and Table 6.16 previously, KK’s accuracy rates in each category were not considerably different from each other. Thus, the mean accuracy rates with ‘the+plural’ NPs in both task 1 and task 3 are presented in Table 7.30.

Table 7.30: Comparison of accuracy rates on ‘the+plurals’ between T1 and T3 by KK

The+plural	Task1	Task3	<i>P</i> value
KK	50%	61%	--

As shown in Table 7.30, KK showed similar results in task 1 and task 3. Their mean accuracy rates are not statistically different to each other. Furthermore, as shown already in Table 6.8 and Table 6.16, their accuracy rates in both tasks are not target-like. Thus, the consistently non target like results in both task 1 and task 3 indicate that KK did not seem to have acquired that ‘the+plural’ NPs

are not generic but specific. Furthermore, these results also suggest that KK did not manage to develop correct explicit knowledge of ‘the+plural’ NPs. Detailed discussion regarding the low accuracy rates for this category can be found in the previous section 7.1.4.

Let us now compare the accuracy rates of KE with ‘the+plural’ NPs between task 1 and task 3. Accuracy rates for ‘the+plural’ NPs in task 1 and task 3 are shown in Table 7.31.

Table 7.31: Comparison of accuracy rates on ‘the+plurals’ between T1 and T3 by KE

The+plural	Task1	Task3	<i>P</i> value
KE	61%	70%	--

As shown in Table 7.31, KE learners showed similar accuracy rates between task 1 and task 3 by showing no statistical differences. However, in comparison with the accuracy rates of EC, KE learners showed target-like accuracy rates only in task 3 as presented in Table 6.16. This result seems to indicate that KE learners have established correct explicit knowledge of ‘the+plural’ NPs.

Recall that in Section 7.1.4, it was explained that the non target-like accuracy rates of ‘the+plural’ NPs in task 1 could have been caused by the learners’ L1. As both bare singular forms and bare plural forms are used as generics in Korean, Korean speaking L2 learners could have over-accepted plural nouns with ‘the’ as generic in English, thus resulting in non-target like accuracy rates in task 1. On the other hand, in task 3, learners showed target-like accuracy rates which suggest less influence from L1. Therefore, this result presents a possibility that L1 transfer seems to play a stronger role in the implicit task than in the explicit task.

7.3.5 Comparison of ‘the+non well-established’ NPs between task 1 and task 3

As we have seen repeatedly, the English article ‘the’ should be used with well-established entities or kinds for generic readings. For example, ‘*the coke bottle*’ can be generic as the noun ‘*coke bottle*’ is a well-established entities. However, for example, ‘*the yellow bottle*’ raises oddity because ‘*yellow bottle*’ is not a well-established entity or kind. In addition, recall that when it comes to bare plural forms of generic NP, bare plural NPs do not receive any semantic restrictions. In other words, when generic NPs are bare plural forms, they do not have to be well-established or kinds. For example, while ‘*the yellow bottle*’ is not appropriate for generic interpretation, ‘*yellow bottles*’ can be interpreted as generic. Let us examine if the learners show consistent responses in this category across the different tasks. Table 7.32 compares the results between task 1 and task 3 for KK.

Table 7.32: Comparison of accuracy rates on ‘non well-established NPs’ between T1 and T3 by KK

KK	TASK1	TASK3	<i>P</i> value
adj +bare plural	76% (135/176)	93% (246/264)	<0.0001
*the+adj+singular	55% (97/17)	53% (141/264)	-

As Table 7.32 shows, KK displayed dramatic differences between task 1 and task 3 in the ‘adj+bare plural’ category. They performed considerably better in task 3 than in task 1 by showing 93% and 76% accuracy rates, respectively. Meanwhile, in the ‘the+adj+singular’ category, KK showed consistently low accuracy rates of 55% in task 1 and 53% in task 3. Then, let us compare their accuracy rates to those of EC to investigate the target-likeness of the responses. Table 7.33 displays target-likeness or non target-likeness of KE results in comparison with accuracy

rates for EC. TL in the table below represents target like responses and NTL shows non target-like responses.

Table 7.33: Target-likeness and non target-likeness of ‘non-well-established NPs’ by KK

KK	TASK1		TASK3	
adj +bare plural	76% (135/176)	NTL	93% (246/264)	TL
*the+adj+singular	55% (97/175)	NTL	53% (141/264)	NTL

According to Table 7.33, KK showed target-like responses only in the ‘adj+bare plural’ category in task 3. Also, in that category, they performed considerably better in task 3 than in task 1. Taking into consideration that task 3 is an explicit task and task 1 is an implicit task, one can suggest that KK learners have developed correct explicit knowledge that ‘adj+ bare plural’ forms are legitimate generic NPs without any semantic restriction of the noun because they correctly accepted ‘adj+bare plural’ forms in this category. However, as they showed non target-like performance in the implicit task, they have not yet incorporated the English property that bare plurals are generic in English into their L2 grammar, yet.

Furthermore, similar results were found earlier in the discussion of ‘bare plurals’. We have seen that KK performed considerably better in task 3 than in task 1 and showed target-like accuracy rates only in task 3 with bare plurals in CG and KRGS (cf., Section 7.3.1). Thus, taking into consideration the results with ‘bare plural’s in ‘non-well established NPs (adj+bare plural)’ and previous results of ‘bare plural’s, KK learners appear to have correct explicit knowledge on bare plurals, thus showing target-like results when they were encouraged to use explicit knowledge.

In terms of ‘the+adj+singular’ form, KK showed similarly non target-like accuracy rates of 55% and 53% in both tasks, respectively. In other words, KK over-accepted

‘the’ with non-well established entities or kinds. Therefore, consistently non target-like responses in both tasks suggest that KK have not acquired the semantic restriction on the use of NPs when they occur with definite article ‘the’.

Let us now investigate how KE performed in this category of ‘non-well-established NPs’ between task 1 and task 3. Table 7.34 compares accuracy rates on ‘non-well established NPs’ by KE between in task 1 and task 3.

Table 7.34: Comparison of accuracy rates on ‘non well-established NPs’ between T1 and T3 by KE

KE	TASK1	TASK3	<i>P</i> value
adj +bare plural	83% (110/132)	98% (194/198)	<0.0001
*the+adj+singular	56% (74/132)	58% (141/198)	-

According to the results, KE showed high accuracy rates with ‘adj+bare plural’s in both task 1 and task 3 by showing 83% and 98% accuracy rates, respectively. On the other hand, they showed consistently relatively low accuracy rates in ‘the+adj+singular’ NPs across the tasks. Before we discuss further, let us compare their accuracy rates to EC to investigate target-likeness of the responses. Table 7.35 displays target-likeness or non target-likeness of the KE results in comparison with the accuracy rates of EC. TL in the table below represents target like responses and NTL shows non target-like responses.

Table 7.35: Target-likeness and non target-likeness of ‘non well-established NPs’ between T1 and T3 by KE

KE	TASK1		TASK3	
adj +bare plural	83% (110/132)	TL	98% (194/198)	TL
*the+adj+singular	56% (74/132)	NTL	58% (141/198)	NTL

As Table 7.35 shows, KE showed consistently target-like accuracy rates across the tasks. It suggests that KE have correct explicit knowledge that ‘adj +bare plurals’ are without any semantic restrictions on nouns within. We have already seen similar results with ‘bare plurals’ in Section 7.3.1, in which KE showed consistently target-like accuracy rates in both task 1 and task 3. Thus, it suggests that KE have acquired the bare plural as a generic NP and they have acquired the feature that non-well established entities can be generic in their bare plural forms. In addition, the target-like results in task 3 suggest that KE have established correct explicit knowledge.

On the other hand, the accuracy rates of KE on ‘the+adj+singular’ category seems to be indeterminate. They achieved consistently non-target like results in both task 1 and task 3 in this category. Hence, it seems that both KK and KE had difficulty in the acquisition of the subtle semantic restrictions on the generic nouns when they occur with ‘the’. We have discussed that a possible explanation of the low accuracy rates for ‘the+adj+singular’ would be an absence of salient L2 input which tells learners that ‘the+adj+singular’ NPs are not generic (See, section 7.1.2). Thus, likewise, equally non-target like results in task 3 suggest that a lacking of salient input and no explicit instruction that directly shows that ‘the+adj+singular’ are not generic means that L2 learners could not manage to formulate correct explicit strategies for this feature.

As we have seen so far, in both judgment tasks, KK and KE showed indeterminate responses with ‘the+adj+singular’ NPs with 50% accuracy rates. Therefore, it seems that both KK and KE have difficulties with the acquisition of semantic restriction on nouns with ‘the’. Before we conclude, in order to have a more comprehensive picture on this property, results from production data should be considered. We will revisit this issue in section 7.4.3.

7.3.6 Summary

In general, regarding bare plural NPs, both KK and KE showed relatively better performance judging ‘bare plural’ NPs as generic compared to ‘the+singular’ and ‘a+singular’ NPs by performing well across the tasks. Target-like responses across the tasks suggest that, even though both KK and KE had not been explicitly taught about ‘bare plural’s as a generic NP, they managed to acquire bare plurals as generic and establish correct explicit knowledge. This might have been caused by bare plurals appearing most frequently in the L2 input and the influence of Korean L1.

On the other hand, regarding ‘the+singular’ NPs and ‘a+singular’ NPs, in general, learners seemed to have performed better with ‘the+singular’ NPs than ‘a+singular’ NPs. Regarding ‘the+singular’ NPs, KE showed consistently target-like accuracy rates in both task 1 and task 3, thus it appears they have successfully acquired ‘the+singular’ NPs as generic despite the absence of L1 transfer and frequent L2 input. For the KK, they seemed to have been influenced by the task type as they performed considerably better in the implicit task than in the explicit task. It is likely that with extensive exposure to naturalistic input, KE could have successfully established correct explicit knowledge on ‘the+singular’ NPs. On the other hand, in the absence of naturalistic input, KK did not manage to formulate correct explicit knowledge on ‘the+singular’ NPs, thus implicit knowledge was interfered with by probably incorrect explicit knowledge.

‘A+singular’ NPs appeared to be the most problematic NPs for Korean L2 learners. Both KK and KE showed variant responses with ‘a+singular’ NPs in both tasks. It is an interesting phenomenon that Korean learners showed less target-like results with ‘a+singular’ NPs compared to ‘the+singular’ NPs because there is no a priori reason for Korean speaking L2 learners have more difficulties with ‘a+singular’ NPs. There are no articles at all in Korean and genericity in Korean is denoted by particle

'*nun*', thus both 'a+singular' NPs and 'the+singular' NPs pose the same level of difficulty to Korean speaking L2 learners.

Therefore, this phenomenon cannot be explained by L1 transfer. One possible explanation can be found from not unambiguous input regarding the use of 'a+singular' NPs in English generics. One can say that 'a+singular' NPs can be used in characterising generic sentences but not as kind-referring NPs, whereas 'the+singular' NPs can be used in characterising generics as well as used as kind-referring NPs. In other words, the learners could have received relatively complicated input regarding 'a+singular' NPs. Thus, it is possible that input regarding 'the+singular' NPs could have been more consistent compared to that for 'a+singular', resulting in better performance with 'the+singular' NPs by L2 learners.

Or, alternatively, difficulties with 'a+singular' NPs by the learners can be explained by a developmental process. As we have seen earlier, in some literature, it was proposed that the acquisition of the English article system occurs incrementally and the acquisition of 'a' emerges later than 'the' based on empirical studies (Anderson, 1978, Parrish, 1987) (cf., Section 3.2.1).¹⁵ The results from the current research seem to follow the developmental process that was presented in previous empirical studies (Anderson, 1978, Parrish, 1987) because both KK and KE performed best with 'bare plural' NPs, followed by 'the+singular' NPs. Finally, it is in 'a+singular' NPs that learners showed the most problematic results, thus these phenomena might have been part of a systematic grammar building which is parallel to the developmental process of English articles that was suggested by the previous research.

From the comparison between implicit and explicit tasks, we have also observed that explicit knowledge can have both advantageous and disadvantageous effects

¹⁵In these studies, understandings of English articles were rather comprehensive because the studies included both (in)definite and generic uses of English articles. Thus, one can argue that the limitation of the previous research would be that they did not focused on generic use of English articles. However, they are still valuable as they show overall developmental process of English articles.

for L2 learners. In some categories such as ‘bare plural’s in subject position (CG and KRGS) by KK, learners performed better in the explicit task (task 3) than in the implicit task (task 1). It suggests that learners could have established correct explicit strategies, thus performing better when they were given more time to think about the test items. On the other hand, in some cases such as ‘the+singular’s in all categories by KK and ‘a+singular’ uses in KRGS by KK, the learners performed considerably worse in the explicit task (task 3) than in the implicit task (task 1) (cf., Table 7.22 and KRGS in Table 7.26).

Taken together, it is likely that learners could have developed correct and consistent explicit strategies with ‘bare plural’ NPs because of the most frequent input with this form and help from L1 in which the ‘bare plural’ form is also a generic form. On the other hand, for ‘the+singular’ generics in all categories, KK learners might have established incorrect explicit knowledge in the absence of ample input of ‘the+singular’ generics and L1 help, thus the competition between (non target-like) implicit knowledge and explicit knowledge resulted in less target-like results in the explicit task than in the implicit task. For the case of ‘a+singular’ NPs by KK in the KRGS category, learners might have failed to establish correct knowledge because of the complex input regarding use of ‘a+singular’ NPs. For instance, ‘a+singular’ NPs are acceptable in CG but not in KRGS. Thus, from this rather complex input, KK could have formulated incorrect explicit knowledge, thus showing lower accuracy rates in the explicit task than in the implicit task.

To sum up, it appeared that in most cases, KK learners were those who were more sensitive to the task type, thus showing different responses between task 1 and task 3. On the other hand, KE showed more consistently target-like responses across the tasks as shown in the results of ‘bare plural’ NPs and ‘the+singular’ NPs. Therefore, the more consistently target-like results of KE compared to KK display the advantageous role of naturalistic input in the acquisition of generic articles

in adult SLA. This, in turn, suggests that a lack of formal instruction on generic use of English articles and naturalistic input might have caused the KK learners' inconsistent accuracy rates between task 1 and task 3.

Meanwhile, the focus of the current research was not to identify the role of 'explicit knowledge' in L2 acquisition. However, as we have seen from this section, interesting issues were raised in that explicit knowledge can be advantageous and disadvantageous at the same time. It would be interesting to conduct further research on the role of 'explicit knowledge' in order to identify how 'explicit knowledge' can facilitate L2 acquisition.

7.4 Production data vs. judgment data

In this section, the results of the learners on the acquisition of the English article will be discussed in terms of different data collection methods. It will particularly examine the results obtained from two judgment tasks (a timed-acceptability judgment task and an untimed grammaticality judgment task) on the one hand, and a production task (a translation task) on the other. In order to understand learners' acquisition patterns more comprehensively, the data gained from the judgment tasks and production task will be compared in this section.

The current section re-investigates the results on English generic articles in terms of production data (translation task) and judgment data (time-acceptability judgment task, untimed grammaticality judgment task). The results will be presented for the different type of generic NPs; bare plurals, 'the+singular' NPs, and 'a+singular' NPs.

7.4.1 Bare plurals in production task vs. judgment task

Let us compare the results for bare plurals between the translation task (production task) and acceptability/grammaticality judgment tasks (judgment task) (Timed Acceptability Judgment Task and Untimed Grammaticality Judgment Task, henceforth TAJT and UGJT, respectively). Recall that the use of bare plurals as generic NPs were examined in two different syntactic positions including subject position and object position. Let us first investigate data on bare plurals in subject position. In the subject position, including characterising generics (CG) and kind-referring generic NPs (KRGS), both KK and KE learners used bare plural forms most frequently in the translation task (cf., Figure 7.11 and Figure 7.12). In the same categories, in the judgement tasks (TAJT and UGJT), both KK and KE showed high accuracy rates with bare plurals (cf., Figure 7.17 and Figure 7.18). Thus, taken together, both KK and KE have acquired ‘bare plural’ NPs as generics.

In object position, bare plurals are sometimes acceptable and sometimes not, depending on the preceding verb types. After kind-requiring verbs, bare plurals are not always acceptable as generics in English. In translation task, EC used bare plural forms only 10% of the time. In this category, KK and KE used bare plurals 22% and 26% of the time, respectively. The results seem to show that both learner groups employed bare plural forms more frequently than EC. However, in the learner groups, bare plurals after kind-requiring verbs showed the lowest usage rates in comparison with the usage rates in other categories. This can be seen in Figure 7.22.

Figure 7.22: Usage rates of bare plurals in translation task

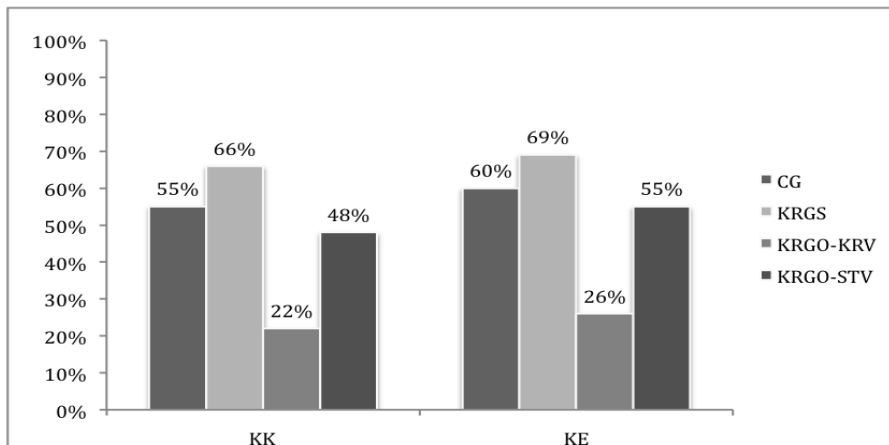


Figure 7.22 shows the usage rates of ‘bare plurals’ in the translation task by KK and KE in all categories including CG, KRGS, KRGO-KRV, and KRGO-STV. It is noticeable that both KK and KE showed relatively lower usage rates of bare plurals in KRGO-KRV in comparison with those in other categories such as CG, KRGS, and KRGO-STV. In line with the production data from the translation task, similar results were found for the judgment tasks (TAJT and UGJT) as seen in Table 7.20 previously. In both TAJT and UGJT, KE did not blindly accept bare plurals after kind-requiring verbs by following target-like patterns particularly in TAJT. However, unlike KE, KK showed non target-like results by highly accepting bare plurals in the judgment tasks. Thus, the result was interpreted as evidence that KK were not at all sensitive to the preceding verb types. However, results from the translation task show a different picture as KK used bare plural forms in KRGO-KRV (Figure 7.22) not as often as they did in the structures CG, KRG, and KRGO-STV, as discussed in section 7.2.2. Thus, considering both results from the judgement tasks and the production task, KK seem to be not entirely insensitive to the restrictions on interpretation of bare plural NPs in object position. Meanwhile, KE appeared to have acquired this restriction on bare plurals as proven by both the judgment tasks and the production task.

In terms of bare plurals after stative verbs, EC showed 83% usage rates of bare plurals in the translation task. In this category, KK and KE showed 48% and 55% accuracy rates, respectively. Though the learner's usage rates are much lower than EC, bare plural forms are the most preferred form of NP type in this category by KK and KE. In the judgment tasks (TAJT and UGJT), on the other hand, both KK and KE showed high accuracy rates with bare plurals as shown in Table 7.19 previously. Overall, based on the results from the judgment tasks and the production task, KK and KE seem to have correctly acquired the use of bare plurals after stative verbs.

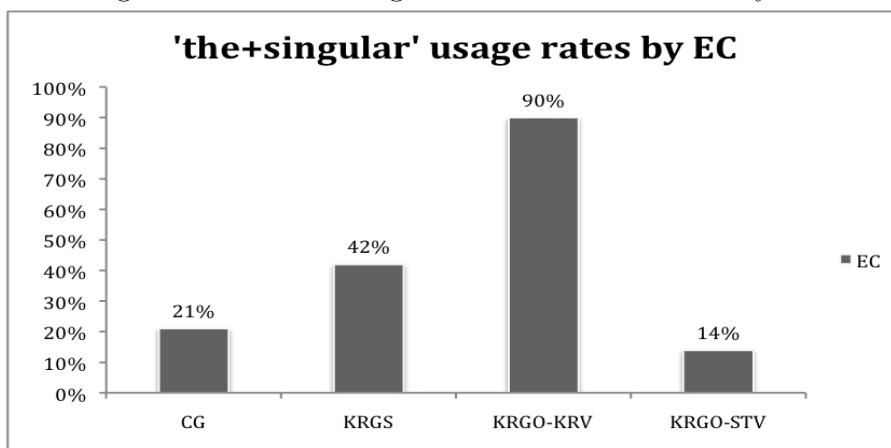
To bring together, EC provided similar results in both the judgment and production tasks as expected. KE also performed consistently throughout the different tasks on the use of bare plurals. On the other hand, in general, KK showed less target-like patterns than KE with bare plurals. For example, KK seem to have difficulty in the KRGO-KRV category considering the results of the acceptability/grammaticality judgment tasks by showing 50% accuracy rates, thus indeterminate results. However, in the production task, it appeared that KK were not entirely insensitive to the semantic restrictions of the preceding verbs in interpreting bare plurals by not over-using bare plurals in the KRGO-KRV category.

Thus, based on the results from both the judgment tasks and production task, KE seems to have acquired bare plurals as generics and also the tricky use of bare plurals in the object position, despite the *POS* problem. KE also showed evidence of acquisition of bare plurals as generics in English and showed sensitivity to the semantics of preceding verbs in interpreting bare plurals.

7.4.2 ‘The+singular’s in production task vs. judgment task

Let us now consider the results for ‘the+singular’ NPs in terms of production data vs. judgment data by EC, KK, and KE. Let us examine the results for ‘the+singular’ by EC first. Figure 7.23 shows the usage rates of ‘the+singular’ NPs by EC in the production task (translation task).

Figure 7.23: ‘The+singular’ in translation task by EC



‘The+singular’ forms are a correct form of generic NP in every sentence category. As presented in Figure 7.23, in the translation task (production task), EC showed the highest usage rates of ‘the+singular’ forms in KRGO-KRV with 90% usage rates. On the other hand, in the KRGO-STV structure, EC used ‘the+singular’ forms least with 14% usage rates. In CG, as we have already seen from Figure 7.10, ‘the+singular’ form is used second mostly following the use of bare plurals. Meanwhile, EC showed 42% usage rates of ‘the+singular’ forms and this is as often as ‘bare plurals’ in KRGS category .

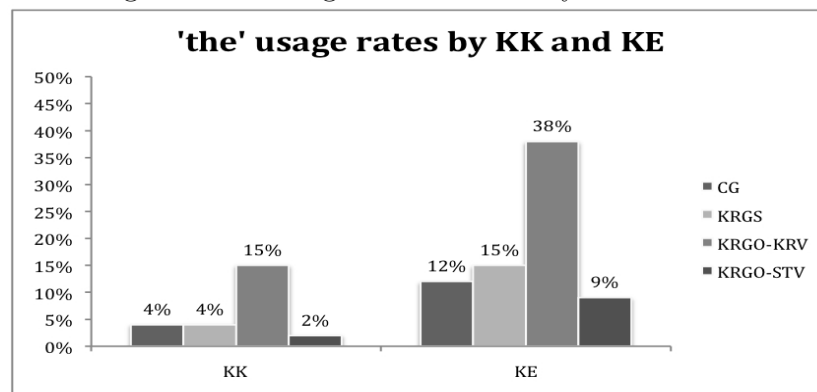
For the judgment tasks including TAJT and UGJT, as presented in Table 7.21, the judgment patterns correspond to the usage patterns, showing very similar patterns across the different tasks. That is, in CG and KRGS, EC correctly judged ‘the+singular’ forms are acceptable. Also, in the KRGO-KRV category,

where only ‘the+singular’ forms are correct, EC showed the highest usage rates of ‘the+singular’ in the production task and correctly judged them as acceptable in the judgment tasks. Furthermore, it is the KRGO-STV category where EC showed unexpectedly low accuracy rates. In this category, even though ‘the+singular’ forms are regarded as generic NPs, EC showed low accuracy rates in the judgment tasks. Similarly, usage rates of ‘the+singular’ in the production task was also very low with 14% (cf., Figure 7.23).

In the KRGO-STV category, EC equally did not prefer or accept ‘the+singular’ as generics after stative verbs. This similarly unexpected result from the two tasks may have an implication for the linguistics in that uses of ‘the+singular’ NPs might be also restricted by the preceding verbs. In the literature, only a semantic restriction of the preceding verbs for bare plurals were suggested and discussed (Carlson and Pelletier, 1995). From this empirical data, it may be that ‘the+singular’ generics are also sensitive to the preceding verbs for generic readings. Thus, it is possible that ‘the+singular’ NPs are not acceptable as generic after stative verbs as suggested by the results of EC in the KRGO-STV in this study.

What is important is that EC showed similar results in both the production and judgment tasks in all categories. Then, let us consider the results of the learner groups. The usage rates on ‘the+singular’ NPs by KK and KE are presented in Figure 7.24 below.

Figure 7.24: Usage rates of ‘the’ by KK and KE



Similar to EC as in Figure 7.23, KK and KE showed the highest usage rates of ‘the+singular’ in the KRGO-KRV category. Furthermore, both groups showed the lowest usage rates for ‘the+singular’ in the KRGO-STV category. It is also noticeable that KE employed ‘the+singular’ forms considerably more frequently than KK in each sentence category, which might suggest that KE learners are more familiar with ‘the+singular’ NPs than KK with extensive naturalistic input.

In terms of judgment tasks, as Table 7.22 and Table 7.24 presented previously, while KK showed considerably lower accuracy rates than EC, KE displayed target-like results. It can be interpreted as evidence that KK have not fully acquired ‘the+singular’ NPs as generics. That is why they showed less target-like results in both the TAJT and UGJT and hardly used ‘the+singular’ forms in production data in categories such as CG, KRGS, and KRGO-STV as shown in Figure 7.23 earlier. In contrast, KE used ‘the+singular’ forms quite frequently in the production task and showed target-like results in the two judgment tasks. Consequently, in terms of ‘the+singular’, KK showed consistently less target-like results in both the judgment and production tasks, whereas KE showed target-like results in both the production and judgment tasks. Overall, KE have successfully acquired ‘the+singular’ as generic, whereas KK have not yet acquired ‘the+singular’ NPs as generic in English. It seems that with the help of naturalistic input, KE could attain mastery of ‘the+singular’ generic NPs.

At the same time, it is also interesting that naturalistic input triggered acquisition of ‘the+singular’ NPs by KE because it was suggested that ‘bare plural’ generic forms are the most frequently preferred generic form in daily English, whereas ‘the+singular’ generics often occur in academic writing or dictionaries (Downing and Locke, 2006). This, in turn, can suggest that a limited amount of naturalistic L2 input can play facilitative role in adult L2 acquisition.

7.4.3 Well-establishment and ‘the+singular’ results in production task vs. judgment task

The current section compares the results on the use of the definite article ‘the’ with non well-established nouns. For example, ‘*the yellow bottle*’ cannot be interpreted as a generic noun, whereas ‘*the coke bottle*’ can be interpreted as generic.

In the judgment tasks, we have seen that both KK and KE displayed 50% s accuracy rates and it is far from target-like (cf., Figure 7.15). The accuracy rates of 50% s can be interpreted as rather indeterminate. Let us see how this compares with the results from the production task.

It is interesting that the production data shows contrasting results to the judgement data. In the production task, EC hardly used ‘the’ with non well-established nouns by showing 4% usage rates as expected (cf., Figure 7.15). Likewise, KK and KE both hardly used the definite article ‘the’ with non well-established entities with 2% and 4% usage rates, respectively (shown in Figure7.15). Meanwhile, despite the similarly low usage rates of ‘the’ between the learner groups and EC, this does not mean the successful acquisition of ‘the’ regarding the semantics of nouns by the learner groups. That is because it is possible that learners did not use the definite article ‘the’ without knowing that they are an unacceptable form. In other words, learners might have simply preferred ‘bare plural’ forms to the ‘the+singular’ forms and thus simply avoided using ‘the’ forms because they were not confident with using them.

Therefore, we have compared this result to the production data on the use of ‘the’ with well-established nouns (cf., Figure 7.16). For KK, they hardly used ‘the’ with both well-established nouns and non well-established nouns. Thus, there is a possibility that they did not use ‘the’ because they simply do not prefer the form. In contrast, we have seen that KE learners did not seem to blindly avoid

using ‘the’ because learners used ‘the’ with well-established nouns more frequently than those with not well-established nouns. This implicates that KE know that non well-established nouns are not compatible with the definite article ‘the’, thus hardly using ‘the’ with non well-established nouns. This result, in turn, suggests that KE learners have correctly acquired the interpretation of the English article ‘the’ in ‘the+adj+noun’ category.

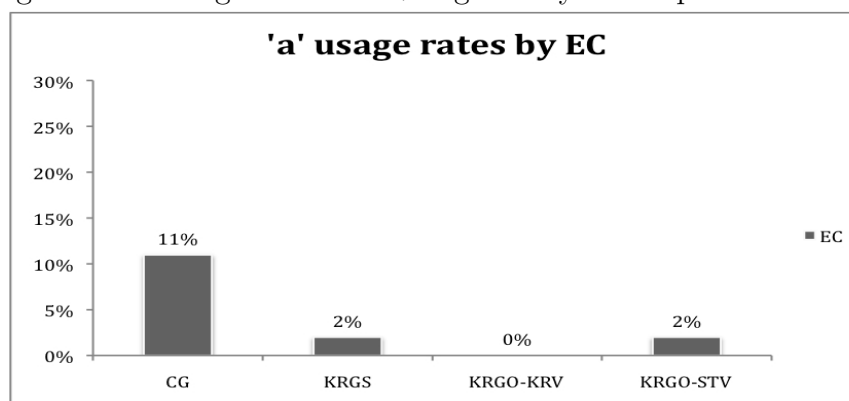
If they have acquired the semantics of ‘the’, the cause of low accuracy rates in ‘the’ with non well established nouns (‘the+adj+noun’) in the judgment tasks can be found from the NPs within. It is possible that learners did not know whether the semantics of certain nouns (‘adj+singular’) are well established or not. In other words, the concept of ‘non/well-establishment’ might be associated with more than strict semantic values, it can be also ‘culturally bound’ as well. Thus learners might not know which nouns are well-established and which are not. For instance, ‘grizzly bear’ or ‘coke bottle’ are generally perceived as well-established nouns by native English speakers as proven by EC’s results. However, these well established nouns might have not been perceived as well-established entities for some learners who were not familiar with these entities themselves. Therefore, the nature of their knowledge regarding ‘well/non-well established nouns’ might have caused low accuracy rates in this category.

Furthermore, it is the only category in which KE did not outperform KK in the current research. It might be because of the culturally bound concepts of well-establishment that KE did not outperform KK. Additionally, culturally bound concepts seem to be difficult to grasp despite lengthy naturalistic L2 input, thus resulting in residual optionality by L2 learners (cf., Section 7.6).

7.4.4 Results of ‘a+singular’ NPs in production task vs. judgment tasks

‘A+singular’ NPs are only acceptable in characterising generic sentences (CG). This form is not a kind-referring NP, thus it is not correct to use or accept as a generic NP in the KRGS, KRGO-KRV, and KRGO-STV categories. Let us examine the results for EC in the production task and the judgment tasks. Figure 7.25 shows the usage rates of ‘a+singular’ NPs by EC in the production task.

Figure 7.25: Usage rates of ‘a+singular’ by EC in production task



As Figure 7.25 shows, EC used ‘a+singular’ NPs in CG most often by showing 11% usage rates. In other categories including KRGS, KRGO-KRV, and KRGO-STV, EC marginally used ‘a+singular’ forms in the production data. The low usage rates of ‘a+singular’ is because they preferred using other forms such as ‘bare plural’s mainly and ‘the+singular’s in KRGO-KRV. Now, let us now examine how EC performed in the judgement tasks. Accuracy rates for EC in both AJT and GJT are presented in Table 7.36 below.

Table 7.36: Accuracy rates of ‘a+singular’ by EC in acceptability / grammaticality judgment task

EC	CG	KRGS	KRGO-KRV	KRGO-STV
Task 1 (AJT)	95%	87%	69%	86%
Task 3 (GJT)	94%	83%	70%	69%

As demonstrated in Table 7.36, EC showed divergent accuracy rates in KRGS, KRGO-KRV, and KRGO-STV categories. The relatively low accuracy rates in these categories were discussed earlier in Section 7.1.3. To recapitulate briefly, low accuracy rates by EC with KRGS in the judgment tasks were accounted for by the predicate type. Individual test items were examined to account for the unusually low accuracy rates of EC. It was found that EC unexpectedly accepted ‘a+singular’ NPs in KRGS with predicates such as *common* or *rare*¹⁶. The important point here is that EC accepted ‘a+singular’ NPs in KRGS with predicates like *common* in the judgment tasks. On the other hand, in the translation task, EC hardly used ‘a+singular’ forms in the KRGS category only showing 2% usage rates. What supports the judgment tasks is that EC used ‘a+singular’ when the predicate was ‘*common*’ (cf., Figure 7.10 and Figure 7.13).

Furthermore, in the KRGO-KRV category, the over-acceptance of ‘a+singular’ by EC in the judgment tasks was previously analyzed to be due to the understanding of verbs such as *invent*¹⁷. In the judgment tasks, EC incorrectly accepted ‘a+singular’ NPs when they were used after verbs such as *invent*, thus resulting in divergent accuracy rates. On the other hand, in the translation task, EC did not use ‘a+singular’ forms at all in the KRGO-KRV category (cf., Figure 7.13).

Let us now investigate how KK and KE performed in both types of tasks. Let me first recapture the accuracy rates in both the acceptability judgment task and grammaticality judgment task by KK and KE. Considering the accuracy rates in the judgement tasks, overall both learners seem to have great difficulties with ‘a+singular’ NPs (cf., Table 7.27 and Table 7.28). Both KK and KE showed target-like results only in the CG category but they showed rather divergent accuracy rates in all the other structures (KRGS, KRGO-KRV, and KRGO-STV) where ‘a+singular’ forms were not legitimate. These low accuracy rates suggest the high

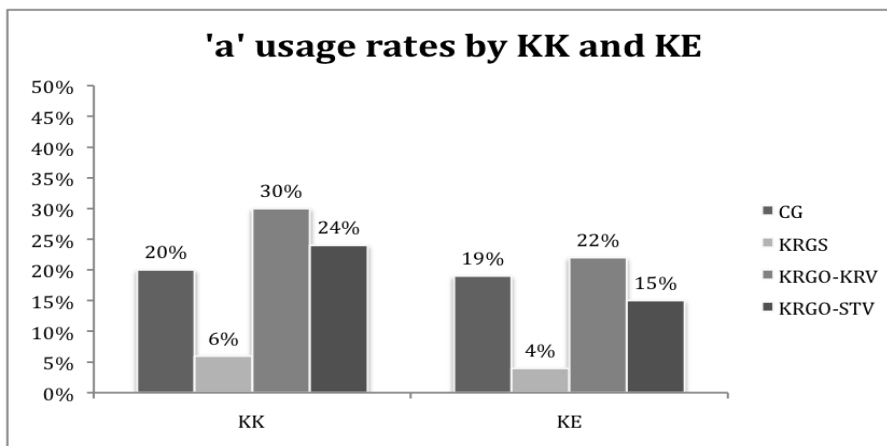
¹⁶See section 7.1.3 for a more detailed discussion.

¹⁷See section 7.1.3 for a more detailed discussion.

accuracy rates in CG might not reflect complete acquisition of ‘a+singular’. In other words, one can argue that the learners could have blindly accepted ‘a+singular’ NPs without acquiring the property that ‘a+singular’ is only acceptable only in CG. Thus, it is essential to investigate the results from the production task. Let us examine the usage rates of ‘a+singular’ in the translation task.

Production data from the translation task, unlike the results from the judgment tasks, provides evidence for the acquisition of ‘a+singular’ NPs by KK and KE. This can be seen in Figure 7.26 which shows the usage rates of ‘a’ with singular nouns in all test categories.

Figure 7.26: Usage rates of ‘a+singular’ by KK and KE in production task



In Figure 7.26, KK and KE showed similar usage patterns of ‘a’ with singular nouns. In subject position including CG and KRGS, learners showed higher usage rates in CG than in KRGS. The results from the judgment tasks and translation task indicate that learners have successfully acquired that ‘a+singular’ NPs are not generic and thus cannot be used as generic NPs.

However, in object position, both learner groups overused ‘a+singular’ forms in KRGO-KRV. In KRGO-STV, the possible reasons for this result were discussed in Section 7.2.5. It was suggested that in the absence of the generic marker ‘nun’ and a generic context, there is a chance that learners might have regarded nouns in the object position in Korean as indefinite NPs, thus overusing ‘a+singular’ NPs

in object position in English. Therefore, it was suggested to consider results with ‘a+singular’ NPs in the judgment tasks because no priming effect of the L1 was expected in the judgment tasks. In other words, for the translation tasks, learners were given Korean sentences first and then asked to translate them, which could have caused a priming effect.

However, the results of the judgment tasks were also indeterminate. The learners seem to show relatively low accuracy rates with ‘a+singular’ NPs in the judgment tasks, in the absence of L1 priming effects. Therefore, based on the results from both tasks two findings can be drawn. Firstly, based on target-like accuracy rates with ‘a+singular’ in subject position and considerably lower usage rates of ‘a+singular’ in the KRGS category than in CG, one can conclude that the Korean learners can clearly distinguish sentence level generics from NP level generics. Secondly, they did not successfully acquired ‘a+singular’ use in the object position.¹⁸

7.4.5 Results on ‘the+plural’ NPs in production task vs. judgment tasks

Recall that ‘the+plural’ NPs are not generic NPs but specific in English. Let us first compare KK’s results for the judgment tasks to the production task. As discussed in section 7.3.4, KK learners displayed similarly indeterminate results with ‘the+plural’s in the judgment tasks by showing 50% and 61% accuracy rates, respectively. On the other hand, they hardly used ‘the’ with plural nouns in the production task. In section 7.2.7, we discussed the possibility that low usage rates of ‘the’ do not necessarily indicate acquisition of ‘the+plural’ as a non generic NP because KK learners’ usage rates of ‘the’ were generally low, even in the correct structures (eg., the+singular). We suggested comparing the results of the production task to those from the judgment tasks.

¹⁸Detailed discussion on the over-acceptance of ‘a+singular’ can be found in Section 7.1.3.

Comparing the results from the judgment tasks and the production task, it seems that KK learners have difficulties in using ‘the’ with plural nouns. In section 7.1.4, it was explained that this difficulty might have been caused by learners’ L1. In Korean, both bare singulars and bare plurals are acceptable to use in generic sentences, thus it is possible that the learners could have incorrectly accepted ‘plural’ nouns with ‘the’. (cf., section 7.1.4).

Then, let us examine the results of KE. As seen in Table 7.31 earlier, KE showed target-like accuracy rates in task 3 but not in task 1 in the judgment tasks. On the other hand, in the production task, KE hardly used ‘the’ with plural nouns. Like KK’s case, one might suggest that the low usage rates of ‘the’ were caused by learners’ simple avoidance of ‘the’ . However, as discussed in section 7.2.7, KE learners often correctly used ‘the’ with singular NPs (cf., Figure 7.16). This result suggests that KE learners did not blindly avoid using ‘the’ with plural nouns but they have acquired that ‘the+plural’ NPs are not generics in English.

Therefore, based on the production and judgment tasks, KK showed difficulties regarding the use of ‘the’ with plurals. This rather indeterminate response by KK was explained by the influence of the learners’ L1. On the other hand, KE learners displayed evidence of acquisition of ‘the+plurals’ as not generic in English. This result can further supports the earlier evidence that L1 effects can be overcome with ample naturalistic input.

7.4.6 Summary

This section compared results obtained from the judgment tasks to those from the production task. In general, results between the two types of tasks support each other. In some categories, by comparing judgment results and production results, a new interpretation was suggested. For instance, in the KRGO-KRV category, while KK showed low accuracy rates in the judgment tasks, by investigating results

from the translation task, it was found that KK are sensitive to preceding verb types in interpreting bare plurals as generics. Furthermore, in the use of ‘the’ with not well-established nouns, according to the judgment tasks, results from KK and KE were inconclusive. However, comparing the results with the translation task, one can suggest that the learners obviously have knowledge that well-established nouns can be used with ‘the’ for generic readings. For ‘a+singular’ NPs, based on the data from the judgment tasks and production task, it was found that learners can distinguish sentence-level generics from NP level generics. On the other hand, regarding ‘a+singular’ use in the object position, they showed difficulties in both the judgement and production tasks. We have incorporated results from all the tasks-timed-acceptability judgment task, translation task and untimed grammaticality judgment task in this discussion.

7.5 Current findings vs. Ionin et al. (2011)

This section highlights the results of the current study in comparison with previous research on generic article acquisition. It also recapitulates which article is first acquired or which article is easier for the Korean learners to acquire in generic contexts. While there has been very little research on the acquisition of English generic articles in the field of second language research (Ionin and Montrul, 2009; Ionin et al., 2011). Ionin et al. (2011) researched the generic interpretation of determiners in SLA. Their research and the current study share the same linguistic assumption about interpretation of English generics. In other words, both of the studies assume that there are two different generics in languages which are sentence level generics and NP-level generics, and the distinction between the two generics are morphologically marked in English. However, the distinction is not morphologically marked in Korean. Thus, both Ionin et al’s and the current research investigate if learners could distinguish two different generics by using appropriate morphology,

here the articles ‘the’ or ‘a’. However, the hypotheses and assumptions of Ionin et al. (2011) do not correspond to those in the current research in that they regarded generic use of English articles as a subtype of (in)definite use of English articles, while the current research views them as independent concepts.

In Ionin et al. (2011)’s study, it is assumed that ‘a’ singular generics would be easier to acquire than ‘the’ singular generics based on semantic accounts and input frequency. To be more specific, regarding the semantic accounts, Ionin et al. (2011) suggested that since the indefinite article ‘a’ bears a [-definite] feature, thus ‘a+singular’ NPs can automatically occur in generic sentences, and, reversely, ‘a’ cannot be used in NP level generics. In other words, it was assumed that indefinite generics (‘a+singular’ NPs) are a *subtype* of regular indefinites. Therefore, the hypothesis was that once learners have acquired the indefiniteness of article ‘a’, the acquisition of indefinite singular generics (‘a+singular’ NPs) should come for free. On the other hand, for definite singular generics (‘the+singular’ NPs), learners should acquire a [+taxonomic] feature on top of the [+definite] feature of the definite article ‘the’. To explain more, definite use of ‘the’ do not necessarily provides evidence that ‘the’ bears [+taxonomic] feature. In other words, only generic or taxonomic use of ‘the’ (e.g., with kind predicates as in ‘The dodo is extinct’ or in generic sentences as in ‘The dog is a faithful animal’) can provide evidence that ‘the’ bears taxonomic feature.

In terms of input frequency, according to Biber et al (1999), based on COBUILD corpus, 25% of the tokens that learners are exposed are ‘the’, whereas 10% of the tokens are ‘a’ in written input. All of the ‘a’ tokens (10%) potentially give evidence that ‘a’ bears indefinite feature, thus it provides evidence to the learners that ‘a+singular’ NPs can be used in characterising generics. In other words, indefinite use of ‘a’ gives a clue for the acquisition of ‘a’ in generic contexts. In contrast, regarding ‘the’, 25% of all words in the input provides evidence that ‘the’ bears

definite feature. However, following Biber et al. (1999), among 25% of all input of ‘the’, only 5% of the input of them (1.25 % of the all words in the input) provides evidence that ‘the’ can also bears taxonomic feature. Therefore, learners would receive much more frequent input with ‘a’ (including generic and indefinite uses) than ‘the’ (in taxonomic contexts).

Based on the semantic accounts and input frequency, it was hypothesized that learners who have mastered English article semantics (‘a’ for indefiniteness and ‘the’ for definiteness) would show target-like results with indefinite singular generics (‘a+singular’ NPs), but not necessarily target-like results with definite singular generics (‘the+singular’ NPs). To test the hypothesis, an Acceptability Judgment Task was conducted with Korean speaking L2 learners in the study of Ionin et al. (2011). The results appear to support the hypothesis as learners were more successful with ‘a+singular’ generics than ‘the+singular’ generics in their study. Also, their results lead to a conclusion that learners who mastered indefiniteness notion of ‘a’ were also successful with ‘a+singular’ in generic contexts.

However, the results from the current research show different findings. In the current acceptability judgment task, Korean adult learners did not perform better with indefinite singular nouns (‘a+singular’ NPs) than definite singular nouns (‘the+singular’ NPs). In the current research, it appears that, generally, Korean adult learners show more target-variant performance with ‘a+singular’ nouns than ‘the+singular’ nouns in terms of genericity.

In fact, the results of ‘a+singular’ in characterising generics are similar to the results obtained in the study of Ionin et al. (2011) (cf., Table 7.6). In both experiments, Korean learners equally showed target-like results by accepting ‘a+singular’ in characterising generics. However, learners did not show target-like results by rejecting ‘a+singular’ NPs in NP level generics in both the current and Ionin et al’s research (KRGs. KRGO-KRV, and KRGO-STV categories in this experiment).

However, in the discussion of Ionin et al. (2011), even though the subjects in their study incorrectly accepted ‘a+singular’ before kind-requiring verbs, this over-acceptance of ‘a+singular’ in appropriate structure is neglected in their discussion. Thus, based on the findings of Ionin et al (2011), it would be misleading to conclude that Korean learners show target-like results in indefinite singular generics.

Does the indefinite singular generic come for free?

In the discussion of Ionin et al (2011), it was argued that once learners established ‘a’ as an indefinite marker, learners would automatically acquire the knowledge that ‘a’ can be used in generic sentences because ‘a’ is inherently indefinite, thus it can be bound by a generic operator. This assumption appeared to be supported by data from Korean and Russian speakers (Ionin et al., 2011). However, their research did not consider the incorrect use of ‘a+singular’ NPs in NP level generics. Furthermore, based on the findings from the current research, learners showed target-like results only in characterising generic sentences where ‘a+singular’ NPs are correct, but displayed non-target like results in test categories where ‘a+singular’s are illegitimate (KRGS, KRGO-KRV, and KRGO-STV, see Table 7.6). Consequently, it would be inappropriate to draw an overall conclusion that the learners have acquired ‘a+singular’ NPs in general.

Also, the results from the current research present opposing evidence to the argument of indefinite generics as being a subtype of regular indefinites. The current study tested (in)definiteness of the articles ‘a’ and ‘the’. The results of these tests¹⁹ revealed that Korean adult learners (both KK and KE) showed target-like results in terms of ‘a’ as an indefinite article (cf., Table 7.8). Korean learners correctly accepted ‘a’ in indefinite contexts and correctly rejected ‘a’ in definite contexts. However, it did not lead to successful acquisition of ‘a+singular’ NPs in generic

¹⁹Results only for the indefinite article ‘a’ are discussed here, results for the article ‘the’ can be found in Section 7.1.5.

sentences. It seems that Korean learners over-generalised ‘a’ as a kind-referring generic and over-accepted them in kind-referring generics in the timed acceptability judgment task. Furthermore, in the translation task, learners showed rather random results with ‘a+singular’ NPs, particularly in object position. This also supports the claim that acquisition of ‘a’ singular in non-generic contexts does not necessarily facilitate the acquisition of generic use of ‘a’.

Therefore, the acquisition of ‘a’ as the indefinite article does not necessarily guarantee the acquisition of ‘a’ as a generic. The findings can suggest that indefinite singular generics (‘a+singular’ NPs) may not be a subtype of regular indefinites and the acquisition of indefinite generics does not occur hand-in-hand with that of indefiniteness. In addition, the article ‘a’ as a marker for indefiniteness does not seem to directly tell learners that it is incompatible with kind-reference.

‘A’ acquired first or ‘the’ acquired first in generic contexts?

It is suggested by Ionin et al (2011) that ‘the’ generics would be harder for the learners to acquire than ‘a’ generics as ‘the’ generic involve another feature [+taxonomic]. However, I argue that adding another feature does not necessarily cause difficulties for the learners.

According to the results from the current experiment, learners did not show particularly low accuracy rates with ‘the+singular’ generics. In fact, both KK and KE successfully reached to 60-70% accuracy rates. KE even showed target-like responses with ‘the+singular’ NPs in terms of accuracy rates. However, a problem rises with the choice of accompanying nouns with ‘the’. Both KK and KE learners seem to have difficulties in rejecting ‘the’ with non-well established nouns (cf., Table 7.5). It appears that Korean adult learners over-accepted ‘the’ with non well-established nouns. It seems to indicate that both KK and KE over-generalised the use of ‘the’,

thus wrongly accepting them as generics 45% and 44% of the time, respectively. On the other hand, both KK and KE showed difficulties with the use of ‘a+singular’ NPs by incorrectly accepting ‘a+singular’ NPs as generic NPs. Therefore, putting together the results from ‘a’ and ‘the’ singular generics, it can be concluded that adding another feature for ‘the’ generics does not necessarily causes more difficulties for L2 learners. In fact, the overall higher accuracy rates on ‘the+singular’ NPs than ‘a+singular’ NPs suggest that ‘a’ generics are more difficult for L2 learners to acquire than ‘the’ generics.

This argument can be further supported by the input frequency. Biber et al. (1999) reported that generic use of *the* occurs less than 2.5% in conversation and fiction, based on the research of English articles in a series of corpora. Also 5% of all uses of *the* in the news and academic materials are generic. In Biber et al’s research, the statistics for indefinite generic uses are not reported. Meanwhile, according to the COBUILD corpus of written English, the frequency of ‘the’ is far more higher than ‘a’ with 25.1%, and 10.5% frequency, respectively (Sinclair, 1991). What is more, You (2009) reported that definite singular generics can be commonly found in genres that learners are highly likely to encounter including dictionaries, encyclopedia. Therefore, if input frequency is a major determining factor of acquisition, ‘the+singular’ generics should not be more difficult than ‘a+singular’, at least. Additionally, this assumption based on input frequency is supported by the results from the current research as Korean speaking learners of English performed better with ‘the+singular’ generics than ‘a+singular’ generics.

7.6 Summary of major findings

7.6.1 UG accessibility in the acquisition of English generics

This section presents the major findings on whether Korean L2 learners provide evidence for access to UG in the acquisition of English generic sentences.

Poverty of Stimulus

The results from the current study on ‘bare plural’ NPs provide evidence for full access to UG by adult L2 learners. Recall that *bare plurals* are not always acceptable in object position by native English speakers. This is because the choice of generic NP in object position is constrained by the preceding verb type. For instance, kind-requiring verbs such as *invent* require ‘the+singular’ NPs as generic but they are not compatible with ‘bare plurals’²⁰. On the other hand, both bare plural and ‘the+singular’ generic NPs are equally likely to occur after stative verbs such as *like*. This subtle semantic restriction of the preceding verb in the choice of the following generic NP represents a property of a poverty of stimulus. No input directly tells of the difference in the NP form after different types of verb of KRV and STV. Furthermore, such a distinction does not manifest in the L1, Korean. The Korean language allows bare plural/bare singular forms in object position regardless of the type of preceding verbs. Therefore, no input, no L1 transfer, and no such distinction is taught in English classrooms, thus ‘poverty of stimulus effect’.

The results of the current study strongly demonstrate evidence that adult L2 learners can overcome POS. In the timed-acceptability judgment task (TAJT), both KK and KE learners do not always accept bare plurals after kind-requiring verbs. This

²⁰The reason for the disallowance of bare plurals after kind-requiring verbs was discussed in section 2.1.5.

pattern becomes even more clear when compare the response with object generic NPs after kind-requiring verbs to those after stative verbs. Both KK and KE learners rejected bare plurals after kind-requiring verbs more than those after stative verbs (cf., Table 7.2). In the translation task (TT), both KK and KE displayed sensitivity to the semantic restriction of the preceding verb in the choice of the following generic NP. After kind-requiring verbs, both KK and KE showed considerably lower usage rates of bare plurals than those in other structures including subject position (CG, KRGS), and object position after stative verbs (cf., Table 7.12 and Table 7.13). Consequently, this result that adult learners clearly distinguished the subtle semantic restrictions of preceding verbs shows evidence that adult learners could overcome POS, thus support the accessibility of UG to adult L2 learners.

Meanwhile, it was proposed that use of the definite article ‘the’ with non well-established nouns are also poverty of stimulus situation. It was argued as such because no input directly tell learners the subtle semantic restriction on the choice of nouns with use of ‘the’. In addition, this distinction does not manifest in learners’ L1, Korean.

According to the results from two judgment tasks (TAJT, UGJT), both KK and KE did not show target-like responses. In fact, in this category, both KK and KE learners displayed great difficulties with low accuracy rates of roughly 50%. However, in the production task, learners displayed evidence of acquisition by not blindly avoid using ‘the’ with non well-established nouns (cf., section 7.4.3.) Thus, it was argued that learners are aware of semantic restriction on the use of nouns with definite article ‘the’ in generic context. Therefore, the results provide evidence that that adult learners can overcome POS situation, and thus access to UG.

7.6.2 Role of L1 transfer

This section highlights the main findings from the results and recapitulates if Korean L2 learners show L1 influence in the acquisition of generic uses of English articles. Recall that bare singular NPs and bare plural NPs are used as generics in Korean.

As discussed earlier in Section 3.6, bare plural forms are the NPs with the most frequent L2 input. Therefore, in order to investigate the role of L1 transfer regarding ‘bare plural’ forms, dissociation between the effect of frequent input of bare plurals and L1 transfer is necessary. It was argued that the role of L1 transfer regarding ‘bare plural’ became clearer when we consider the kind-referring NPs in the object position.

Recall that, in object position after kind-requiring verbs, bare plurals are not always acceptable, whereas they are always acceptable after stative verbs in English (Carlson and Pelletier, 1995). This subtle semantic restriction of preceding verbs does not manifest in the learners’ L1, rather bare plurals are always acceptable in object position regardless of the preceding verb type in Korean. Therefore, there is no a priori reason for Korean L2 learners to allow bare plurals in object position after kind-requiring verbs, unless they follow their L1. Therefore, it was predicted that if the learners over-accept or over-use bare plurals after kind-requiring verbs, it would provide evidence for L1 transfer.

According to the results, KK and KE showed different patterns in this category (KRG0-KRV). For KK, they judged bare plurals as acceptable 70% of the time after kind-requiring verbs in both judgment tasks, thus showing evidence for L1 transfer. In contrast, KE showed results more similar to EC by judging bare plurals as not acceptable 65% of the time after kind-requiring verbs in task 1. Meanwhile, as KE incorrectly over-accepted bare plural forms after kind-requiring verbs in task 3, it still suggests the influence of L1 transfer.

If we consider the results from the production task in KRGO-KRV category, the role of L1 transfer becomes even clearer. Recall that the production task primes learners into the L1 transfer, since stimuli were given in Korean. Consider the order of usage rates of NPs by KK and KE in 7.19 and 7.20, respectively.

(7.19) Usage rates of NPs in the KRGO-KRV category by KK
Bare singular, A+singular > Bare plural > The+singular

(7.20) Usage rates of NPs in the KRGO-KRV category by KE
The+singular > Bare plural > A+singular > Bare singular

Let us consider the order of usage rates of NPs by KK as shown in 7.19. Even though ‘the+singular’ forms are the only correct NPs in this structure, KK incorrectly used ‘bare plural’ forms more often than ‘the+singular’ forms, which shows evidence of L1 transfer. Furthermore, KK used ungrammatical form of ‘bare singular’ forms most frequently in the KRGO-KRV category, and this result strongly suggests role of L1 transfer. On the other hand, KE correctly used ‘the+singular’ forms most frequently, followed by the bare plural forms, thus showing no influence of L1 transfer.

In fact, testing ‘bare singular’ NPs in the acceptability judgment task was excluded because it is an ungrammatical form. However, we found that learners used bare singular NPs in the translation task and it provides crucial evidence for the role of L1 transfer as discussed in section 7.2.6. To briefly mention, recall that bare singular NPs are preferred to bare plural NPs as generics in Korean. Thus, if the L1 transfer effect was dominant, learners should have used bare singular NPs more frequently than bare plural NPs in all categories from the translation task. However, considering the overall usage rates of bare plurals, KK used bare plural forms considerably more frequently than bare singular forms (cf., Table 7.19). This

suggests that the performance of KK was not entirely dependent on L1 transfer in the translation task. On the other hand, for KE, usage rates of bare singular NPs were significantly lower than KK, thus showing less influence of L1 transfer.

To sum up, we have seen results which lend support to an L1 transfer effect by KK learners from the current research. On the other hand, while we have found some evidence for L1 transfer from the current research, in order to confirm the role of L1 transfer regarding generic use of English articles, further investigation on L2 learners with different linguistic backgrounds should be conducted.

7.6.3 Role of naturalistic input in terms of generic articles

This section discusses whether exposure to naturalistic input provides L2 learners with a more advantageous opportunity to attain target-like competence in comparison with L2 learners with classroom-only input. Considering the L2 input as the primary linguistic data which is crucial for learners to acquire target features, it would be logical to assume that exposure to naturalistic input would be beneficial for L2 learners as it potentially conveys more genuine L2 input. However, the role of naturalistic input has been controversial. Some studies argue that exposure to naturalistic input is not particularly advantageous and learners can attain target-like results without naturalistic input (Rothman and Iverson, 2007). On the other hand, it has been argued that extended exposure to naturalistic input is advantageous to L2 learners in adult SLA (Isabelli, 2004). It was proposed that, given more positive evidence of less salient linguistic properties, naturalistic input is beneficial for learners to reset parameters (Isabelli, 2004). Thus, the current research aims to test the role of naturalistic input in the acquisition of one of the least salient properties of English; English articles.

In the acquisition of English generics, the facilitating role of naturalistic input in L2 acquisition is partly supported by the current experimental results. There are

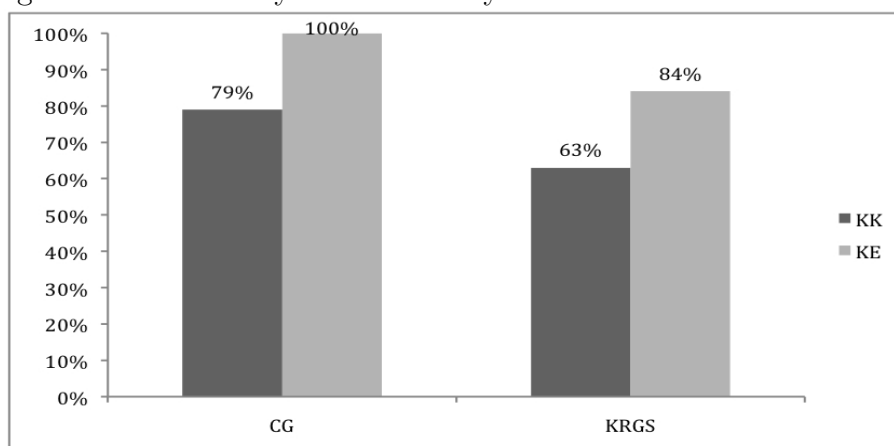
three different NP types which are involved in English generics including ‘bare plurals’, ‘the+singular’ NPs and ‘a+singular’ NPs. Among these three NPs, it is ‘bare plurals’ that reveal the facilitating role of naturalistic input most clearly. The results of ‘a+singular’ and ‘the+singular’ only partly support the beneficiary role of naturalistic input in adult L2 acquisition. The reason why the most facilitating role of naturalistic input was found for bare plurals is because it is the most frequent form in the L2 input. As was mentioned repeatedly, the most frequently used generic NP form in English is the bare plural form (Downing and Locke, 2006). Therefore, it is likely that KE learners have received ample input on ‘bare plural’s in naturalistic settings. On the other hand, ‘a+singular’ NPs and ‘the+singular’ NPs are not used as frequently as ‘bare plural’s by native speakers. Thus, this different amount of naturalistic L2 input for each generic NP could be related to the different facilitative roles in the acquisition. Let us discuss this in more detail.

bare plurals

Let us first recall the results on bare plural NPs. In the experiment, there are four sentence categories in the task and they are Characterising Generics (CG), Kind-referring Generics in Subject position (KRGs), Kind-referring Generics in Object position after Kind-Requiring Verbs (KRGV-KRV), and Kind-referring Generics in Object position after Stative Verbs (KRGV-STV). It appears that in all categories of CG, KRGs, KRGV-KRV, and KRGV-STV, significant differences were found between KK and KE. Let us compare the results of the Timed-Acceptability Judgment Task (TAJT) between KK and KE in both subject positions (CG and KRGs). Figure 7.27 shows accuracy rates on bare plurals in CG and KRGs by KK and KE.

As shown by Figure 7.27, KE performed considerably better than KK with bare plurals. This indicates that KE, with extended naturalistic input, performed considerably better with bare plurals than KK in CG and KRGs.

Figure 7.27: Accuracy rates of BP by KK and KE in CG and KRGS



The results in object position by KK and KE also strongly suggest the role of naturalistic input. As all variables are controlled except the type of input they receive, the phenomenon can be explained by the role of naturalistic input. For example, the result cannot be caused by L1 transfer as both KK and KE share the same L1 which is Korean. Table 7.37 shows learners' responses on bare plurals in object position including KRGO-KRV and KRGO-STV in TAJT. Table 7.37 is repeated from Table 7.2.

Table 7.37: Learners' responses on BP in KRGO-KRV and KRGO-STV

Responses on <i>Bare Plurals</i>	KK		KE		EC	
	KRV	STV	KRV	STV	KRV	STV
Not-accepted	30%	20%	65%	21%	70%	5%
Accepted	70%	80%	35%	79%	30%	95%

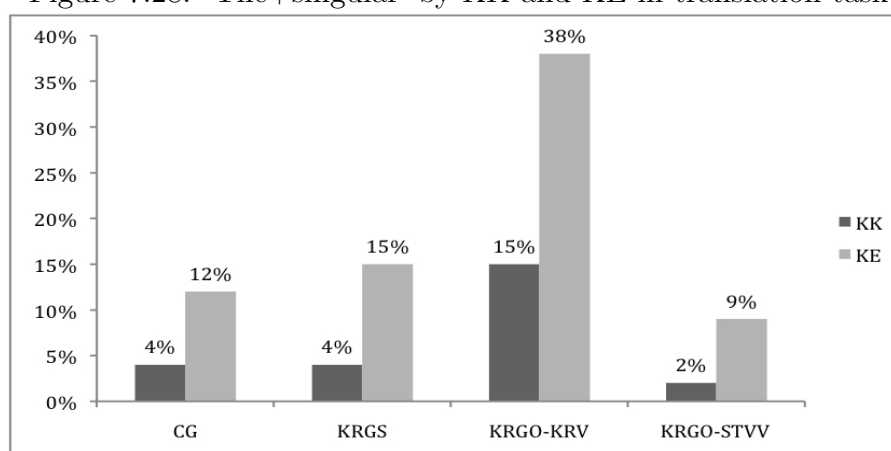
As revealed in Table 7.37, in comparison with EC, KE showed more target-like results with bare plurals in object position. Recall that in object position, bare plurals are not always acceptable as generic in English. Generic uses of bare plural NPs are restricted by the preceding verb. Bare plurals are not totally acceptable after kind-requiring verbs (KRV) but they are acceptable after stative verbs (STV) in English. Despite the subtle restriction of preceding verbs in the choice of the

following noun, KE preferred bare plurals as ‘not-accepted’ 65% of the time in the KRGO-KRV category. This result shows that KE is more target-like than KK with considerably higher rejection rates on bare plurals in the KRGO-KRV category. According to the findings for bare plurals, the facilitating role of extended naturalistic input is clearly borne out.

the+singular

On the other hand, findings for ‘the+singular’ and ‘a+singular’ are not as consistent as those of bare plurals in terms of the differences between KK and KE. Let us first consider the results for ‘the+singular’. In the timed acceptability judgment task, both KK and KE showed similar accuracy rates with ‘the+singular’ NPs as generic and which fall into 60-70s% in all categories (CG, KRGS, KRGO-KRV, and KRGO-STV) (cf., Table 7.3 in Section 7.1.2). It appears that no differences were found between KK and KE but compared with EC, while KK showed considerably lower accuracy rates than EC, KE showed target-like results. Thus, one can suggest that KE showed more target-like results with ‘the+singular’. Furthermore, the results of translation task also suggest the positive influence of naturalistic input. Figure 7.28 shows usage rates of ‘the’ in the translation task.

Figure 7.28: ‘The+singular’ by KK and KE in translation task

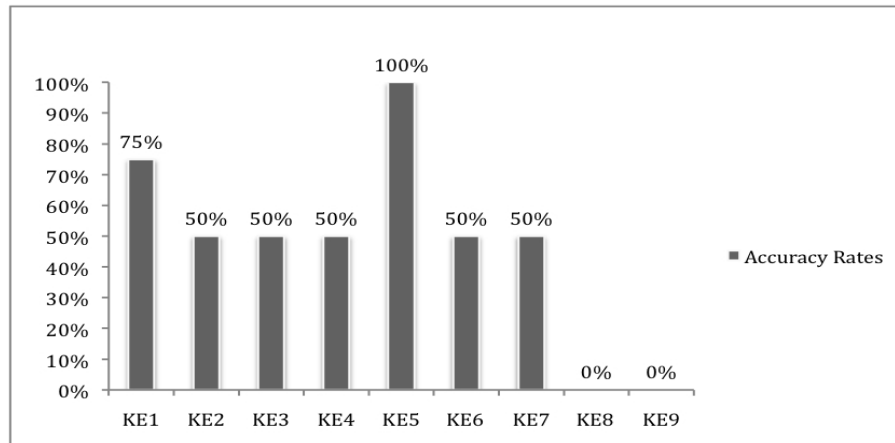


As shown in Figure 7.28, the usage rates of ‘the’ between KK and KE is significantly different. In all categories in the figure, KE employed ‘the’ to denote generic nouns far more frequently than KK. The results clearly suggest that with extensive naturalistic input, ‘the’ use in generic NPs is considerably enhanced. Consequently, considering results from all tasks (judgment tasks and production task), the influence of extensive naturalistic input is evident in terms of ‘the+singular’ generic NPs.

Then, let us recall the subtle semantic restrictions on nouns with ‘the’. It has been repeatedly discussed that only ‘well-established entities’ and ‘kinds’ are eligible to induce generic meanings when combined with the article ‘the’. Let us examine if the acquisition of subtle semantic restrictions on nouns can be improved by naturalistic input. In TAJT, learners were asked to judge if nouns with a non-established-concept are acceptable with ‘the’. In this task, KK and KE showed similar accuracy rates of 55% and 56%, respectively (cf., Table 7.5). Surprisingly, there was no difference at all between KK and KE in this category. Since interpretations based on group data could mask individual responses, individual data within the KE group was examined. Most of the subjects’ exposure length ranges from 4 to 6 years. However, there are 9 subjects in the KE group with more than 10 years of naturalistic input exposure. Figure 7.29 shows the accuracy rates of those 9 subjects in ‘the’ with non-well established nouns.

As shown in Figure 7.29, learners who received copious naturalistic input showed divergent results in rejecting ‘the’ with non-well established nouns. Among those 9 subjects, KE2 is the one with the most input (21 years) but showed 50% accuracy rates. On the other hand, KE5 had just over 10 years of naturalistic input and showed 100% accuracy rates. The findings suggest that the acquisition of the subtle semantic restrictions on the choice of nouns is not directly affected by lengthy

Figure 7.29: Individual data on ‘the’ with non-well established nouns



exposure to naturalistic input. It appears that long and copious input does not necessarily trigger the acquisition of subtle semantic distinctions.

Coming back to the group results, in the translation task, both KK and KE hardly used ‘the’ with non-well established nouns. However, considering the relatively lower usage rates of ‘the’ in general, it cannot be concluded that KK and KE did not use ‘the’ based on the correct knowledge that ‘the’ cannot be used with non-well established nouns in terms of generics. However, the results of the translation task are different. For KE, the usage rates of ‘the’ between well-established nouns and non-well established nouns are significantly different. KE showed 15% usage rates of ‘the’ with well-established nouns which is considerably higher than the usage rate of than 4% with non-well established nouns (cf., figure 7.16). Whereas, for KK, the difference between the use of ‘the’ with well-established nouns and non-well established nouns are not significant. Thus, based on the results, it is not reasonable to interpret the KE results as they blindly did not use ‘the’ with non-well established nouns. Furthermore, this result also indicates the facilitating role of naturalistic input in the acquisition of semantic restrictions on nouns with ‘the’ in the translation task.

Consequently, the results for ‘the+adj+singular’ (the+non well established entities) by KK and KE vary in accordance with the task type. In the acceptability judgment

tasks, no differences were found between KK and KE in all categories (CG, KRGS, KRGO-KRV, KRGO-STV, and well-establishment of nouns), thus there appeared to be no influence of extended naturalistic input. However, in the translation task, KE learners did show more target like results than KK, thus providing evidence supporting the role of naturalistic input in adult SLA. Thus, the role of naturalistic input was partly proven.

The reason why KE did not show considerably better results than KK can be found from complex input regarding ‘the+adj+singular’ generic NPs. In other words, as we have discussed in Section 7.1.2 earlier, a lack of direct input that tells learners that ‘the yellow bottle’ is not generic means it is possible that learners might have over-generalised the use of ‘the’ with non well-established nouns. This over-generalisation may come from the correct use of ‘the’ with well established entities (the coke bottle) or kinds (the brown bear, the grizzly bear, the white tiger). Or alternatively, as discussed in section 7.4.3, it is probably the culturally embedded concept of well-establishment that learners could not acquire despite lengthy L2 input. In other words, which nouns are well-established and which are not is not easy to grasp, thus resulting in individual variances by L2 learners as shown in Table 7.29. It means that while learners have acquired the linguistic knowledge that ‘the’ should be used with well-established nouns or kinds for generic NPs. It is the knowledge on culturally bounded concept of well-establishment that learners could not master. This speculation suggests interesting area of research. It would be interesting to investigate on the acquisition of linguistic properties which involve culturally bound semantic concepts and examine if naturalistic input does not play advantageous roles in such properties.

a+singular

Now, let us discuss the results for KK and KE in terms of the article ‘a’ in the acceptability judgment task. According to the results for KK and KE, their responses are not different to each other (cf., Table 7.6). However, despite the fact that accuracy rates between KK and KE were not significantly different, it was found that KE learners’ responses were more target-like than KK when each test item was individually analysed (cf., Section 7.1.3). For instance, in the KRGS and KRGO-STV categories, KE learners showed similar patterns to EC, thus showing non random responses. In other words, it appears that extensive naturalistic input is obviously advantageous to the adult learners in terms of ‘a’. In the translation task, KE outperformed KK in the use of ‘a’ in the KRGS category by not overusing ‘a+singular’ NPs where they are not appropriate.

the+plural

In the ‘the+plural’ category, we have observed that differences between KK and KE were not statistically significant in the judgment tasks. On the other hand, comparing the accuracy rates to EC, KE showed more target-like responses than KK. Furthermore, as discussed in section 7.4.5, both KK and KE correctly rarely used ‘the+plural’ forms in the production task. This result can mean that they have acquired that ‘the+plural’s are not generic in English. On the other hand, as we have discussed already, it might be the case that the learners avoided using ‘the’ in general from a simple preference. This assumption was found to be true in the case of KK because KK hardly used ‘the’ even in correct structures such as ‘the+singular’s. In contrast, KE showed high usage rates of ‘the’ with singular nouns. The result for KE suggests that KE did not blindly avoid using ‘the’ with plural nouns but they have acquired the English property that ‘the+plural’ is not

generic but specific. Therefore, in general, KE performed more closely to EC than KK, thus lending support to the facilitating role of naturalistic input in adult SLA.

To sum up, with lengthy exposure to naturalistic input, KE learners seemed to have benefited more than KK learners in general. In particular, the role of naturalistic input was clearly evident in terms of the acquisition of 'bare plural's. In addition, results for 'the+singular' NPs, 'a+singular' NPs and 'the+plural' NPs also partly displayed the advantageous influence of naturalistic input. It seems that learners receive the most benefit in the acquisition of bare plural NPs with ample naturalistic input. This can be because 'bare plural' forms occur most frequently in conversation by native English speakers (Downing and Locke, 2006). It means KE learners received more genuine input which provides evidence that bare plurals are generic NPs.

7.6.4 The 'Interface Hypothesis'

One of the main research questions of the current thesis was to test whether the 'Interface Hypothesis' can be supported regarding the acquisition of English articles. The 'Interface Hypothesis' (Sorace and Serratrice, 2009) proposes that not all interfaces cause the same level of difficulties for L2 learners, but properties which involve sub-linguistic modules (internal interface) are less problematic than properties that involve grammar external domains (external interface).

The current research argues that (in)definite use of English articles involves external interface, whereas generic use of English articles involves internal interface. Thus, following predictions from the 'Interface Hypothesis', it was predicted that (in)definite use of English articles would be more difficult for L2 learners than generic use of English articles.

According to the results, both KK and KE learners showed similar accuracy rates between generic use of English articles and (in)definite use of English articles (cf., Section 7.1.5). It was observed that generic use of English articles is not necessarily easier than in(definite) use of English articles. Regarding the relative difficulties found with generic articles, it was proposed that such difficulties can be attributable to the subtle semantic constraints on generic article use. For instance, ‘a+singular’ NPs are acceptable in characterising generics but not as generic NPs. Furthermore, article ‘the’ can only be used with well-established nouns or kinds for generic interpretation. These are the areas where learners showed great difficulties (cf., Section 7.1.5). Also, regarding the relative easiness of (in)definite articles, we proposed that learners might have been more familiar with the (in)definiteness concept of English articles than generics.

Taken together, the results of the current research found that the prediction based on the distinction between internal interface and external interface with the ‘Interface Hypothesis’ might not be sustainable regarding the L2 acquisition of English articles. In addition, external interfaces are not found to be entirely problematic in the L2 acquisition of articles.

7.6.5 Summary

In the above section, I have more clearly illustrated the main findings regarding the hypotheses of the current research. Firstly, the current research supported UG accessibility by L2 learners by investigating POS effect. It was shown that learners displayed target-like results with bare plural NPs after kind-requiring verbs despite the POS problem. This was shown as support for access to UG. Furthermore, results of ‘the’ with non-well established nouns in the translation task lend support for UG accessibility to adult second language learners.

Secondly, evidence that can lend support for L1 transfer in the acquisition of generic articles was found. KK seem to have been more influenced by the learners' L1. However, KE seemed to have overcome L1 influence by showing more target-like results than KK. Thus, it was argued that naturalistic input plays a facilitating role in overcoming L1 transfer. In the meantime, in order to investigate the role of L1 transfer more clearly, further research should be conducted, for instance, with L2 learners from different L1 backgrounds.

Thirdly, in the acquisition of English generic articles, naturalistic input appeared to be advantageous to adult L2 learners in most of the test categories. However, in some categories such as 'the+singular' and the use of well-established nouns, KK and KE did not show differences in the timed acceptability judgment task. Results from the translation task showed more target-like responses by KE, thus showing a facilitating role of naturalistic input. Consequently, in general, lengthy exposure to naturalistic input plays a positive role in acquiring English generic articles.

Lastly, the main findings related to the 'Interface Hypothesis' were highlighted in this section. Accuracy rates on the in(definite) use of English articles (external interface) and generic use of English articles (internal interface) were compared and it was found that external interfaces are not necessarily problematic for L2 learners. It was argued that subtle semantic restrictions on the use of generic articles can also cause difficulties for L2 learners. Consequently, the 'Interface Hypothesis' could not be supported by the current research.

7.7 Conclusion and Implications

The current study of the acquisition of English articles by Korean speaking adult L2 learners provides interlanguage data that can test mainly (1) UG accessibility by adult Korean learners, (2) role of L1 transfer, (3) role of naturalistic input in the adult SLA, and (4) the Interface Hypothesis.

The results of the current research provided evidence for the accessibility to Universal Grammar by Korean speaking adult L2 learners. By testing linguistic properties of generic use of English articles which have the poverty of stimulus problems, it was clearly shown that adult Korean learners can access to UG. The current research aimed to see L1 transfer in the acquisition of generic use of English articles. In addition, we have seen a role of L1 transfer by Korean adult L2 learners. Meanwhile, it was found that KK learners were more influenced by the L1 transfer than KE. While we found some influence of L1 in this research, in order to investigate the role of L1 transfer more clearly, it would be necessary to further examine the acquisition of English generic articles by L2 English learners with different L1 background.

Additionally, learners who had ample naturalistic input overall showed more target-like responses than those without naturalistic input. While it was controversial whether naturalistic input is advantageous for L2 learners, the current research provided evidence that acquisition of English articles can benefit from the ample naturalistic input.

Furthermore, following the the IH, it was predicted that (in)definite use of English articles would be more problematic for L2 learners than generic use of them because of processing difficulties. The current research did not provide data that can support the the IH as learners did not particularly show less target-like results in (in)definite article uses. Therefore, it was argued that distinction between internal interface and external interface may not be sustainable regarding L2 acquisition of

English article uses. It was discussed that learners did not outperform with generic use English articles as they involve some subtle semantic restrictions, whereas they performed relatively well with (in)definite uses of English articles as the concept of (in)definiteness regarding English articles are more familiar to the learners. Consequently, it was argued that processing difficulties at external interface do not necessarily cause problems for L2 learners. In fact, English article is one of the rare properties which involve both external and internal interfaces within one property, in order to expand the testing grounds of the IH, it would be interesting to see whether other L1 speakers or child learners show similar responses to those of L2 adult learners.

Lastly, regarding task types, we have seen that learners can perform differently in different types of task (between implicit and explicit tasks). It has an implication for future second language research in that, in order to examine true linguistic competence, choice of tasks should be selected with discretion. Furthermore, as was done in the current research, in order to elucidate learners' overall L2 knowledge, production data should be considered in conjunction with comprehension data.

Appendix A

Tasks

A.1 Timed Acceptability Judgement Task

This appendix reports test items of the timed acceptability judgment task. It contains all test items that were used in the timed acceptability judgement task as reported in Chapter 4. In this experiment, all the instructions were given orally in Korean to the L2 learners of English. In addition, the order of the sentences below were randomised. Subjects were asked to rate their acceptability of each of the sentences.

Instructions given to Participants

This test consists of 72 sets of sentences. All the sets contain two sentences. The first sentences are always considered as acceptable but the second sentences are sometimes acceptable and sometimes unacceptable. Please, judge the acceptability of the second sentences. The answer sheet will be given separately. The sentences will be displayed on the screen for only few seconds. Please write your answer on the answer sheet provided for you. Please do not go back to change your earlier answers.

Practice Item

(A.1) Kim can see eagles nearly every night. The eagle can be seen at night.

Answer) -2 -1 0 +1 +2

Item types arranged by category

A) Characterising generics

Sentences indicated with # below are illegitimate for generic readings as definite plurals induce specific readings.

1. John tries to eat more oranges in winter. Oranges are good for preventing colds.
2. John tries to eat more oranges in winter. The orange is good for preventing colds.
3. John tries to eat more oranges in winter. #The oranges are good for preventing colds.
4. John tries to eat more oranges in winter. An orange is good for preventing colds.
5. Jane had potatoes for dinner when she was admitted to the hospital. Potatoes are highly digestible.
6. Jane had potatoes for dinner when she was admitted to the hospital. A potato is highly digestible.
7. Jane had potatoes for dinner when she was admitted to the hospital. The potato is highly digestible
8. Jane had potatoes for dinner when she was admitted to the hospital. #The potatoes are highly digestible.
9. Animals have different characters. Cats are very independent.

10. Animals have different characters. A cat is very independent.
11. Animals have different characters. The cat is very independent.
12. Animals have different characters. # The cats are very independent.
13. There are many new inventions in modern days. Computers provide many convenient programmes.
14. There are many new inventions in modern days. The computer provides many convenient programmes.
15. There are many new inventions in modern days. A computer provides many convenient programmes.
16. There are many new inventions in modern days. # The computers provide many convenient programmes.

B) Generic NPs with not well-established nouns in Characterising Generic Sentences

17. John tries to eat more oranges in winter. Fresh oranges are good for preventing colds.
18. John tries to eat more oranges in winter. # The fresh orange is good for preventing colds.
19. Jane had potatoes for dinner when she was admitted to the hospital. Mashed potatoes are highly digestible.
20. Jane had potatoes for dinner when she was admitted to the hospital. The mashed potato is highly digestible.
21. Animals have different characters. Large cats are very independent.
22. Animals have different characters. The large cat is very independent.
23. There are many new inventions in modern days. High performance computers provide many convenient programmes.

24. There are many new inventions in modern days. The high performance computer provides many convenient programmes.

C) Kind referring generics in subject position

Sentences marked with the # are ungrammatical in that 1) indefinite singular NPs are used in kind-referring generics and 2) definite plurals are used as generic interpretation.

25. Insects are not a problem for camping in Scotland. But, #a mosquito is widespread in Scotland.
26. Insects are not a problem for camping in Scotland. But, mosquitoes are widespread in Scotland.
27. Insects are not a problem for camping in Scotland. But, #the mosquitoes are widespread in Scotland.
28. Insects are not a problem for camping in Scotland. But, the mosquito is widespread in Scotland.
29. Jane saw a bald eagle when she visited North America. Bald eagles are extremely rare.
30. Jane saw a bald eagle when she visited North America. #A bald eagle is extremely rare.
31. Jane saw a bald eagle when she visited North America. The bald eagle is extremely rare.
32. Jane saw a bald eagle when she visited North America. #The bald eagles are extremely rare.
33. Sam saw a hedgehog in the wood the other day. Hedgehogs are common in woodlands.

34. Sam saw a hedgehog in the wood the other day. #A hedgehog is common in woodlands.
35. Sam saw a hedgehog in the wood the other day. The hedgehog is common in woodlands.
36. Sam saw a hedgehog in the wood the other day. #The hedgehogs are common in woodlands.
37. Jamie took a picture of a white lion at the zoo. White lions are endangered by hunting and habitat loss.
38. Jamie took a picture of a white lion at the zoo. The white lion is endangered by hunting and habitat loss.
39. Jamie took a picture of a white lion at the zoo. #A white lion is endangered by hunting and habitat loss.
40. Jamie took a picture of a white lion at the zoo. #The white lions are endangered by hunting and habitat loss.

D) Kind-referring generics in object position

Sentences that are marked with the # are illegitimate sentences for generic readings as 1) indefinite singular NPs are used instead of kind-referring NPs and 2) definite plurals are used for generic interpretation. Definite plurals have specific interpretations rather than generic readings. Additionally, sentences marked with question marks are also regarded as ungrammatical but is not totally unacceptable, according to the native speaker.

41. Tom has never seen a dodo. French settlers exterminated the dodo.
42. Tom has never seen a dodo. French settlers exterminated ?dodos.
43. Tom has never seen a dodo. French settlers exterminated #a dodo.
44. Tom has never seen a dodo. French settlers exterminated #the dodos.

45. Edward is generally healthy and takes regular exercise but, he likes cigarettes.
46. Edward is generally healthy and takes regular exercise but, he likes #a cigarette.
47. Edward is generally healthy and takes regular exercise but, he likes the cigarette.
48. Edward is generally healthy and takes regular exercise but, he likes #the cigarettes.
49. Rachael enjoys eating fruit every morning. Especially, she loves oranges.
50. Rachael enjoys eating fruit every morning. Especially, she loves #an orange.
51. Rachael enjoys eating fruit every morning. Especially, she loves the orange.
52. Rachael enjoys eating fruit every morning. Especially, she loves #the oranges.
53. John read a history book. He learned that the Wright Brothers first invented #a plane.
54. John read a history book. He learned that the Wright Brothers first invented ?planes.
55. John read a history book. He learned that the Wright Brothers first invented the plane.
56. John read a history book. He learned that the Wright Brothers first invented #the planes.

E) Distractor: Definite and Indefinite Sentences

Among 16 distractor sentences, 8 sentences are grammatical and 8 sentences are ungrammatical. Not acceptable sentences for generic readings are marked with #. Half of the ungrammatical sentences (4) are ungrammatical as the definite article is used where the indefinite article is required. Reversely, the other half of the ungrammatical sentences (4) are ungrammatical as the indefinite article is used where the definite article is required.

57. Jane had a candy after dinner. The candy was too sweet for her.
58. Sam had a candy after dinner. But, Susie had a chocolate.
59. Kim was bitten by a mosquito in Scotland. #A mosquito was very big.

60. Sam had a chocolate after dinner. But, Susie had #the cheesecake.
61. John watched a film on Sunday. The film was about the Second World War.
62. Jane saw a bald eagle when she visited North America. But, she couldnt see a white tiger.
63. Jane saw a bald eagle when she visited North America. But, she did not have a chance to take picture of #a bald eagle.
64. Jamie took a picture of a white lion at the zoo. But, he couldnt take a picture of #the dolphin.
65. Sam saw a hedgehog in the wood the other day. But, the hedgehog disappeared very quickly.
66. Sam saw a hedgehog in the wood the other day. But, he couldnt find a squirrel.
67. Kim was bitten by a mosquito in Scotland. Kim found #a mosquito that had bitten her.
68. Gary received a computer yesterday as a birthday present. But, he wanted to get #the bicycle.
69. Gary bought a computer yesterday. However, the computer doesnt work properly.
70. John watched a film on Sunday. But, he didnt watch a football match on Sunday.
71. Sams cat doesnt listen to him. But, #a cat listens to Sams wife.
72. Jane bought a bag last Christmas. But, she didnt buy #the hat.

A.2 Translation Task

This section presents test items that were used in the Translation Task. Only simple sentences were tested in this task. For the Korean participants, instructions were given orally in Korean. The test consists of 34 Korean sentences. The Korean test sentences were displayed on the screen for a few seconds. Meanwhile, for the English native controls, instructions were given in English. Additionally, as native English speakers could not be asked to translate the Korean language into English, they were given a modified form of the translation task. The test items for the native English controls will also appear in the later part of the current section.

Instructions given to the participants

Translate the following Korean sentences into the English sentences. Use the words given without changing the word order.

Practice Item

(A.2) gamja-nun nammieseo choechoro jaebaedoedossda
potato-GEN SouthAmerica first cultivated-DEC
(Potato, first, cultivate, in South America)

Possible Answer: Potatoes were first cultivated in South Africa.

Item types arranged by category

A. Kind referring generics in subject position

1. Dodosae-nun myeoljongdongmulida
dodo-GEN extinct
(dodo, extinct)

2. Gamja-nun ailaendeue 17segie sogaedwaeosssda
potato-GEN Ireland 17thcentury introduce

(potato, introduce, Ireland, in 17th century)

3. Moginun yeonggukkee geoui eopda
mosquito-GEN England rarely find
(mosquito, rarely, find, in England)

4. Mogi-nun Seukoteulaendeue heunhada
mosquito-GEN Scotland common
(mosquito, common, in, Scotland)

5. Hoesaekgomeun sanyangkwa seosikji sangsile euihae myeoljongwikie
grizzly bear-GEN hunting habitat loss endanger
cheohaessda

(grizzly bear, endanger, by, hunting, habitat loss)

6. Syokeuliga traenjisteoreul balmyeonghaessda
Shockly transistor invent
(Shockly, invent, transistor)

- B. Kind referring generics in object position**

7. Johnun goyangireul sileohanda
John cat hate
(John, hate, cat)

8. Janeeun dambaereul sileohanda
Jane cigarette hate
(Jane, hate, cigarette)

9. Tomeun sajareul johahanda
Tom lion like
(Tom, lion, like)

10. Mikukine ceoeum keompyuteoreul balmyeonghayeosda
American first computer invent

(American, first, invent, computer)

11. Raiteuhyeongjega bihaenggireul balmyeonghaessda
The Wright Brothers plane invent
(The Right Brothers, invent, plane)

12. Ailaendeu gyeongjenun gamjae uijonhage doeossda
Irish economy potato dependent upon become
(Irish economy, become, dependent-upon, potato)

13. Sumereuine nokroreul balmyeonghaessda
Summerians pottery-wheel invent
(Summerians, invent, pottery wheel)

14. Sameun horangereul museowohanda
Sam tiger fear
(Sam, fear, tiger)

C. Characterising generics

15. Gaenun jijnunda
dog-GEN bark
(dog, bark)

16. Eollukmalun julmunuida
ZebraGEN stripe have
(zebra, have, stripe)

17. Sakwanun kaeule suhwakhanda
apple-GEN in autumn harvest
(apple, harvest, in, autumn)

18. Gamjanun maeu sohwaega jaldoenda
potato-GEN highly digestible
(potato, highly, digestible)

19. Chanun bissada
 car-GEN expensive
 (car, expensive)
20. Goyanginun saengseoneul johahanda
 cat-GEN fish like
 (cat, like, fish)
21. Goyanginun maeu dokripjeokin dongmulida
 cat-GEN very independent animal
 (cat, very, independent, animal)
22. Goraenun poyudongmulida
 whale-GEN mammal
 (whale, mammal)
23. Sonun uyureul junda
 cow-GEN milk give
 (cow, give, milk)
24. Nongbudeuleun achimiljjik ileonanda
 farmer-GEN early morning get up
 (farmer, get up, early, in, morning)
25. Onsileun jipkwa gadeuneul ieojunun hulryunghan tongroida
 conservatory-GEN house garden between wonderful link
 (conservatory, wonderful, link, between, house, garden)
26. Sinsanun suknyeoreulwihae muneul yeoleojunda
 gentleman-GEN lady for door open
 (gentleman, open, door, for, lady)
27. Chaeksangeun dariga negae ida
 desk-GEN leg four have

(desk, have, four, leg)

28. Gogaekun hangsang pumjiljogeun seobiseureul wonhanda
customer-GEN always quality high service want
(customer, always, want, high, quality, service)

D. Not well-established nouns in Characterising generics

29. Sinseonhan ttalkinun dalko massita
fresh strawberry-GEN sweet delicious
(fresh strawberry, sweet, delicious)
30. Kun goyanginun aju doklipjeokida
Large cat-GEN very independent
(large cat, very, independent)
31. Suipchanun bissada
Imported-car-GEN expensive
(imported car, expensive)
32. Sinseonhan orangenun gamgi yebange johda
fresh orange-GEN cold prevent good
(fresh orange, good, prevent, cold)
33. ekken gamjanun maeu sohwaga-jaldoenda
mashed potato-GEN highly digestible
(mashed, potato, highly, digestible)
34. eorin ipun bitaminssiga issda
baby leaf-GEN vitamin-C contain
(baby leaf, contain, vitamin C)

A task for native controls

Instructions given to the native speakers

The following sentences are incomplete. Please complete the following sentences without changing given word orders.

Practice Item

(A.3) Potato first cultivate in South Africa

Answer)Potatoes are first cultivated in South Africa.

Item types arranged by category

A. Kind referring generics in subject position

1. Dodo extinct.
2. Potato introduce to Ireland in 17th century.
3. Mosquito rarely find in England.
4. Mosquito common in Scotland.
5. Grizzly bear endanger by hunting and habitat loss.
6. Shockley invent transistor.

B. Kind referring generics in object position

7. John hate cat.
8. Jane hate cigarette.
9. Tom like lion.
10. American first invent computer.
11. The Wright Brothers invent plane.
12. Irish economy become dependent upon potato.
13. Summerians invent pottery wheel.
14. Sam fear tiger.

15. Dog bark.

C. Characterising generics

16. Zebra have stripe.

17. Apple harvest in autumn.

18. Potato highly digestible.

19. Car expensive.

20. Cat like fish.

21. Cat very independent animal.

22. Whale mammal.

23. Cow give milk.

24. Farmer get up early in morning

25. Conservatory wonderful link between house and garden

26. Gentleman open door for lady

27. Desk have four leg

28. Customer always want high quality service

D. Not well-established nouns in Characterising Generics

29. Fresh strawberry are sweet and delicious.

30. Large cat very independent.

31. Imported car expensive.

32. Fresh orange good prevent cold.

33. Mashed potato highly digestible.

34. Baby leaf contain vitamin-C.

A.3 Untimed Grammaticality Judgement Task

The current section reports test items that were given to the informants from the grammaticality task. It contains all test items as reported in Chapter 4. All the instructions and test items were given in English. In addition, this task was carried out as a pen and paper test.

Instructions given to participants

Zorg is from Mars and it has very limited knowledge on Earth. So, we want to give it some general knowledge about the Earth. The following sentences are general information about animals, fruit, humans, and transportation on Earth.

The following task tests your knowledge of English articles. Sometimes sentences are grammatical but sometimes sentences are ungrammatical and incorrect articles are used. Please focus on the use of articles such as ‘a’, ‘the’ and ‘no article’ in the underlined noun phrases. Please choose the acceptability of the sentences as generic sentences in the answer sheet.

Practice Item

A: Zorg is from Mars. What can you tell Zorg about animals on Earth?

B: A cat likes fish.

(grammatical, ungrammatical)

Item types arranged by category

A. Characterising Generic Sentences

1. A dog is a very faithful animal.
2. The dog barks.
3. Dogs are smart.
4. A human body is like a complex machine.
5. The human is the most superior animal on Earth.
6. Humans are usually very kind to each other.
7. An apple tastes a bit sour and sweet.
8. The apple can be eaten fried or baked.
9. Oranges are good for treating colds.
10. A car is very useful.
11. The car is used in everyday life.
12. Cars fume out exhaust gas.

B. Kind referring generics in subject position

13. Dogs are common on Earth.
14. The dog is popular with kids.
15. #A white tiger is rare on Earth.
16. #A pink dolphin is rare on Earth
17. The human is prevalent on Earth.
18. Humans first came from Africa about two million years ago.
19. #A human is common in the land.
20. #A human is not common in the sea.
21. The apple is harvested in autumn.
22. Bananas are abundant in East South Asia.
23. #A banana is harvested in summer.
24. #A mango is prevalent in tropical regions.
25. The plane was invented by the Wright Brothers.
26. Cars are commonly found everywhere.

27. #A plane was not common in 1900s.
28. #An electronic car is not common yet.

C. Kind referring generics in object position

29. Dogs do not like bananas.
30. Dogs like the apple.
31. God created the dog.
32. #Cats usually like a fish.
33. ?French settlers exterminated dodos.
34. #A dog doesnt like a fish.
35. Humans invented the computer.
36. Humans like dogs.
37. Humans like cigarettes.
38. ? God created humans.
39. # Humans normally hate a war.
40. #Some of humans exterminated a white tiger on Earth.
41. People harvest the mango in autumn.
42. People like bananas.
43. Older people dont like the apple.
44. #People like an apple for dessert.
45. ?South East Asians first introduced bananas to Americans.
46. #People on Earth can introduced a banana to Martian.
47. #People prefer a train for a long journey.
48. ?James Watt first invented trains.
49. #Germans invented an electronic car.
50. The Wright Brothers invented the plane.
51. Most people have cars.

52. Environmentalists hate the car.

D. Not-well established nouns

53. Baby leaves contain vitamin Cs.

54. The baby leaf contains vitamin Cs.

55. Green vegetables are good for human health.

56. The green vegetable is good for human health.

57. Fresh strawberries are sweet and delicious.

58. The fresh strawberry is sweet and delicious.

59. Well-ripened mangoes can be eaten for dessert.

60. The well-ripened mangoes can be eaten for dessert.

61. Old cars are not very energy-efficient.

62. The old car is not very energy-efficient.

63. Imported cars are expensive.

64. The imported car is expensive.

E. Ungrammatical sentences

(The sentences below are ungrammatical as bare singular NPs are used)

65. Dog is smarter than cat.

66. Cat hates dog.

67. Human cannot live in Mars.

68. Human can love each other.

69. Mango is very sweet.

70. Kiwi is a bit sour.

71. Electronic car is very expensive.

72. Train is popular among commuters.

Appendix B

Background Information Survey

1) Age:

2) Gender: Male () Female ()

3) How old were you when you started learning English?

4) How long have you been studying English?

5) Please tick any of the followings that apply to you:

a. I had English lessons at schools in Korea.

b. I had English lessons before or after school in Korea.

c. I had English lessons at university in Korea.

d. I have attended English courses in English-speaking countries.

e. I lived in English-speaking countries as a child (from age () until age ()).

f. I usually speak English at home because my wife/ husband/ hose-mate is not a

Korean native speaker.

5) If any, how many years (or months) have you lived in England, or any other English speaking countries? ()

Please specify the age of arrival in English speaking countries ()

6) What is your education level (highest degree) ?

High school (), Bachelor (), Master (), Doctor ()

7) Have you studied any other languages besides English? Yes (), No ()

If 'Yes', please list the languages that you have studied and the length of time you studied them.

Language: Period of Study:

Language: Period of Study:

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