

TRANSFER AT THE LEXICAL LEVEL
IN KOREAN LEARNERS' L2 INDEFINITE ARTICLE USE IN ENGLISH

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ABSTRACT

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In an attempt to better understand the role of L1 transfer in L2 countability judgments and article use by speakers of classifier languages, the current study investigates how Korean speakers judge noun countability in Korean as manifested in their use of the plural morphology (*-tul*), and whether or not their countability judgments in Korean correlate with L2 countability judgments and article choices in English. It was hypothesized that Korean learners' accuracy in L2 countability judgments and article use would be influenced by congruency of noun countability between L1 and L2 nouns. A total of 196 Korean speaking learners of English, who were divided into low-intermediate, high-intermediate and advanced levels, completed 1) a L1 countability judgment task with Korean nouns (a Korean plural marker test), 2) a L2 countability judgment task with English nouns, 3) a forced elicitation task, and 4) a translation task. In addition, 30 advanced Ukrainian learners were included as controls and completed the L2 countability judgment task and the forced-elicitation task. According to Pearson correlation and ANOVA results, the Korean learners' countability judgments in the L1 strongly correlated with their countability judgments in the L2, and L2 article accuracy on both the forced-elicitation task and the translation task was significantly affected by countability congruency between L1 and L2 nouns; English nouns whose countability of L1 counterpart nouns are congruent yielded significantly higher accuracy than incongruent English nouns. The results of the Ukrainian

learners from the L2 countability judgment task and forced-elicitation task also confirmed the effects of countability congruency were L1-induced. The effects of L1 transfer at the lexical level remained strong regardless of proficiency level, noun type and task type. The results suggest that L1 transfer that arises at the lexical level affects learners' article choice in L2. A theoretical implication of the findings includes that the feature reassembly approach (Lardiere, 2008; 2009) provides more accurate account of the acquisition of English articles by speakers of classifier languages than the SLA-as-parameter-resetting approach.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1: INTRODUCTION

CHAPTER 2: LITERATURE REVIEW

- 2.1. Research on L2 Acquisition of English articles
- 2.2. Research on L2 mass-count distinction in English
- 2.3. L1 transfer effects on L2 mass-count distinction
- 2.4. An alternative account: Feature reassembly
- 2.5. The mass-count distinction in Korean
- 2.6. Korean plural marker: *-tul*
- 2.7. Countability: Binary or continuum?
- 2.8. Reassembling the countability features
- 2.9. Noun categories
- 2.10. The control group
- 2.11. Research questions

CHAPTER 3: METHOD

- 3.1. Participants
 - 3.11. Recruitment and language background
 - 3.12. Group division
- 3.2. Instruments
 - 3.21. Proficiency test: Cloze test
 - 3.22. Pilot tests
 - 3.23. Korean plural marker test
 - 3.24. English countability judgment task
 - 3.25. Forced-elicitation task
 - 3.26. Translation task
- 3.3. Procedure
- 3.4. Analysis

CHAPTER 4: RESULTS

- 4.1. Plural marker test
- 4.2. L2 countability judgment task
- 4.3. Correlations between the plural marker test and L2 countability judgment task
- 4.4. Forced-elicitation task

- 4.5. Translation task
- 4.6. Summary of the results

CHAPTER 5: DISCUSSION

- 5.1. Evidence of L1 influence
- 5.2. L1 transfer at the lexical level
- 5.3. L2 countability judgments and article use
- 5.4. Noun type effects
- 5.5. Pedagogical implications
- 5.6. Limitations
- 5.7. Future research
- 5.8. Conclusion

APPENDICES

- Appendix A. Korean plural marker test (Translated in English)
- Appendix B. English countability judgment task
- Appendix C. Forced-elicitation task
- Appendix D. Translation task

REFERENCES

LIST OF TABLES

Table 1. Participant information.....	50
Table 2. Final list of words.....	55
Table 3. Mean ratings of 6 categories across three proficiency levels.....	63
Table 4. A summary of ANOVA results.....	63
Table 5. Full Tukey post hoc test results.....	64
Table 6. Descriptive statistics.....	66
Table 7. A summary of ANOVA results	66
Table 8. Full Tukey post hoc test results.....	67
Table 9. Comparison between the Korean (K) advanced learners and Ukrainian (UK) learners..	68
Table 10. Individual correlation for the low-intermediate learners.	70
Table 11. Individual correlations for the high-intermediate learners.....	70
Table 12. Individual correlations for the advanced learners.....	71
Table 13. Korean learners' forced-elicitation task results.....	72
Table 14. A summary of ANOVA results.....	72
Table 15. Full Tukey post hoc test results.....	73

Table 16. Comparison between the Korean and Ukrainian advanced learners.....	74
Table 17. Paried sample t-tests.....	75
Table 18. Korean learners' translation task results.....	76
Table 19. A summary of ANOVA results.....	76
Table 20. Full Tukey post hock test results.....	77
Table 21. Paired samples t-test.....	78
Table 22. Combined results.....	81
Table 23. Ukrainian learners' accuracy for non-countable individual nouns in C3.....	86
Table 24. Difficulty hierarchy of the 6 noun categories.....	99
Table 25. Nouns that frequently cause article errors.....	102

CHAPTER 1: INTRODUCTION

English articles are one of the most frequent elements available in input (Master, 2002), and yet the English articles are considered to be one of the most difficult areas in English grammar for L2 learners to master (Butler, 2002; Kharma, 1981; Master, 1997, 2002). Articles have been reported as one of the most frequently-made errors in L2 speech and writing (e.g., Han *et al.*, 2006, Izumi *et al.*, 2004). Han *et al.* (2006) report that speakers of Chinese, Japanese and Russian made article errors about one out of every eight NPs, or almost once in every three sentences. Some researchers even suggested that the English article system is unlearnable and therefore unteachable (Dulay *et al.*, 1982).

The challenge with acquiring the English article system is mainly due to the fact that article choice should be made based on multiple form-function mappings rather than one-to-one form and meaning relationships (Butler, 2002; Young, 1996). In order for learners to arrive at a correct article decision, they need to determine not only the countability of a noun (count vs. mass), but also the semantic context of a noun (definite/indefinite). Therefore, to fully understand the nature of learners' difficulty with English articles, it is necessary to investigate how learners deal with each of the two aspects of article choice.

It is also well known that article errors are particularly prevalent among learners with so called 'article-less' L1 backgrounds, which include classifier languages such as Korean, Chinese, and Japanese (e.g., Hawkins *et al.*, 2006; Ionin *et al.*, 2008; among many others). In these languages, the distinctions of count vs. non-count and definite vs. indefinite contexts are not grammaticalized in the same way as in English. Recently, article use by learners from various article-less languages has been extensively investigated by many researchers. By comparing

learners from speakers with article-less L1 backgrounds with those whose L1s have an article system, the studies show that speakers of article-less languages make significantly more errors when compared to those whose L1s have articles. Such findings led to the conclusion that L1 is the source of L2 article errors. However, previous research on L1 influence on the article acquisition by speakers of article-less languages focused only on article use and interpretation concerning the semantic contexts (e.g., definiteness vs. specificity, generic vs. non-generic). In contrast, little attention has been given to understanding the role of L1 in L2 countability judgments in English. There are only a handful of studies examining the mass-count distinction by speakers of classifier languages, and only one of them (Snape, 2008) directly addresses the issue of L1 transfer in the L2 mass-count distinction by speakers of classifier languages. The current study attempts to contribute to greater clarity and better understanding of L1 transfer in L2 article use by speakers of classifier languages by investigating Korean learners' countability judgments and indefinite article use.

With little previous research on L2 mass-count distinction in English, we have a limited understanding on the nature of L1 influence in L2 countability judgments and article use by speakers of classifier languages. According to Snape (2008), the only theoretical account of countability judgments by speakers of classifier languages in the existing literature, learners' misjudgments of noun countability stem from the fact that by the Nominal Mapping Parameter settings that governs noun formation, classifier languages do not have articles, and noun phrases (NPs) in classifier languages do not require number marking and the mass-count distinction on them as in English NPs. Snape's parametric account predicts that under the influence from the L1 parameter setting, speakers of classifier languages are likely to show the tendency of frequently omitting articles as the bare noun construction is acceptable in these L1s regardless of

number and countability of nouns. While the parametric account explains why speakers of classifier languages make article omission errors, it does not explain other types of articles errors speakers of classifier languages frequently make. Such discrepancy suggests that attributing learners' all article problems solely to the fact classifier languages lack articles might be a too simplistic way of looking at the issue. The limitations in Snape's parametric account has provided the impetus to re-examine the assumption it makes about classifier languages and to search for an alternative framework that allows finer-grained analysis of crosslinguistic differences to provide a more accurate account of countability judgments and article use by speakers of classifier languages.

As an alternative approach to the issues in L2 acquisition of English articles, the current study adopts Lardiere's feature reassembly approach (2008, 2009). This recently proposed framework by Lardiere considers SLA as a process that involves feature reassembly as opposed to parameter resetting or parameter switching, a metaphor that has been traditionally used in generative approach to describe SLA. The traditional parameter resetting approach characterizes learners' L1 and L2 in terms of the parameter setting ([+feature], -[feature]). In this approach, whether a language has a selected the relevant feature is an important question because acquiring a second language whose parametric setting is different from that of L1 essentially involves resetting the parametric setting to the appropriate L2 setting. On the contrary, the feature reassembly approach compares L1 and L2 beyond the level of parameter setting or feature selection. In the feature reassembly approach, languages might greatly differ, often despite having the same parameter setting, as to how the relevant features are assembled in language-specific ways. Therefore, to successfully acquire L2 target features, learners have to tease apart the relevant features the way they are assembled in the L1 and re-assemble them as required by

the L2. The feature reassembly approach brings out the complexity and difficulty of learning tasks that are not captured by the previous parametric account.

In the light of the feature reassembly approach, the current study considers the possibility that the mass-count distinction might be present in classifier languages, but is expressed differently from English, using means other than articles. Based on the analyses on Korean nouns found in the literature, the current study identifies the plural marker (*-tul*) as a morphosyntactic device to realize the mass-count distinction in Korean. The current study investigates whether or not the way countability features in L1 are expressed interferes the L2 countability feature reassembly, namely, L2 article choice. The study hypothesizes that Korean learners might associate L2 noun countability with how L1 countability features are expressed. That is, whether Korean learners might judge L2 nouns countable or non-countable may be influenced by whether the counterpart nouns are treated as countable or non-countable, as manifested in their use of the plural marker in L1. The type of L1 transfer the current study investigates has to do with how individual words are treated in L1, thus is expected to arise at the lexical level. To validate the argument for L1 transfer at the lexical level, the study includes a control group of Ukrainian learners. It was hypothesized that when there is a difference in congruity between a Korean vs. English noun and a Ukrainian vs. English noun, we would expect to see differences in their countability judgments.

By testing the above hypotheses, the current study attempts to provide a more accurate account of L1 transfer in L2 countability judgments and article use by speakers of classifier languages. To date, there has been no study that investigates the possibility of L1 transfer at the lexical level in the L2 countability judgments and article use. The study presents the evidence of L1 transfer at the lexical level which illuminates the role of L1 in L2 countability judgments and

article use. In addition, apart from Lardiere (2008, 2009) who proposed the feature reassembly approach, the current project is the first study that tests the feature reassembly approach against the previous parametric account in L2 article research. The empirical evidence provided in the current study, therefore, has important theoretical implications. Lastly, the study contributes to the existing body of literature in L2 acquisition of articles, in particular indefinite articles.

Studying learners' countability judgments is particularly important to understand learners' use of indefinite articles, as definite articles do not need to take noun countability into account while the use of indefinite articles always involves the mass-count distinction. The current study answers the questions of why indefinite articles are more difficult than definite articles as shown in previous research (Heubner, 1985; Lardiere, 2005; Master, 1987; Thomas, 1989).

The outline of the remainder of the dissertation is as follows. Chapter I provides a detailed overview of previous and ongoing discussions on topics from which the research questions of the current study emerged. The chapter begins with a review previous research on L2 acquisition of English articles and countability judgments (Section 2.1 to 2.3). I specifically focus on Snape (2008) in Section 2.3 to talk about its approach to SLA, theoretical implications of the assumptions about classifier languages and limitations in data interpretation. The next section (2.4) discusses the feature reassembly approach by Lardiere as an alternative theoretical framework to investigate L2 article use by speakers of classifier languages. Then, the following two chapters (2.5 and 2.6) cover details concerning the mass-count distinction and plural marking in Korean. The purpose of these chapters is to show how the countability features are realized differently from the way they are in English, and to challenge the widespread assumption that the mass-count distinction does not exist in Korean. Section 2.7 address the question of whether countability should be viewed as binary or continuum. Section 2.8 details

what Korean learners are required to do in order to successfully reassemble the countability features. Section 2.9 describes 6 noun categories that are included in the study as well as the rationale for such categorization. Section 2.10 gives a brief description of the countability features in Ukrainian and Russian, as these languages are spoken by the Ukrainian learners in the control group. Lastly, the final section of the chapter (2.11) summarizes the research questions and the predictions for each of the questions.

Chapter 3 provides information on the participants (Section 3.1), research instruments used (Section 3.2), the procedure (Section 3.3), and statistical analysis employed (Section 3.4). Chapter 4 presents all the results the data analysis including descriptive and inferential statistics for the Korean and Ukrainian groups.

Chapter 5, which is the last chapter, discusses the implications of the findings reported. First, Section 5.1 discusses how the current study provides three different types of possible L1 effects. While Section 5.1. focuses on presenting evidence to argue that the observed effects are indeed induced by L1, Section 5.2 focuses on describing the nature of L1 transfer at the lexical level, comparing to transfer of L1 parameter setting that was argued to play a role in L2 article use by the previous parametric account. The next two sections (5.3 and 5.4) highlight learners' difficulty with countability judgments as a main source of L2 article errors and the noun type effects on L2 article accuracy, respectively. The following three chapters discuss pedagogical implications (5.5), limitations (5.6) and possible future research questions (5.7). Finally, Section 5.7 concludes the dissertation with a summary of the findings and a discussion on the significance of the study.

CHAPTER 2: LITERATURE REVIEW

2.1. Research on L2 acquisition of English articles

The acquisition of L2 English articles has attracted researchers' attention for decades. It was noted early that English articles are particularly problematic for many learners, but researchers have struggled to understand the nature of learners' problems with English articles. Part of the difficulty of understanding the source of learners' article errors comes from the fact that the discussion on the L2 acquisition of articles has been mostly driven by studies whose main focus was on learners' knowledge of definiteness vs. indefiniteness. The mass-count distinction has received little attention from researchers.

Not surprisingly, however, even in studies whose main focus was on definiteness, the mass-count distinction has been a lingering issue in the discussion pertaining to article errors in indefinite contexts since whether indefinite articles (*a, an*) should be supplied depends in part on countability judgments. Early studies on the acquisition of English articles found that article accuracy is significantly lower in indefinite than definite contexts and this finding led to a conclusion that *a* is acquired later than *the* (Huebner 1985; Master. 1987; Parrish, 1987; Thomas, 1989). The conclusion about the L2 acquisition sequence of articles was further supported by more recent studies (Lu 2001, Lardiere, 2005; Robertson, 2000). For example, Lu (2001) examined Chinese learners' article choice in four different semantic contexts based on four semantic categories, [$\pm$ Specific Referent ($\pm$ SR)] and [$\pm$ Assumed Known to the Hearer ($\pm$ HK)] in order to identify the order of article acquisition and article error patterns. He found out that Chinese learners acquired articles in the order of *the* > *a* > $\emptyset$. His analyses of learners' errors also revealed that Chinese learners misuse *a* for $\emptyset$, or vice versa, even when they correctly judge

(in)definiteness. From these findings, Lu concluded that misdetection of noun countability, along with misjudgment of (in)definiteness, are difficulties underlying article choice.

More direct evidence that misdetection of noun countability causes article errors is found in studies that incorporated interviews and surveys as the means to examine learners' 'logic' behind their article choice. Butler (2002) asked Japanese learners with varying levels of English proficiency to provide reasons for their article choice in a fill-in-the-article test by conducting interviews immediately after the fill-in-the-article test. Learners' reasons for their nontargetlike article selection were examined both quantitatively and qualitatively. According to the analyses employed, problems with detecting the referentiality and countability of NPs were found to be the main causes of article errors. The participants often mentioned noun countability as a reason for their nontargetlike article use. According to Butler (2002), learners at lower levels of proficiency tended to think that noun countability was a fixed and static entity. Detecting countability remained problematic too for advanced level learners in the study, who often expressed confusion over noun countability, especially with abstract nouns.

Very similar findings are reported by White (2010), who examined article choice with three different types of nouns (imaginable count, abstract count, and imaginable non-count) by learners from a variety of language backgrounds. White used an explanation sheet as well as a fill-in-the-article-test. In the explanation sheet, participants rated their confidence levels for their choices and wrote an explanation for the particular article choice. The three types of nouns were embedded in six different semantic categories. According to the results, both noun type and the semantic context significantly influenced accuracy of article use. Learners were more accurate with imaginable count nouns and with [+specific, +definite] contexts. Accuracy rates were lower with abstract nouns, especially when they were used in [-definite] contexts. The inaccurate

articles choices coincided with incorrect judgments of noun countability found in the explanation sheets. White (2009) suspected that article errors are often made because learners are fixated on making the mass-count distinction without considering definiteness.

Both early and more recent studies identified misdetection of noun countability as a source of difficulty in L2 article choice. It is very clear that without understanding learners' countability judgments, we cannot fully account for learners' article choice. At this stage, it is also necessary to investigate the issue of countability judgments separately from the semantic features (Yoon, 1993). When the two independent constituents are combined as in the studies discussed above, it is difficult to understand the exact nature of learners' errors in article use because studies on definite articles do not take noun countability into account while countability judgments are subsumed in indefinite article choice, which makes it difficult to gauge to what extent countability and semantic contexts each contribute to errors in indefinite contexts. However, surprisingly, there has been little research that focuses on noun countability judgments. While research on the features of referentiality (definite vs. indefinite, generic vs. non-generic) has proliferated, producing much more elaborated accounts of learners' article choice between definite and indefinite articles, the looming issue of noun countability in L2 article choice has not drawn much attention from researchers. There are only a few studies that specifically investigate learners' L2 countability judgments. The following section is a review of these studies.

2.2. Research on L2 mass-count distinction in English

Acquiring L2 mass-count distinction in English is challenging especially for L2 learners who are from classifier language backgrounds (e.g., Korean, Chinese and Japanese) in which

articles and number features appear to be absent. More detailed descriptions of classifier languages are found in the next section. There are only five studies that investigate countability judgments by speakers of classifier languages: Hiki (1991), Yoon (1993), Hua & Lee (2005), Snape (2008), and Amuzie & Spinner (in press). Four of the studies, except Snape (2008) are reviewed in this section. Snape (2008) is reviewed separately in the next section because the study is different from the rest in its orientation and design. After a critical review the four studies, I will discuss the common findings and the issues that emerge from the previous research on L2 countability judgments by speakers of classifier languages.

Hiki (1991) investigated whether Japanese learners' countability judgments are influenced by noun type. The four noun types included were individual (e.g. *car*, *snake*), material (e.g. *air*, *bread*), proper (e.g. IBM, Tokyo) and abstract nouns (e.g. *ability*, *feeling*). The participants were given an editing task that consisted of passages with ungrammatical NPs and a writing task in which they wrote an essay as a response to prompt a question. In the editing task, many of the target nouns (N=24) appeared two or three times to allow the researcher to examine whether learners could appropriately correct the ungrammatical NPs according to the countability environments (e.g., count singular, count plural or non-count). After the editing task, they were given a copy of the corrected passage to compare their judgments with the correct answers and were asked to write comments on any items that they considered unexpected. The participants' written comments were later used to formulate individualized questions for interviews that were conducted to better elicit the rationales for their choices.

According to the results, the misjudgment rates were significantly higher for abstract nouns (56%) than individual (23.1%), material (26.2%) and proper nouns (2.0%). The learners had difficulty with abstract nouns in countable contexts, and especially in plural environments.

The same pattern was also found in the analyses of NPs used in the writing task; however, the results of both editing task and the writing task have to be interpreted with caution because of several reliability issues. Out of 62 items in the editing task, only 16 test items yielded unanimous responses by native speakers of English. Also, the open-ended nature of the writing task resulted in a serious lack of balance in the numbers of the four types of nouns in the NPs produced by the participants. The number of abstract nouns produced was almost three times more than the number of individual nouns produced. Also the participants rarely used material nouns and proper nouns in the essays.

The effect of noun type was found to be a significant factor of countability judgments in the study by Hua and Lee (2005), who employed a different task, a count-mass grammaticality judgment task. The participants were speakers of Chinese, which is another classifier language. The grammaticality judgment task consisted of two categories of count and mass nouns: the count noun category was further divided into concrete and abstract nouns, the mass noun category into concrete, abstract and collective nouns. The different types of nouns were embedded in sentences and they were always preceded by either *many* or *much*. The results showed that acceptance rates of ungrammatical sentences significantly differed across the different noun type conditions. The most problematic noun type was abstract count nouns. Between concrete mass nouns and concrete count nouns, learners had more difficulty with concrete mass nouns than concrete count nouns. The learners showed a tendency to accept ungrammatical use of *much* with abstract count nouns, confirming the earlier finding that noun type affects noun countability judgments.

In an attempt to further understand learners' difficulty with abstract nouns, Amuzie and Spinner (in press) investigated Korean learners' countability judgments on abstract nouns.

Unlike previous studies that often treat abstract nouns as a single category, Amuzie and Spinner classified abstract nouns into four categories based on temporal and perceptual boundedness. According to the results, learners made significantly more errors with certain types of abstract nouns (e.g. nouns related to dynamic verbs) than others (e.g., non-verb- related nouns and nouns associated with stative verbs). Amuzie and Spinner also observed a great level of within-category variability in learners' responses. For example, learners were extremely reluctant to use the indefinite article with particular words even though they seemed to readily accept other words in the same category as count nouns without much difficulty. The within-category variation in article use suggests that learners often incorrectly associate certain nouns with countability or non-countability. Amuzie and Spinner (in press) speculated that the associations might have been formed based on how individual nouns are treated in their L1 and called for future research to investigate this issue.

The possibility of learners' countability perception playing a role in their article use was once suggested by Yoon (1993). Yoon investigated Japanese learners' perception of noun countability by having them intuitively judge the countability of nouns that were listed with no context. After the countability judgment task, the learners completed a cloze test in which the same nouns were embedded in essay texts. Native speakers of English participated in both tasks as controls. Unlike in native speakers' data, strong correlations were found in learners' intuitive judgments of nouns in the context-free list and their article use in context; the nouns that were judged as countable previously were likely to be used with 'a(n)', and nouns judged as uncountable, with zero article. Learners' article accuracy was significantly lower when their initial countability judgments were inconsistent with how they were used in context in general, but more so with nouns that were judged as uncountable but used as count nouns. Yoon argued

that Japanese learners are often unaware that nouns can be either countable or uncountable depending on the context. But Yoon did not discuss in detail what might be the source of learners' intuitive judgments on noun countability; however, he indirectly suggested the link between learners' countability perception in L1 and countability judgments in L2 by saying that future research should address the questions related with L1 transfer in countability judgments.

Unfortunately, Yoon's study has some flaws that seriously undermine his interesting findings. First, the countability judgment task has a problem in its task design. In the countability judgment task, learners were given two options only, countable and uncountable, and were asked to choose one of the options for each noun. The task design that forces learners to make binary choices with no third option indirectly presents noun countability as a binary concept, either countable or uncountable. One of the main claims of the study that Japanese learners tend to treat noun countability as a static, binary concept is largely based on the learners' responses on the countability judgment task. Since the learners were allowed no other option but to make binary choices, the argument that their choices reflect how they perceive noun countability stands on a shaky ground. The researcher should have either provided the third option (either countable or uncountable) or used a multiple-point rating scale. Secondly, the task order should have been reversed. In the study, the participants first completed the countability judgment task before the cloze task. From the way the procedure was described, both tasks were completed in one day one after the other, though no information is found regarding whether there was a break between the two tasks. Such task order is problematic because learners' article use on the cloze task might actually been influenced by their countability judgment that they previously made on the countability judgment task. It is possible that some learners might have been reminded of their previous countability judgments while completing the cloze task. Lastly, noun type was not

controlled in the study. All three studies that were discussed above report significant differences in accuracy rates across different types of nouns. However, the researcher did not consider noun type when grouping the target nouns for analysis, and ended up having unequal numbers of concrete and abstract nouns in each category. It is possible that the findings that Yoon reported might not hold true for all types of nouns. Due to these limitations of the study, the claim that learners' article choice are affected by their inflexible, pre-conceived ideas on noun countability is yet to be substantiated in future research with improved task design.

I want to conclude this section by summarizing the important findings and issues that emerge from the review of the four studies on the L2 mass-count distinction. The most consistent finding across the studies is the noun type effects. Noun type was found to play a role in countability judgments in all studies except for Yoon (1993), who did not control for noun type. The most frequently reported error types due to the noun type effects are article omission with abstract nouns in count contexts and article overuse with concrete mass nouns. This means that when nouns are concrete, accuracy is higher for count nouns than mass nouns (Hiki, 1991; Hua & Lee, 2005), but when nouns are abstract, accuracy is higher for mass nouns than count nouns (Amuzie & Spinner, in press; Hua & Lee, 2005). While the common errors that are frequently made by learners have been identified, what might be the source of these problems has not been addressed by any of the studies.

Apart from the noun type effects, the nature of difficulty with the mass-count distinction remains unclear. However, the studies point in that direction that learners' countability judgments might be influenced by L1. All of the four studies included participants from classifier language backgrounds, which were Japanese (Hiki, 1991; Yoon, 1993), Chinese (Hua & Lee, 2005) and Korean (Amuzie & Spinner, in press), suggesting that problems with the mass-count

distinction in English are common among speakers of classifier languages. Unfortunately, the absence of a comparison group makes it difficult to know for certain whether learners' misdetection of noun countability in L2 should be attributed to L1 influence.

Lastly, it seems that learners have intuitive judgments that certain nouns are countable or uncountable (Yoon, 1993), resulting in variability in data that is not accounted for by the noun type effects (Amuzie & Spinner, in press). Again, L1 was considered to be the factor. Amuzie and Spinner suspected learners' countability judgments might be influenced by how individual nouns are treated in their L1. The possibility remains as a speculation since no supporting evidence is found in literature. However, it certainly highlights the need to investigate the role of L1 in learners' L2 countability judgments, which I will discuss in depth in the next section.

2.3. L1 transfer effects on L2 mass-count distinction

Transfer, according to the most commonly cited definition by Odlin (1989), is “the influence resulting from similarities and differences between the target language and any other language that has been previously acquired (p.27)”. The role of L1 in the acquisition of L2, known as L1 transfer, has been well documented in literature (e.g., Dechart & Raupach, 1989; Odlin, 1989; Gass & Selinker, 1992; Schwartz, 1998; Jarvis 1998; Ellis, 2006; among many others). A plethora of research conducted for a variety of populations and subcategories of linguistic domains has convincingly attested to the existence of L1 influence in the acquisition of almost all linguistic subsystems including phonology (e.g., Aoyama *et al.*, 2004; Flege & MacKay, 2004), orthography (e.g., Wang, Koda, & Perfetti, 2003), morphology (e.g., De Angelis & Selinker, 2001; Jarvis & Odlin, 2000), syntax (e.g., Chen, 2004; Juffs, 2002; Matthews & Yip, 2003; White, 2003) and pragmatics (e.g., Tamanaha, 2003; Yu, 2004). Decades of transfer

research not only established L1 transfer as an important independent variable that can affect language acquisition and use, but also elevated its status in the field to where L1 transfer is now considered important enough to be investigated as a primary process itself in its own right (Jarvis & Parvlenko, 2008). Passing the stage of identifying cases of transfer, research has started addressing deeper and broader issues concerning the nature of the phenomenon itself, asking questions such as how, why, when and what type(s) of L1 transfer occur.

Given the robust effects of L1 transfer on such wide linguistic domains demonstrated in numerous transfer studies, it is not surprising that L1 influence has been recognized to play a role in the acquisition of English articles. Studies comparing learners who have an article system in their L1 with those who do not have often found significant differences between the two groups; when compared to learners whose L1 shares the common feature of articles with English, learners from articleless backgrounds make errors more frequently in their production and interpretation of English articles (e.g., Ionin & Montrul, 2010; Ionin *et al.*, 2008; Snape, 2008; Zdorenko & Paradis, 2008). The differences found between learners whose L1 have articles and learners whose L1 lack articles are often attributed to the features of learners' native language.

Researchers studying the L1 effects on article choice have focused predominantly on the investigation of the effect of semantic context (e.g., definiteness vs. specificity, or generic or nongeneric). The other dimension of English article use, which is judging noun countability (the mass-count distinction), has been neglected in research and writing of this subject even though countability judgments are equally important in order to fully account for learners' English article use. While there has been a plethora of research investigating the role of L1 in determining the semantic context of English articles, there has been very little research focusing on L1 transfer in countability judgments by learners from classifier language backgrounds. In

fact, there is only one study located that directly examined the role of L1 transfer in countability judgments by speakers of classifier languages: Snape (2008).

Snape (2008) was based on the theoretical framework by Chierchia (1998), who proposed a Nominal Mapping Parameter (NMP) with a three-way parametric distinction. According to the proposal, languages are classified into three categories based on the features of NPs. The following is the illustration of the proposal taken from Snape (2008):

- a. NP [+arg, +pred] languages: English, German
 - i. L1s with (in)definite articles
 - ii. Number marking on nouns.
 - iii. Allow bare mass nouns and plural nouns in argument position
- b. NP [+arg, -prd] languages: Japanese, Chinese
 - i. Ls lacking DP (no articles)
 - ii. No number marking on nouns
 - iii. All nouns are mass
 - iv. Generalized classifier system
- c. NP [-arg, +pred] languages: Spanish, Italian
 - i. Ls with (in)definite articles
 - ii. Number marking on Ns
 - iii. Do not allow bare mass nouns in argument position

The proposal has significance due to its theoretical implications for L2 acquisition of articles. The NMP is an example of an approach in which the acquisition of a second language is argued to be tightly constrained by properties of the L1. In this framework, the major task L2

learners are faced with in L2 acquisition is to reset the parameter to the English setting. The failure to reach nativelike proficiency is viewed as a failure in resetting the parameter setting or persistent L1 transfer. According to the NMP proposal, L2 learners have difficulty with the mass-count distinction because of the different L1 NMP settings. It also predicts that making appropriate article choice based on the mass-count distinction may be more difficult for speakers of classifier languages because those languages lack the functional category DP and the mass-count distinction.

In order to test whether learners whose L1s have a different parametric setting can reset the parameter to the English setting, Snape conducted two experiments. I will only discuss the first experiment as the second experiment focuses on the definiteness effects. The participants of the study consisted of Japanese and Spanish learner groups. The Japanese learner group represented classifier languages, that is NP [+arg, -pred] languages with no definite article and number marking systems, while the Spanish learner group represented NP [-arg, +pred] languages with (in)definite article and number marking systems. The participants completed a count-mass grammaticality judgment task. The task was designed with four different conditions: (a) count singular, (b) count plural, (c) mass, (d) mass plural. The nouns were always preceded by quantifiers and sometimes followed by the plural markers (See the examples below). The participants judged the grammaticality of the NPs.

- (1) a. count singular: *much car, *few cyclist
- b. count plural: many tickets, *much roses
- c. mass: some information, *many money
- d. mass plural: *some butters, *much fruits

The results showed that advanced-level Japanese learners performed as well as advanced-level Spanish learners in all noun conditions. However, intermediate-level Japanese learners had significantly more problems with mass nouns than the Spanish counterparts, though the Spanish learners too made more errors in mass conditions than in count conditions. Japanese learners' lower accuracy in count noun conditions than in mass noun conditions was contrary to the researchers' expectations because Japanese learners were expected to have more problems with count nouns since Japanese is assumed to treat all nouns as mass nouns. The author interpreted the results as the evidence that Japanese learners successfully reset the article parameter, overcoming the L1 influence that might have been more pervasive at earlier stages of learning.

Snape's study differentiates itself from the other studies on countability judgments by L2 learners that were discussed in the previous section. It is the only study that specifically deals with the issue of L1 transfer in countability judgments by including learners from both [+Article] and [-Article] language backgrounds for comparison. By adopting the NMP proposal by Chierchia, the study also attempted to provide a theoretical account of countability judgments and article choice by speakers of classifier languages, which no other studies did. However, his parametric account based on Chierchia's framework falls short on several accounts.

A fundamental problem of Snape's account lies in its assumptions about classifier languages. The NMP proposal makes important assumptions about classifier languages that are questionable. According to the NMP proposal by Chierchia (1998), languages with a generalized classifier system do not have the mass-count distinction or plural-marking, because all nouns in these languages are treated as mass nouns. Many linguists have taken the same position as Chierchia regarding the analysis of nouns in classifier languages (Allan, 1977; Borer, 2005; Link, 1998; Quine, 1969; Sharvy, 1978). However, several studies, including Chierchia's own

recent work (2010), suggest that the widespread assumption about classifier languages may be incorrect. Chierchia (2010) states that the mass-count distinction is active in the grammar of classifier languages, but the way the mass-count distinction is coded is different from in number-marking languages such as English. His new proposal again makes a three-way division of how various languages deal with the mass-count distinction. In number-marking languages, the mass-count distinction is coded directly on nouns and the distinction affects the distribution of plural versus singular morphemes. On the other hand, classifier languages do not have obligatory number marking on nouns. Instead, the mass-count distinction is coded through the syntax and semantics of classifiers. Korean belongs to the group of classifier languages. A third type of language lacks both obligatory number marking and obligatory classifier system. In this type of languages, the mass-count distinction shows up in the distributions of numerals; mass nouns cannot combine with numerals. Note that in the new proposal the contrast between English and classifier languages does not lie in whether or not the mass-count distinction is available as in Chierchia (1998); the focus shifted to *how* the distinction is made in different ways. Chierchia (2010) assumes that the mass-count distinction is available in all languages including classifier languages though languages differ in terms how they make the distinction. This is clearly an alteration of his earlier view on classifier languages. In addition, the emphasis on the [$\pm$ arg] and [$\pm$ pred] parameters, which was the basis of the three-way division in 1998, was dropped in his new proposal. Instead, he focuses on the notion of *vagueness*. The general idea is that all nouns have atomic parts, but the interpretation of atomic parts of many nouns is a matter of *vagueness* because it is not clear as to what the atomic parts actually are. Chierchia (2010) acknowledges how his new approach based on *vagueness* differs from Chierchia (1998) on some of the issues. However, he does not specifically mention on the implication of his new approach on the

nominal mapping parameter. Nonetheless, the development and alteration found in Chierchia (2010) certainly question the accuracy and validity of Snipes' parametric account that is based on Chierchia (1998).

Other studies that analyzed classifier languages also support his altered view in Chierchia (2010) that classifier languages have their own means of mass-count distinctions. For example, several researchers have shown that Chinese encodes the mass-count distinction at the classifier level: classifiers can be categorized as "mass-classifier" or "count-classifiers." (e.g., Cheng & Sybesma, 1998; Li, Barner & Huang, 2008). In Mandarin Chinese, some classifiers occur in constructions that pick out individuals or sets of individuals, whereas other classifiers perform a measuring function for individuals or unindividuated stuff. Researchers argue that this difference between classifier types may be equivalent to the mass-count distinction in English. Authors who analyzed nouns and classifiers in Korean too argue that Korean makes the mass-count distinction through different syntactic devices such as the optional plural marker, *-tul* (Kang, 1994; Noma; 2002; Yi, 2010) or the generic classifier, *-ge*. More detailed discussion on the mass-count distinction in Korea is found in Section 2.6. There is a sufficient amount of evidence to suggest that classifier languages are mischaracterized in the NMP proposal regarding both plural-marking and the mass-count distinction.

The question of whether or not the mass-count distinction is available in classifier languages is important because of theoretical implications the question has regarding the nature of L1 influence that is argued to play a role in L2 countability judgments. If the mass-count distinction is not available in classifier languages, as assumed by the parametric account, speakers of classifier languages would have no L1 knowledge basis for making L2 countability judgments on individual words. When all nouns are considered to be homogeneous in terms of

their countability, individual words in L1 have no role to play in L2 countability judgments. However, until learners properly reset the NMP, learners' NP formation in English would be influenced by the L1 parameter settings. In such case, learners are likely to overuse bare nouns regardless the countability context because bare nouns are the most typical NP form in their L1s.

On the other hand, if classifier languages make the mass-count distinction, though differently from English, speakers of classifier languages would associate certain L1 nouns with countability and other L1 nouns with non-countability based on the L1 morphosyntactic features that mark such distinctions. Therefore, how learners form a L2 NP might be influenced by whether the particular lexical item may be associated with the countability or non-countability features in the L1. L1 transfer, in this case, has to do with how individual words are treated in learners' L1, thus, arises at the lexical level. In this approach, L1 transfer stems from learners' word knowledge in L1. If knowing a word entails knowledge of word meaning, form, grammatical and lexical collocation and pragmatic use (Nation, 1990; 2001), noun countability and morphosyntactic features that are associated with the mass-count distinction should also be part of learners' implicit word knowledge. Research on bilingualism shows that learners' knowledge of words in the L1 may affect how they learn, process, and use the words in another language (Jarvis & Pavlenko, 2010). If learners' L1 makes the mass-count distinction, regardless how the distinction is expressed in L1, learners may transfer the distinction, which would both positively or negatively affect L2 article accuracy depending on the countability congruency between L2 words and their counterparts in L1.

A close examination of the data reported by Snape and others could prove that Snape's parametric account, which focuses on crosslinguistic differences in parameter settings, can not adequately account for L2 article choice by speakers of classifier languages reported in the

literature. The assumption that classifier languages treat all nouns as masslike makes specific predictions as to what type of L2 article errors are likely to be made by speakers of classifier languages: overuse of zero article and lower accuracy with count nouns than with mass nouns. When the parameter settings of classifier languages plays a role in L2 acquisition of English articles, it is predicted that learners would go through a developmental stage where they treat every English noun nouns as a mass noun, omitting articles when they are required. Learners' tendency of omitting articles would result in more frequent article error with count nouns than with mass nouns since mass nouns require no article. However, the article error patterns that were reported by Snape (2008) and other researchers (Hiki, 1991; Hua & Lee, 2004) were the exact opposite. Across the studies, it has been consistently shown that speakers of classifier languages are more accurate with count nouns than with mass nouns when nouns are concrete. Snape conveniently interpreted this as the evidence that learners have full access to UG and can successfully acquire the uninterpretable number feature of nouns by resetting the original parameter setting. Under the NMP proposal, Snape's interpretation is the only logical option possible since there is no other way to explain why learners from classifier language backgrounds are more accurate with count nouns than mass nouns. However, such interpretation is not compatible with other previous studies that consistently report learners' pervasive errors in countability judgments even among advanced learners.

A high degree of variability found in learners' article choices is yet another piece of evidence that speaks against the current explanation that is solely based on the parametric account. While there seems to be a pattern that learners have more difficulty with abstract nouns than concrete nouns and mass nouns than counts, studies also report a great variability in learners' article choice within the same noun type categories. Snape too unexpectedly found that

Japanese learners incorrectly accepted some mass nouns as countable nouns and rejected count nouns as uncountable. The author speculated that this may be because certain adnominal quantifier + noun combinations are more acceptable to learners than others, attributing the unexpected errors to adnominal quantifiers. However, it is also possible that certain nouns are more problematic for learners because they perceive their countability in certain ways as suggested by other researchers (Amuzie, in press; Yoon, 1993) who also found a variability that was not accounted for by the noun type effects alone. The variability consistently observed in literature including Snape is not predicted by the parametric account which assumes the involvement of L1 transfer at the level of parameter setting only.

To sum up, Snape's parametric account fails to provide adequate empirical coverage of the data. Transfer of L1 parameter setting alone does not explain various types of article errors that have been reported in literature. Neither does it predict a high degree of variability that is often reported in L2 countability judgments of English nouns by speakers of classifier languages. This is not to say that the parametric account should be discarded in its entirety. The fact that classifier languages do not have an article system is likely to be a factor contributing to learners' article errors, in particular, article omission errors. However, according to the L2 data presented in previous research, it is clear that there is more to the story that the parametric account fails to capture. The limitations in data coverage, together with the literature on classifier languages does call for need to re-examine the role of L1 transfer in L2 article choice by speakers of classifier languages. As described above, overturning the current assumption that classifier languages do not have the mass-count distinction opens up the possibility of investigating L1 transfer at the lexical level. Conducting more detailed lexical level analysis of data might potentially solve the problems in data interpretation that Snape's account is faced with. Unfortunately, the current

framework of the parametric account does not concern crosslinguistic differences beyond the level of parameter setting. A more-fine grained and better-explained theoretical framework is needed in order to accurately understand the nature of L1 influence that plays a role in L2 countability judgments.

2.4. An alternative account: Feature reassembly

According to Lardiere (2008, 2009), most of the problems in Snape's parametric account that were discussed in the previous section are, in fact, the limitations of the SLA-as-parameter-resetting-paradigm itself. Lardiere pointed out that parameter resetting has little value in explaining variability, which often is a persistent hallmark in second language development. Since parameter settings or selection of features are considered to be all-or-nothing phenomena, it does not predict variability. Furthermore, that the metaphor of switch setting or feature selection is too simplistic to adequately describe the nature of learning problems faced by learners acquiring a second language with features that are apparently absent in their L1s. As an alternative to the parameter resetting approach, Lardiere proposed the feature reassembly approach.

The feature reassembly approach focuses on the fact that features can be bundled together onto functional categories in different, language-specific ways, and that a major task for language learners who bring an already-fully-assembled set of L1 grammatical categories is to determine how to reassemble the lexical features of the target language. An obvious challenge that learners are expected to face in feature reassembly is transfer of the representations of how the same features are assembled in the L1. Even if learners' both L1 and L2 appear to have selected the same relevant features in question, the features are often assembled in different ways

or realized on different lexical items. Therefore, learners have to reconfigure or remap features from the way theses are represented in L1 into new formal configurations on possibly quite different types of lexical items in the L2.

In Lardiere (2009), the complex nature of feature reassembly is well illustrated through a detailed comparison of plural marking in Chinese and English. Chinese has a plural suffix, *-men*, that appears to be an equivalent of the English plural marker (-s). To a native speaker of English acquiring Chinese, Chinese might appear to have selected [+plural] since the plural feature in Chinese is also realized through suffixation to nouns as in English. However, the knowledge of plural marking in L1 would have little value for the native speaker of English acquiring Chinese because plural marking in Chinese is different from plural marking in English in so many ways. Listed below are some of the major differences of Chinese *-men* from English *-s* (Lardiere, 2009):

- a. it is not obligatory except on plural personal nouns
- b. its use with nouns other than pronouns is restricted to humans
- c. unlike the English plural marker, the suffix *-men* cannot be used with a quantifier
- d. nouns suffixed with *-men* must be interpreted as definite

Figuring out the details concerning pragmatic contexts where plurality is expressed in Chinese and other requirements for conditioning environments is all part of knowledge needed in accomplishing the task of feature reassembly. To be more specific, Lardiere (2009) outlines some important questions the learners face during feature reassembly:

- a. With which functional categories are the selected features associated in the syntax, and how might this distribution differ from the feature-matrices of functional categories in the L1?
- b. In which lexical items of the L2 are the selected features expressed, clustered in combination with what other features?
- c. Are certain forms optional or obligatory, and what constitutes an obligatory context? More specifically, what are the particular factors that condition the realization of a certain form and are these phonological, morphosyntactic, semantic, or discourse-linked? (Lardiere, 2009, p.175).

When viewed from the feature reassembly approach, acquiring a L2 grammar is far more complex than having to select the particular L2 feature in question. As Lardiere points out, feature reassembly is an arduous task even in a case of acquiring L2 morphology whose equivalent is found in learners' L1. However, the selection of a particular functional feature or the setting of a parameter that has been used to characterize the second language learning mechanism fail to capture the complexity of the learning tasks. We saw in the previous section that the NMP faced the same criticisms that Lardiere cast on the feature selection approach due to its inadequacy in explaining L2 English article choice by speakers of classifier languages. The cross-linguistic differences and learning problems in the L2 article acquisition by speakers of classifier languages could be better understood under the framework of feature reassembly. Many areas that remained unanswerable by the NMP might be explained when the cross-linguistics differences are considered beyond the parameter (re)setting.

The NMP, in fact, is discussed in Lardiere (2009) as an example of insufficiency of the parametric account in explaining the differences in the plural features between classifier

languages and English and predicting potential learning challenges for L2 learners. However, the focus of the discussion was on cases where L1 and L2 have the same type of morphological means as a primary way to realize the relevant feature. In the case of a native speaker of English who is learning Chinese, as shown in the example above, the learner could, consciously or unconsciously, look for a morphological correspondence of the English plural marker from his or her L1 since the two languages both have a plural suffix that appears very similar in their form and basic function. Having the L1 equivalent to the relevant L2 element increases a chance for L1 transfer because it is possible that learners mistakenly assume that the features are assembled in L2 in the same way as they are in L1. However, what if the available features do not exactly correspond to those of L1? Consider the case of a speaker from an articleless L1 background who is learning L2 English articles. Would L1 transfer still occur even though it is not obvious to the learner that L1 and L2 might have selected the same features? It is to this issue that I turn.

2.5. The mass-count distinction in Korean

According to the NMP proposal, Korean belongs to the category of classifier languages (e.g. Japanese, Chinese) that are presumed to have neither articles nor the mass-count distinction. Korean, like other classifier languages, does not require overt marking of number (singular vs. plural) or countability of nouns (count vs. mass) in NPs. Instead, all nouns may appear without an article or plural marker as shown in the examples below (2-a). Items can be counted with the use of classifiers (See 2-b for an example).

- (2) a. Na check sat-seo.
I book bought
“I bought a book.”

b. Gong-check du-kwon Juseyo.

notebook two-Classifier give

“Give me two notebooks.”

Because nouns in Korean frequently appear in their bare form which is equivalent to the form of mass nouns, researchers tend to assume that nouns in Korean are by default mass (e.g. Borer, 2005; Chierchia, 1998; Snape, 2008), lacking the countability features such as [+count] and [+plural].

However, several studies challenge the dominant view on Korean. Recently, Yi (2010) demonstrated that Korean has a variety of morphosyntactic elements through which the mass-count distinction is expressed. For example, mass and count nouns in Korean can be distinguished based on the combination of classifier and nouns. In Korean, there is a generic classifier (*-ge*) that can be used for a very broad range of common nouns except some nouns that take specific classifiers distinctively used to match a specific group of nouns. The generic classifier, however, cannot be combined with mass nouns. Yi also showed that the mass-count distinction in Korean, in some ways, manifests itself in the same ways as in English. Just like in English, quantifiers, para-numerals and ordinal-numerals in Korean can be combined only with count nouns, but not with mass nouns. Below are examples of quantifiers(3), para-numerals(4) and ordinal-numerals(5) in Korean, which are presented with their equivalence in English:

(3) Quantifiers: *yele* (‘several’); *myech* (‘a few’)

(4) Para-numerals: *ssang* (‘a pair of’/ ‘pairs of’); *tas* (‘a dozen of’/ ‘dozens of’)

(5) Ordinal numerals: (a) *ches.ccay* (‘first’); *twul.ccay* (‘second’); *say.ccay* (‘third’)

Similarly, Korean has adverbials (*kak-kak*, *kak-ki*) and a particle (*-mata*) that are equivalent to *each* and *every* in English. They too can co-occur only with count nouns, but not with mass nouns (Yi, 2010, p.55-56).

- (6) a. So-**mata** cokumssik talum tey-ka iss-ta.
 Cow-**each** a bit different thing-NOM have-DEC

‘Each cow has something that is a bit different (from each other).’

- b. *Wuyu-**mata** cokumssik talum tey-ka iss-ta.
 Milk-**each** a bit different feature-NOM have-DEC

‘Each milk has something that is a bit different (from each other).’

Another indicator of the availability of mass-count distinction in Korean that has been most commonly recognized by researchers (e.g., Kang, 1994; Kim, 2005; Noma, 2002; Yi, 2010) is the Korean plural marker, *-tul*. Korean is predicted by the NMP not to have pluralization. Contrary to the prediction, Korean has a productive plural marker, *-tul*, which is suffixed to common nouns to mark plurality. Unlike the English plural marker (*-s*) that is obligatory, the use of *-tul* is optional. The optionality and other characteristics of *-tul* are discussed in detail in the next section. In English, the plural marker, *-s*, indicates the number status (singular/plural) of nouns, and it also indirectly indicates the countability status (count/ mass) because only count nouns, but not mass nouns, can be pluralized. Likewise, the Korea plural marker (*-tul*) is sensitive to the mass-count distinction, as *-tul* can be attached only to count nouns (Choe, 1971; Kang, 1994; Kim, 2005; Noma, 2002; Yi, 2010). See the examples in (7) from Kang (1994).

- (7) a. Sakwa-tul ‘apples’

apple-PL

b. *mwul-tul ‘waters’

water-PL

The flip side of the arguments is that the countability status of nouns in Korean can be determined by testing noun in different morphosyntactic constructions as shown above. For example, the countability status of Korean nouns can be made based on whether or not nouns can take the generic classifier (*-ge*) or plural marker (*-tul*). A plural marker test in which the acceptability of plural-marked nouns is judged seems particularly useful for such purpose because the plural marker has the least restrictions on noun type such as [+human], [+animate], [+concrete] when compared to the rest; for example, the generic classifiers cannot appear with human or animal nouns, and para-numerals mostly appear with concrete nouns.

In conclusion, the evidence presented above is enough to refute the claim that the mass-count distinction does not exist in Korean. If Korean was indifferent to the semantic distinction of mass vs. count domains, there should exist no differences in morphosyntactic constructions involving the two groups of nouns. The fact that different morphosyntactic requirements are applied to the two groups of nouns strongly suggests that Korean does make the distinction between count and mass nouns. Therefore, I argue that despite its status as a classifier language, Korean has selected [+count] and [+plural], though the features are assembled in a way that is very different from English, as will be shown in the following section.

2.6. Korean plural marker: *-tul*

In the previous section, I introduced the plural marker, *-tul*, as an indicator of the mass-count distinction in Korean. This section is devoted to a discussion of the Korean plural marker, focusing on the characteristics and restrictions of *-tul* in its use and interpretation. My aim here is not to provide a comprehensive overview of plural marking in Korean, but rather to show how Korean is different from English in ways the [+count] and [+plural] features are assembled. Therefore, not all aspects of the Korean plural marker are covered in this section, as the discussion focuses on the crosslinguistic differences that are more relevant for feature reassembly in L2 acquisition of English articles.

One of the major reasons why many have been misled to the assumption that [+count] and [+plural] are missing in Korean, despite the presence of the productive plural marker (*-tul*), might be that the use of the plural marker in Korean is not obligatory but optional. Unlike in English, a Korean noun phrase can denote a plural referent with or without the plural marker (Corbett, 2002; Kwon & Zribi-hertz, 2004). In other words, the use of *-tul* is not required to denote plural entities in Korean. Kwak (1996, 2003) stated that Korean has two types of plural: one with and one without plural morphology. Bare nouns in Korean can thus be interpreted as either singular or plural depending on the context. In fact, the plural marker is rarely used in general except when nouns are specific either via context (Sohn, 1999) or via the addition of demonstrative (Chang, 1996; Kim, 2005). In the examples in (8) below, while the bare noun in context (a) can be interpreted as plural, the bare noun in context (b) must be interpreted as singular (examples from Lardiere, 2008). The fact that the number features are linked with definiteness in Korean raises a possibility that Korean speakers might be more likely to mark the number and countability status of L2 nouns in definite contexts than in indefinite contexts. In addition, this also means that successful reassembly of L2 number features should require

Korean learners of English to disassemble the number feature from definiteness as English does not differentiate definite and indefinite contexts in terms of specifying the number features.

(8) a. Peter-nun esey haksan-gul manna-ss-ta.

Peter-Top yesterday student-ACC meet-PAST-DECL

‘Peter met (a/the) student(s) yesterday.’

b. Chelswu-non ku/i haksang-ul po-ass-ta.

Chelswu-TOP that/this student-ACC see-PAST-DECL

‘Chelswu saw that/this student (*those/these students).’

c. Chelswu-non ku/i haksang-tul-ul po-ass-ta.

Chelswu-TOP that/this student-PL-ACC see-PAST-DECL

‘Chelswu saw those/these students.’

The plural marking in Korean also has some syntactic restrictions. In Korean, pluralized nouns may not co-occur with a numeric quantifier (9) or a classifier (10) except when the noun is [+human] in the latter case (12). Such restrictions are not observed in English, thus could be another source of errors for Korean speakers in L2 number marking.

(9) Two cip(*-tul)-I ku kenchukka-eykey cie-ci-ss-ta.

Two house-PL-NOM that architect-by build-PASS-PAST-DECL

‘The two houses were built by that architect.’

- | | | | | | |
|------|--------------|--------------|----------------|-----|-------|
| (10) | a. two | cip(*-tul) | b. cip(*-tul) | two | chay |
| | two | house(*-PL) | house(*-PL) | two | CL |
| | ‘two houses’ | | ‘two houses’ | | |
| (11) | a. two | salam(*-tul) | b. salam(-tul) | two | myeng |
| | two | human(*-PL) | human-PL | two | CL |
| | ‘two people’ | | ‘two people’ | | |

On the other hand, there seems to be a lack of consensus in the literature on when the use of *-tul* is obligatory, preferred or dispreferred. Suh (1996) states that *-tul* can be attached to both animate and inanimate nouns, suggesting no lexical restriction on pluralization. However, others mention that the plural marker occurs mainly with human nouns, less frequently with non-human animate nouns and far less frequently with inanimate nouns (Song, 1997; Suh, 2008). A recent Korean L2 acquisition study by Suh (2008) also provides conflicting evidence on this issue. Suh investigated the production and interpretation of *-tul* by Korean heritage language speakers. Of particular interest was the performance of the native Korean-speaking controls included in the study. In the production task in which the participants completed sentences in response to prompt questions, the native Korean-speaking controls showed no significant difference in producing plurals on animals vs. humans, contrary to her prediction. Another noteworthy result was that there was a wide interspeaker variation; with the same nouns some Korean speakers prefer using *-tul* while others disprefer using *-tul*. In the second task the participants rated the acceptability of sentences that included NPs with or without the plural markers. A Likert scale of -2 to 2 was used for rating; -2 for 'unacceptable'; -1 for 'I wouldn't say it like this'; 0 'for not sure'; 1 for 'I

could say it like this'; 2 for 'perfect'. Bare nouns and plural-marked nouns appeared with demonstratives or with classifiers; the use of plural marker is obligatory in the former context and is illegal in the latter context. According to the results, the control group preferred plural-marked nouns than bare nouns when the nouns co-occur with demonstrative. However, the rating ($M=1.2$) was not as high as expected, suggesting that not all native speakers considered it obligatory to use *-tul* with nouns in definite context. It seemed that some Korean speakers still dispreferred the use of *-tul* even when it is supposed to be grammatical. A high degree of variability was also observed in their acceptability ratings of *-tul* that was attached to classified NPs. While 80% of the control group disapproved the use of *-tul* with a classifier, giving negative scores, 20% of the control group gave positive scores on the sentences including supposedly ill-formed NPs. Overall, the study shows that native speakers do vary in their intuitions on acceptability and obligatoriness of *-tul*.

Suh's findings reveal additional complications of the countability features in Korean. The previous section showed that Korean has selected [+count], and one way to make the distinction between count and mass nouns is to test whether or not the nouns could take *-tul*, for example, via a plural marker test. Though the mass-count distinction certainly appears to exist in Korean, noun countability and number status are often unspecified because the mass-distinction is not required in Korean. Since the plural marker is rarely used in Korean, when asked to rate acceptability of plural-marked nouns, Korean speakers are likely to vary to a high degree in their judgments like the control group of Suh's study. For example, some Korean speakers may simply feel the use of *-tul* is unnecessary but still accept, while others may feel the use of *-tul* is awkward or unnatural, therefore reject it, not because it is ungrammatical but because they would mostly prefer not using it. If, for example, 70% of the people accepted a noun with *-tul* and 30%

dispreferred it, should the noun still be considered as countable? This means that noun countability of some nouns may not be clearly identifiable.

2.7. Countability: Binary or continuum?

In the previous section, I discussed some nouns in Korean are unclear regarding their countability status ([+count] or [-count]). However, this issue reflects the complex nature of the countability feature itself, therefore, is not unique to the Korean language. Many nouns in English too cannot be clearly categorized as countable or non-countable because they can be used as either countable or non-countable nouns. Amuzie and Spinner (in press) showed in their corpus analysis of various types of abstract nouns, some nouns are almost always used as countable or non-countable, while other nouns (e.g., *education*, *success*, *communication*, etc.) can go either way with comparably high frequency in both directions. Concrete nouns too can be used as either countable or non-countable nouns as shown in the examples (12) below. The phenomenon of dual membership nouns raises the question of whether countability should be considered as a binary feature.

(12) a. Pinot Noir is *wine* / Pinot Noir is a *wine*.

b. a lot of *chocolate* / many more *chocolates*

c. Leslie has more *car* than *garage*.

d. He's got *woman* on his mind.

(Pelletier, in press, p.5)

Linguists have offered different solutions as to how to with the issue. For example, Allan (1980) argued against making nouns as [+countable] or [-countable] for two reasons. The first

argument was that the countability of is a feature of the environment of a noun (NP), not of a noun itself. His second argument was that countability is not a dichotomous feature. He stated that there are eight levels of countability from ‘perfectly countable’ to ‘perfectly uncountable,’ e.g., *car* (perfectly countable) > *oak* > *Himalayas* > *scissors* > *mankind* > *admiration* > *equipment* (perfectly non-countable). Perfectly countable nouns such as *car* can appear with plural -s, numbers (e.g. *one*, *two*), the indefinite article, plural-marked determiners (e.g. *these*, *those*) and quantifiers such as *several*, *few*, and *all*. Less countable nouns appear with only a subset of these. Allan recognized that some nouns enter countable environments more readily than others, stating that nouns have *countability preferences*. The idea of nouns having countability preferences suggests that there is something intrinsic to nouns that determines how nouns behave in terms of which countability environment they favor. However, this contradicts his first argument that countability of a subcategory of NPs, and is not of characteristic of nouns.

Some researchers, on the other hand, argue that countability is a binary feature. According to Löbel (1993), all nouns in all languages are either countable or non-countable, and are either inherently determined or non-determined. Her argument is that noun’s countability and determination are lexical properties which are parameterized. Parameterized lexical properties “constitute possible parameters which have syntactic influence with regard to inflection (e.g. pluralization) and the configurationality of noun phrases (e.g. obligatory occurrence of the article). In other words, countable nouns contain the inherent syntactic feature [+countable], allowing them to appear in count constructions (e.g., combined with numerals). Similarly, it is due to the inherent lexical property of mass nouns that mass nouns combine with certain syntactic elements (e.g. bare nouns in English) but not with others (e.g. numerals). This approach, as she points out, corresponds to Chomsky’s following assumption:

“It has been suggested that parameters of UG do not relate to the computational system but to the lexicon. We might take this to mean that each parameter refers to properties of specific elements of the lexicon or to categories of lexical items (...). Language acquisition is in essence is a matter of determining lexical idiosyncrasies” (1989, p.44).

There is yet a third group who supports the view that countability is a binary feature but rejects the idea that [+count] and [+mass] are lexical features (e.g., Borer, 2005 and Pelletier, in press). Pelletier (in press) argues that lexical items do not have either the [+count]/[+mass] features but the phrase they occur in can become marked either [+count] or [+mass]. In an NP such as *a book*, it is only the determiner *a* which marks the NP as countable. According to such approach, nouns cannot be classified as countable or non-countable, but only the NPs can. Removing the countability feature from lexical items could solve the problem with dealing with dual membership nouns in English and since in a given context, nouns in English including dual membership nouns should be used only in a countable way or in a non-countable way, but not both. However, separating the features [+count] and [-count] from lexical items is not without limitations. First, not all NPs are discriminating with regard to the count-mass distinction (Joostern, 2003). For instance, NPs such as *my computer* or *this computer* cannot be marked as [+count] or [-count] since *my* and *the* are neutral in terms of number. Secondly, if all nouns are equal in terms of being neutral in their countability status, why some nouns tend to occur much more frequently in one countability context over the other? For instance, *safety* occurs mostly in mass NPs while *computer* rarely occurs in mass NPs. Recent studies by Barner *et al.* (2008) also demonstrated that countability of abstract nouns is largely determined by the lexical aspect of the verbs that the nouns are derived from or associated with. Without considering countability as an

inherent semantic aspect of lexical items, the differences in the degree to which nouns appear in count or mass environments cannot be fully accounted for.

For the purposes of the current investigation, I consider countability to be a property of a noun, not of a NP. As discussed above, there are apparent differences among nouns in terms of what countability environment they prefer. Even though many nouns can appear in both countable and non-countable contexts, the countability preferences of nouns vary to a great degree. Some nouns appear in countable contexts far more frequently than in non-countable contexts. Such phenomena can only be explained when countability is considered to be intrinsic to nouns, not extrinsic. Also in the current investigation, countability is treated as a binary feature, by which I mean that individual nouns are marked as [+count] or [-count]. How should then dual membership nouns be marked in the binary system? Nouns can have two lexical entries, one [+count] for count meanings and the other one [-count] for mass meanings. For example, *wine* in Example (12-a) can have the [-count] entry for the first use and the [+count] entry for the second use. I do not claim that using the binary system with the two separate entries could address all the issues concerning the countability feature. Dealing with the countability flexibility of nouns is a complex issue due to differences of nouns in use. The binary system allows us to describe the countability of individual nouns in more systematic yet simpler terms than figuring out how many countability levels exist or where on the countability continuum each individual noun falls. Also, considering countability as a binary feature seems to be in line with other commonly accepted frameworks within the generative approach such as parameter setting, or feature selection in which acquiring a language is viewed setting the relevant parameters as positive or negative or selecting [+features] or [-feature].

How the countability feature should be understood is a topic of an ongoing debate (Joosten, 2003; Pelletier, in press). Unfortunately, no single criteria or theory can satisfactorily provide answers to questions regarding the countability features. Within the generative approach, the discussions on features in general, let alone specific features such as countability, lack clarity on how features must be realized—whether in form of bound or free grammatical morphemes or embedded within various lexemes (Lardiere, 2008). Clearly, it is an area where further theoretical refinement is needed.

2.8. Reassembly the countability features

Now let's finally consider what these specifications of the [+count] and [+plural] features in Korean outlined above might mean for a Korean speaker acquiring English articles. English requires marking of countability status of nouns in forming NPs, and the countability features in English are expressed on articles; the mass-count distinction of singular nouns in indefinite context always comes down to choices between the indefinite articles (a, an) and zero article. On the other hand, the mass-count distinction is not obligatory in Korean, and the countability features are associated with the [+plural] features that are assembled very differently from the [+plural] features in English. The task facing the learner is to reconfigure the countability features from the way they are represented in Korean into new formal configurations with articles on possibly quite different types of lexical items in English. This essentially involves teasing apart the relevant features from the way they are assembled in L1. To be more concrete, for example, the learner has to de-link [+definite], [+animate/+human], or [+classifier] from plural marking since the use of the Korean plural marker co-occurs with or is restricted by these features in certain environments. Then, the learner also needs to identify lexical items over which to redistribute the countability features associated with the plural marker in Korean because the

countability status of nouns in English and Korean might be incongruent; count nouns in Korean that take the plural marker might be uncountable in English and mass nouns in Korean that do not take the plural marker can turn out to be count nouns in English. After the lexical items in L2 are identified, the learner still needs to acquire how the [$\pm$ count] features are realized in English through the use of articles, which for the Korean speaker is entirely a new way of assembling the features since Korean lacks articles.

Considering the complexity of the task, it would be hard to predict exactly where in the process, learners would make mistakes and what would be the cause of the errors. However, “one of the greatest sources of difficulty is considered to be transfer of representations of how the same features are assembled in lexical items in L1 (Lardiere, 2009, p.187).” One of the potential L1-related factors that could influence the reassembly of L2 countability features by Korean learners that the current study focuses on is the effect of L1 transfer at the lexical level. Given that Korean has the mass-count distinction, it is very possible that learners make the countability judgments on English words based on their word knowledge in L1. Korean speakers are likely to have their own classification of mass and count nouns based on their implicit knowledge of whether or not individual nouns tend to appear with the plural marker (*-tul*). This knowledge, in turn, may influence learners’ L2 countability judgments which are reflected in their article choice. The current study is seeking evidence that will substantiate this hypothesis.

2.9. Noun Categories

The study includes both concrete and abstract nouns. Concrete nouns generally name tangible items that have physical properties while abstract nouns denote a quality, an attribute, a feeling or an idea that cannot be seen or touched (Gerber, 2000; Shoup & Loberger, 2009).

Abstract entities, in general, lack physical attributes, however, abstract nouns vary to a great degree in terms of their abstractness or imaginability (Altarriba *et al.* 1999). Some abstract nouns such as *text* or *sentence* can be considered to be more concrete than others abstract words such as *love* or *peace* in that their physical representations are easily found in concrete objects. The current study defines abstract nouns as those that are not clearly made up of physical matter (Amuzie & Spinner, in press), such as *homework*, *vocabulary*, or *education*.

Abstract and concrete nouns were further divided into countable and non-countable nouns, and into congruent and incongruent nouns based on countability congruency between Korean and English. Below are the 6 categories of nouns that were included.

1. Category 1(C1) includes concrete mass nouns whose Korean counterpart is countable
2. Category 2(C2) includes concrete mass nouns whose Korean counterpart is also mass.
3. Category 3(C3) includes abstract mass nouns whose Korean counterpart is countable.
4. Category 4(C4) includes abstract mass nouns whose Korean counterpart is also mass.
5. Category 5(C5) includes abstract count nouns whose Korean counterpart is mass.
6. Category 6(C6) includes abstract count nouns whose Korean counterpart is also countable.

Note that concrete countable nouns were not included in the study. This was because there was no concrete countable nouns whose Korean counterparts were non-countable.

The study hypothesizes that between the same types of noun categories, learners will always be significantly more accurate with the congruent noun categories than the incongruent counterparts. That is, learners' article accuracy on C2 is hypothesized to be significantly higher than on C1, C4 than C3 and C6 than C5.

On the other hand, the parametric account would make different predictions on each pair of the noun categories. According to the parametric account, learners' accuracy on C1 and C2 is expected to be similarly high as they would consider all nouns to be mass nouns, and the nouns in C1 and C2 alike happened to be mass nouns in English. For the exact same reason, the parametric account would hypothesize that learners' accuracy on C3 and C4 would be comparably high as well. Lastly, the parametric account would predict that learners' accuracy on C5 and C6 would be equally low as the nouns in C5 and C6 were used as count nouns which is predicted to be problematic for speakers of classifier languages according to the parametric account.

By pairing up the congruent and incongruent noun categories for comparison, and making predictions that are different from the parametric account, this study can directly test the parametric account against the feature reassembly approach.

2.10. The Control Group

In order to provide evidence that any phenomenon is truly an L1 effect, there needs to be L1-control data (Jarvis, 2000). Thus, the study includes Ukrainian learners of English as the control group. Ukrainian is the official state language of Ukraine; however, Russian is commonly spoken among many Ukrainians as the primary language (Friedman, 2009). Nearly all citizens of Ukraine possess a degree of competence in both Russian and Ukrainian (Wilson, 2002).

Ukrainian and Russian belong to the East Slavonic languages. The two languages are now considered distinct literary languages but they are similar to one another concerning their grammar and vocabulary, with a high degree of mutual intelligibility (Comrie, 1990;

Grayaznukhina, 2004). The Ukrainian lexicon contains 44% of lexical units morphemically identical to Russian and 18% morphemically similar to Russian (Bilaniuk & Melnyk 2008).

As is the case for other Slavic languages, both Ukrainian and Russian do not have articles. However, Ukrainian and Russians have a productive system of plural marking, which differentiates count and mass nouns. As in English, only count nouns, but not mass nouns, can be made plural in Russian and Ukrainian. Example (13-14) shows that the mass-count distinction and plural marking in Russian are similar to those in English (Chierchia, 1998, p.361). However, the plural marking on nouns in Ukrainian and Russian takes different forms in different cases. Example (15) shows some of the examples from Ukrainian.

(13) Knigi na stole

Books on table

‘The books are on the table.’

(14) Ja kupil khleb (*khliby)

I bought bread (*breads)

(15) green pencil: *zelenyj olivets* (nominative), *zelenoho olivtsja* (genitive)

green pencils: *zeleni olivtsi* (nominative), *zelenyx olivtsjiv* (genitive)

In Ukrainian and Russian, there are nouns that are always in the singular and nouns that are always in the plural form. Below are some examples of nouns in Ukrainian that are always singular (16) and plural (17).

(16) a. nouns with abstract meanings: *sum* ‘sadness,’ *druzhba* ‘friendship’

b. collective nouns: *zhinotstvo* ‘womankind,’ *uchitel'stvo* ‘faculty’

c. proper names

d. nouns with substance meanings: *sriblo* ‘silver,’ *pisok* ‘sand’

e. names of several vegetables and fruit: *xrin* ‘horseradish,’ *malyna* ‘raspberries’

(Shkuratjana & Shevchuk, 2007, p.388)

(17) a. paired and composite objects: *vorota* ‘gate[s],’ *nary* ‘plank bed,’ *shtany* ‘pants’

b. substances or material: *bilyla* ‘whitewash,’ *drova* ‘firewood,’ *vershky* ‘cream’

c. games, rituals, temporal concepts: *shaxy* ‘chess,’ *vxodyny* ‘housewarming,’ *kanikuly* ‘holidays’

d. certain geographical names: *Carpathians*, *Sumy*

e. residue substances: *vysivky* ‘chaff,’ *nedojidky* ‘food leavings’

f. actions, processes with a sense of duration: *provody* ‘seeing off,’ *perehovory* ‘negotiations’

g. emotions, experience: *radoshchi* ‘joy,’ *zazdroshchi* ‘envy’

h. not clearly specified monetary concepts: *koshty* ‘costs,’ *finansy* ‘finances,’ *hroshi* ‘cash.’

(Shkuratjana & Shevchuk, 2007, p.388)

As shown in the above examples, the classification of count and mass nouns in Ukrainian and Russian is not always the same as that of English: some Ukrainian nouns are the same as the counterpart English nouns in terms of their countability, and some are different from English nouns. Thus, it is possible that Ukrainian-Russian speakers might have confusion on some English nouns in judging noun countability when their countability is different from the countability of nouns in Ukrainian or Russian.

2.11. Research Questions

The aim of the current study is to provide a better understanding of L1 transfer that is involved in the L2 acquisition of English articles. Following the feature reassembly approach to L2 acquisition, the study considers the way the countability features are assembled in L1 as a potential source of learner errors in L2 article choice. The investigation involves examining plural marking in Korean due to its association with [+count] in Korean. Whether or not learner's countability judgments of L2 nouns are influenced by the use of the plural marker in Korean can be verified through a variety of tasks that would elicit learners' countability judgments and article use. Listed below are the specific research questions the study investigated.

1. Do Korean learners' countability judgments of L1 nouns correlate with their countability judgments of the counterpart L2 nouns?
 - a. Which nouns do learners use *-tul* with in Korean?
 - b. How do Korean learners judge the countability of nouns in English?
2. Does Korean speakers' use of the plural marker with L1 nouns influence their article choices with the counterpart L2 nouns?

3. Do Koreans and Ukrainian learners show similar or different patterns in their L2 countability judgments and article choices?

The purpose of the first set of the research questions is to investigate whether there is a correlation between L1 and L2 countability judgments. In order to find the answer to this question, examining Korean speakers' use of the plural morphology (*-tul*) is a necessary step. By asking Korean speakers to rate acceptability of nouns with *-tul*, I attempt to tap into noun countability as manifested in the Korean plural morphology. Learners' responses will reveal what nouns they treat as countable and uncountable in Korean. Next, I examine learners' perception of English noun countability through a countability judgment task. The English nouns that are included in the instrument are the translations of the Korean nouns that were used in the plural marker test. It is hypothesized that there will be a correlation between learners' use of the Korean plural marker and judgments of L2 noun countability.

The second question tests whether or not the use of Korean plural morphology influences learners' L2 article use. Korean learners' article choice will be examined using two different types of tasks: (a) a cloze test, (b) a translation task. If learners' article choices with particular English nouns relate to how they use the plural marker with the same nouns in the L1, it will show that L1 transfer occurred at the lexical level during their L2 article use. It is hypothesized that learners' will make more errors with words whose countability category is incongruent with that of the equivalent Korean words.

The third question is included in order to confirm that Korean learners' article errors are indeed induced by L1 transfer at the lexical level. Although both Ukrainian and Korean languages lack articles, the case of transfer that is being investigated is expected to arise at the

lexical level due to language-specific configurations of the countability features. Therefore, as the congruency of noun categories was established based on the countability of Korean nouns, no congruency effects are expected to be shown among Ukrainian learners unless the countability of nouns in Ukrainian or Russian is congruent with Korean and incongruent with English.

CHAPTER 3: METHOD

3.1. Participants

3.1.1. Recruitment and language background

The participants of the study consisted of Korean and Ukrainian learners of English. As for the Korean group, a total of 196 students were recruited from two private academic institutions, a university in the Southern East region of Korea and a high school in the capital city (Seoul). The university students (N=144) were enrolled in various English courses offered by the Language Education Department of the university. The high school students (N=52) were all part of the Advanced-level Student Group that was formed by the school to provide top-level students with additional support to help them obtain their best results in the high-stake nation-wide university entrance exam.

The control group consisted of 30 Ukrainian speakers who were students of a pedagogical university (equivalent to teachers college in the U.S.) that trains its students to become teachers in a variety of areas. The Ukrainian participants were recruited from an English course offered in the Foreign Language Department of the university.

All the participants completed a language background questionnaire. The information gathered was examined to identify learners who have lived in an English-speaking country more than 1 year. As a result, 17 Korean students who reported such experience were excluded from data analysis. No one in the control group reported he or she has lived in an English-speaking country more than one year; however, all 30 Ukrainian participants reported they speak German and have studied the language, on average, for 3.7 years.

3.12. Group division

The participants all took a proficiency test that was designed by the researcher. The detailed description of the test is found in Section 3.21. The mean and standard deviation for each group showed that the Ukrainian learners ($M=25.4$, $SD=2.40$) were uniformly at an advanced level and while the Korean learners were spread over a much lower and wider range of scores ($M=17.1$, $SD=7.12$). The Korean learners were divided into three groups, advanced, high-intermediate and low-intermediate. The Korean advanced group was comprised of the top 46 scorers in order to match their proficiency with that of the advanced-level Ukrainian group. All advanced learners in both groups scored above 60%. The rest of the learners in the Korean group whose scores were below 60% were divided into low-intermediate and high-intermediate levels. The middle percentage of accuracy (30%) was used as a cut off point; those whose scores were less than 30% were placed into the low-intermediate group and those whose scores were higher than 30% and lower than 60%, into the high-intermediate group. A one-way ANOVA was conducted to compare the mean proficiency scores of the groups. The results showed that differences between all pairs were significant, $F(3, 205) = 340.51$, $p < .001$, except between the Korean advanced and

Table 1. Participant Information

	Korean low-intermediate	Korean high-intermediate	Korean advanced	Ukraine advanced
N	59	74	46	30
Age	$M=19.15$ $SD=2.63$	$M=22.89$ $SD=2.5$	$M=23$ $SD= 2.73$	$M=21.13$ $SD=0.43$
Years of L2 instruction	$M=11.34$ $SD=2.13$	$M=13.88$ $SD=2.74$	$M=13.39$ $SD= 2.91$	$M=13.80$ $SD=2.38$
Proficiency score	$M=11.01$ $SD=2.21$	$M=18.09$ $SD=2.84$	$M=24.40$ $SD=2.3$	$M=25.4$ $SD=2.41$

Ukrainian groups ($p = .28$). See Table 1 for the mean proficiency score, age and years of L2 instruction of each group.

3.2 Instruments

3.21. Proficiency test: Cloze test

A cloze test was used to measure participants' English proficiency. Many studies have shown that the cloze test meets L2 testing and research standards in terms of validity, reliability, discriminability, and practicality (e.g., Tremblay, 2011; Tremblay & Garrison, 2010). The cloze test has been widely used in L2 research including recent studies on English articles by Ionin and her colleagues (e.g., Ionin *et al*, 2008).

The cloze test was created from a passage, entitled "Homeschooling", which appears in *Interchange 3* (Richards *et al.*, 2001), a textbook that had been used in the English program at the university in Korea where data collection took place. The selection of the passage was made based on its length, students' familiarity with the topic and vocabulary used in the text. The original passage was modified into a five-paragraph text. The first paragraph was left intact. In the subsequent paragraphs following the first paragraph, every 7th word was deleted and replaced with blanks. The initial version was revised to avoid deleting the same words that were previously deleted and to adjust the ratio between function and content words, the latter of which is known to affect the difficulty level of the cloze test (e.g., Abraham & Chapelle, 1992; Kobayashi, 2002). Either the preceding or subsequent words were deleted when they were viewed to better contribute to the overall quality of the test than the original deletion. The decisions on the final set of words to be deleted were made based on the following suggestions and reports in literature (e.g., Abraham & Chapelle, 1992; Kobayashi, 2002):

- Consider the ratio between content and function words. Function words are easier than content words.
- Consider the ratio between words that appear only once and words that appear more than once. The more frequently the same words appear elsewhere, the easier the items become.
- Avoid deleting too many articles, pronouns and relative pronouns as these are the most difficult types of function words.
- Avoid deleting proper nouns and numbers.

The final version consisted of a total of 35 blanks.

3.22. Pilot tests

Since the study aims to investigate whether Korean learners' L2 countability judgments are affected by the countability status of the counterpart L1 nouns, it was necessary to create noun categories based on countability congruency between Korean and English nouns. It was also decided that nouns should be divided into separate categories of mass vs. count and concrete vs. abstract nouns to control for the noun type effects that have been reported in the previous research (Amuzie & Spinner, in press; Butler; 2002; Hiki, 1991; White, 2009).

As a prior step to constructing the study instruments, a series of pilot-testing were conducted in order to identify Korean nouns whose countability status can be clearly defined as countable or uncountable so that they can be categorized as congruent or incongruent nouns accordingly. For pilot-testing, a plural marker test was created in a form of an acceptability judgment task in which Korean participants were asked to evaluate whether each noun attached with the plural marker (*-tul*) is acceptable by choosing a score on a scale of 1 to 6, with 1 being totally unacceptable and 6 being totally acceptable. Due to the infrequent use of *-tul*, especially

with abstract nouns, as discussed in the previous chapter, it was expected that many Korean speakers would either give the middle scores (3 or 4) on a large portion of nouns or greatly vary in their acceptability ratings, the latter of which also bring the mean ratings closer to the middle range. In both cases, it is difficult to establish their countability status. Therefore, it was decided that mean ratings of nouns should be either higher than 4.5 or lower than 2.5 on a scale of 1 to 6 to be categorized as countable or uncountable and only those nouns who has a relatively clear countability status should be included in the final version of the countability judgment tasks.

The first version of the plural marker test consisted of 120 words and was administered to 48 Koreans. Out of the 120 words, only 22 words yielded mean ratings lower than 2.5 or higher than 4.5. In order to have a minimum of 6 nouns per category, a second round of pilot-testing was planned. The second pilot test included the 22 words sieved through the first-round pilot-testing and 100 new words. Through the second pilot tests, which were completed by 44 subjects, 16 more words, besides the first 22, were found. With the 38 words, 6 categories had more than 6 nouns that can be categorized as mass or count according to the criteria set up. The two categories that still lacked items were incongruent concrete mass nouns and incongruent abstract mass nouns. According to the pilot test results, there were no concrete nouns that are considered uncountable in Korean whose counterparts in English are countable. Thus, the concrete count noun categories (both incongruent and congruent) were removed. The incongruent abstract mass category, the other category with less than 6 nouns, includes abstract nouns that are uncountable in Korean and are countable in English. There were only 3 abstract nouns found whose counterparts in English can be countable that received mean ratings below 2.5 on the scale of 1 to 6. Many of the abstract nouns that could potentially fall in this category received ratings between 2.5 and 3.5. Due to the difficulty of finding Korean abstract words that

are clearly uncountable in Korean (with the mean rating below 2.5) and countable in English, the original criteria for uncountable nouns, which is below 2.5, was adjusted to below 3.0 so that more nouns can be added to this category. Then, the abstract nouns that received mean ratings were between 2.5 and 3.0 in the first two rounds of pilot testing were identified. Among the abstract nouns additionally found through the adjustment of the criteria, the ones that have lower ratings (e.g. 2.5-2.7) were selected. The last final pilot test combined these abstract nouns, along with 38 items that had already been identified and 30 new abstract nouns. A group of 39 Korean speakers was recruited to participate in the final pilot testing. All the results from the three rounds of pilot-testing were examined across in order to finalize the list of the target nouns that will be used in the study instrument. During the process, some words that met the countability criterion were removed because there could be more than one translation possible for one word. Also some nouns in the incongruent abstract mass category (C5 below) were excluded because they appeared to be problematic for using them in a forced-elicitation task or translation task. For example, some C5 nouns such as *protection* could appear either as a count or non-count noun in the same context (e.g. ‘The device provides (a, Ø) strong protection against virus.’), in which case there can be more than one answer. For each category, 6 or 7 nouns that were considered to be the best representatives of the category were selected. Table 2 presents the list of the target words for each category.

The first two categories (C1 and C2) include concrete nouns that are considered as mass in English. The difference between C1 and C2 is that according to the pilot test results the C1 nouns in Korean can take the plural marker while the C2 nouns cannot. Thus, the C1 Korean nouns were categorized as countable and the C2 Korean nouns as uncountable, which makes C1 an incongruent category and C2 a congruent category.

Table 2. Final List of words

	Countability Congruency	Noun Type	Countability in Korean	Countability In English	Nouns
C1	Incongruent	Concrete	Count	Mass	cabbage, corn, furniture, equipment, luggage, trash, food
C2	Congruent	Concrete	Mass	Mass	air, oil, heat, salt, smoke, snow, sugar
C3	Incongruent	Abstract	Count	Mass	advice, evidence, information, homework, research, vocabulary, *news
C4	Congruent	Abstract	Mass	Mass	anger, creativity, courage, honesty, patience, safety
C5	Incongruent	Abstract	Mass	Count	celebration, communication education, submission, success, repetition, improvement,
C6	Congruent	Abstract	Count	Count	Result, mistake, change, rule, decision, suggestion

Note: *News in C3 was later removed from analysis because the word ends with ‘s’, which could be confused with the plural marker ‘s’ in English.

The middle two categories (C3 and C4) include abstract nouns that are considered uncountable in English. As in the pair of C1 and C2, the difference between C3 and C4 lies in countability congruency. C3 is an incongruent category and C2 is a congruent category because according to the pilot test results, the C3 nouns in Korea can take the plural marker but the C2 nouns cannot.

The last two categories (C5 and C6) also consist of abstract nouns that are used as countable nouns in English. Note that the countability of the nouns in C5 and C6 in English do not contrast the same way as the former pairs do. While the C6 nouns are almost always used as count nouns in English, the C5 nouns can be used in either way. In fact, the C5 nouns are differentiated from the rest of the categories in that nouns in no other categories allow dual membership in countability to the extent to which the C5 nouns do. Only when the C5 nouns

appear in countable context, their countability contrasts with that of the C6 nouns. Therefore, in an attempt to force a contrast between congruent (C6) and incongruent categories (C5) with abstract count nouns, the C5 nouns were used only in countable contexts. However, the unique status of C5 should be noted in interpreting result of the C5 nouns in comparison to other categories as previous research report that nouns such as the C5 nouns whose countability is flexible are more difficult for learners in making the mass-count distinction (Amuzie, 2011; Yoon, 1993).

The classification of English nouns in C1, C2, and C4 as count or mass nouns were based on four textbooks and five websites that were designed for ESL and EFL Korean learners. The ESL and EFL literature tended to include only some of the noun types as examples of count and mass nouns. For example, it was frequently observed that textbooks and websites only used concrete nouns as their examples. Some materials included abstract nouns as well as concrete nouns, but only as examples of non-countable nouns. Overall, examples of countable nouns usually included concrete nouns only whereas examples of non-countable nouns included a subcategory of abstract nouns (C4) and concrete nouns (C1 and C2). Other types of abstract nouns (C3, C5 and C6) rarely appeared as examples of countable or non-countable nouns.

Abbreviations were used when referring to the noun categories, whenever necessary. The countability congruency of the noun categories is indicated in the parenthesis next to them. For example, in C1(In/C-M), which refers Category 1, ‘In’ (or ‘C’) stands for ‘incongruent’ (or ‘congruent’) and the following two letters (C-M) indicates countability in the L1 and L2 respectively (‘C’ for count nouns and ‘M’ for mass nouns). The abbreviation, C1(In/C-M), therefore, means incongruent Category 1 that consists of nouns that are countable in Korean and mass in English.

3.23. Korean plural marker test

The plural marker test had the same form as the pilot tests. The 40 target words from 6 categories were randomly mixed and presented. The participants rated the acceptability of each Korean word with the plural marker on a scale of 1 to 6 with 1 being totally unacceptable and 6 being totally acceptable. See Appendix A for the complete task.

3.24. English countability judgment task

An English countability judgment task examines learners' countability judgments of English nouns. The task included the English translation of the 40 target nouns identified. The participants were asked to judge the countability of each word on a scale of 1 to 6 with 1 being always uncountable and 6 being always countable. See Appendix B for the complete task.

3.25. Forced elicitation task

A forced elicitation task was created to elicit article choices for the 40 target items. The forced-choice elicitation method allows the researcher to control for the countability and semantic environment in which each noun appears. All target nouns were presented only in an indefinite context to control for the effect of semantic context. Nouns were embedded into an appropriate context according to their countability status in English. Although the nouns in C5 (IN/M-C) can appear in either countable or mass context unlike the nouns in rest of the categories, only countable contexts were created for the C5 nouns in order to make the incongruent category work; the C5 nouns are uncountable in Korean.

The task consisted of 34 short passages or dialogues, and each passage or dialogue included a varying number of blanks. For each blank, learners were asked to choose between *a*

and zero article. Most of the blanks appeared in front of the target words but blanks were also inserted before some non-target words if the non-target words could be a synonym, hyponym or hypernym of any of the target words. This was to prevent learners from inferring the countability of the target words from other words that are semantically related. For example, in a conversation between two people talking about fruit, a blank with the two choices (a, Ø) was inserted before *apple*, which is a non-target item, as well as before *fruit*, a target noun, so that learners would not attempt to determine the countability of its hypernym, *fruit*, based on the article use with *apple*. However, the responses on non-target nouns were not analyzed. The complete forced-elicitation task is provided in Appendix C.

The forced-elicitation task was pilot-tested with 8 native speakers of English. Any items that yielded more than one answer were revised and retested. The pilot-testing identified three additional nouns (*protection*, *exposure*, and *emphasis*) from C5 (In/M-C) that are problematic. Three different contexts were created to elicit the use of ‘a’ before these words, however native speakers still showed variability in their choice between ‘a’ and zero article. Therefore, the three words were decided to be removed from analysis.

3.26. Translation task

Four words from each of the 6 categories were selected for the translation task. The translation task consisted of 24 short Korean sentences and each of them included one of the target nouns. The reason why only a subset of the target words from each category was used was because the participants had to complete other tasks as well as the translation task in a session limited to 50-60 minutes, and the task had to be short enough for learners to complete within the time allocated for the task. In the translation task, the Korean learners translated the Korean

sentences into English sentences. Since the same sentences can be translated in different ways using different structures and vocabulary, it was possible that learners would translate the sentences without using the target words or the articles. Therefore, in order to have some control over the syntax and vocabulary that learners will use, the task provided English words and phrase in parentheses and asked the participants to use the words and phrases provided in their translations. For example, one of Korean sentences in which the target word was *patience*, the participants were expected to write, ‘A teacher should have patience.’ But the participants could also write, ‘A teacher should be patient,’ in which case it is difficult to know what learners’ countability judgment of the target word is since no article was used. In order to avoid such cases, the verb, ‘*have*’ was provided in a parenthesis right next to the Korean verb. The participants were instructed to use the words or phrase provided in their translation. See Appendix D for the translation task.

3.3. Procedure

The Korean participants recruited for the study completed a language background questionnaire and five tasks: (a) a cloze test of L2 proficiency, (b) a Korean plural marker test, (c) a L2 countability judgment task, (d) a forced-elicitation task, and (e) a translation task. The participants completed the tasks in the following order:

Day 1

1. language background questionnaire
2. translation task
3. countability judgment task with English nouns

Day 2

1. forced-elicitation task
2. cloze test of L2 proficiency
3. countability judgment task with Korean nouns (plural marker test)

The tasks were completed in the above order in order to best disguise the purpose of the study and to avoid task effects. The plural marker test and L2 countability judgment task were given on different days, and the former was done before the latter in order to avoid a scenario where learners would actually think about Korean words when judging countability of English words. The translation task was given before the L2 countability judgment task so that learners' would not be focusing on correct use of articles or plural marking more than they normally would. Lastly, the L2 countability judgment task and the forced-elicitation task were separated so that learners would not be forced to think more about noun countability than they normally would when making article choices during the forced-elicitation. On the other hand, the control group completed the language background questionnaire, forced-elicitation task and L2 countability judgment tasks in the order mentioned.

3.4 Analysis

The cloze tests were graded using an acceptable-word criterion rather than an exact-word criterion because the former has been reported by researchers (Butler, 1980; Ionin *et al*, 2008) as yielding a more accurate assessment of subjects' proficiency. Also partial credit scoring was used as, according to Aghbar (1991), it provides better external validity than dichotomous scoring of all or nothing. Answers that appropriately fit the context and were grammatically correct received 1 point. Word choices that were correct in terms of the meaning but were ill-formed, or word choices that were not best in the given context (e.g., collocation errors) but were

still acceptable received 0.5 point. Lastly unacceptable answers were given 0 point. The points earned were added up and the total scores were entered into SPSS. A one-way ANOVA compared the mean proficiency scores among the different proficiency and L1 groups.

The participants' responses on the plural marker tests and L2 countability judgment tasks were entered into SPSS. After calculating the mean ratings of each noun, Pearson's correlation tests were conducted to examine whether there is a significant relationship between Korean participants' use of the plural marker on Korean nouns and their countability judgments on English nouns.

Data from the forced-elicitation tasks were coded using a binary criterion; 1 for correct answers and 0 for incorrect answers. The mean accuracy of each noun category was analyzed using t-tests or ANOVAs with L1 (Korean vs. Ukrainian), countability congruency (congruent vs. incongruent) and proficiency (low-intermediate, high-intermediate, advanced) as independent variables. Cronbach's alpha reliability coefficient for the task was also calculated.

Lastly, the translation tasks were graded based on the accuracy of NPs with the target nouns. Well-formed NPs with a correct article choice (*a* or zero article) were given 1 point. Ill-formed NPs with an incorrect article choice received 0 point. Count nouns that were pluralized also received 1 point if they were grammatically correct as the pluralization indicates learner's accurate judgment of noun countability and knowledge of L2 NP formation. However, plural-marked NPs that also include an indefinite article received 0.5 to give partial credit for accurately judging the noun countability but inaccurately forming the NPs. Cases where the target nouns were avoided or the target nouns were used with the definite article (*the*) were not graded as these cases do not tell us what learners' countability judgments of the target nouns are.

CHAPTER 4: RESULTS

4.1. Plural marker test

In the plural marker test, the participants rated the acceptability of Korean nouns to which the plural marker (*-tul*) was attached. Table 3 presents the mean acceptability ratings for the 6 noun categories across the three proficiency levels. Three noun categories (C1, C3 and C6) were judged to be highly acceptable, with mean ratings higher than 4.5, and the other three noun groups (C2, C4 and C5) were judged to be highly unacceptable, with the mean ratings below 2.5. ANOVA tests showed that the differences between the former three and the latter three categories were all significantly different, $F(5, 35) = 51.74, p < .001, r = .86$. The results corresponded with the mass-count categorization based on the pilot test results. That is, the three noun categories (C1, C3 and C6) that were judged to be highly acceptable are the categories with nouns that were considered countable based on the pilot test results and the three noun categories (C2, C4 and C5) were the mass noun categories that consisted of nouns that were considered uncountable. Post hoc test results were also examined to compare the mean ratings between the congruent categories and incongruent categories (C1 vs. C2 and C3 vs. C4). The results showed that C1 and C3 received mean ratings that are significantly different from those of C2 and C4, respectively.

According to ANOVA results, significant differences among the three proficiency groups were found in two of the noun categories, C1 and C3, $F(2, 176) = 5.21, p = .01, r = 0.01$; $F(2, 176) = 4.87, p = .04, r = 0.03$, for C1 and C3 respectively. According to Tukey's test, in C1, the low-intermediate learners gave significantly higher mean ratings than the learners of the high-intermediate ($p = .03$) and advanced groups ($p = .01$). The low-intermediate learners were also

significantly different from the advanced learners in their judgment of the C3 nouns, with a significantly higher mean rating than that of the advanced learners ($p = .02$).

Table 3. Mean ratings of 6 categories across three proficiency levels

	Low intermediate (LI)		High intermediate (HI)		Advanced (AD)	
	M	SD	M	SD	M	SD
C1 (In/C-M)	5.06	0.73	4.54	1.03	4.48	1.02
C2 (C/M-M)	1.64	0.72	1.58	0.59	1.57	0.59
C3 (In/C-M)	4.84	0.82	4.72	0.99	4.49	1.07
C4 (C/M-M)	1.73	0.74	1.58	0.64	1.52	0.62
C5 (In/M-C)	2.26	0.69	2.16	0.79	2.11	0.76
C6 (C/C-C)	4.63	0.84	4.81	0.95	4.79	1.06

Table 4. A summary of ANOVA results

	Df	F	Sig.	Post Hoc Tests
C1 (In/C-M)	2	5.27	$p = .006$	LI>HI*, LI>AD**
C2 (C/M-M)	2	0.36	$p = .7$	
C3 (In/C-M)	2	2.69	$p = .019$	LI>AD*
C4 (C/M-M)	2	1.34	$p = .27$	
C5 (In/M-C)	2	1.16	$p = .32$	
C6 (C/C-C)	2	3.93	$p = .12$	

Note: * $p < .05$, ** $p < .01$

Table 5. Full Tukey post hoc test results

Dependent Variable	Group Comparison		Sig.
C1(In/C-M)	LI	HI	.03
		AD	.01
	HI	LI	.03
		AD	.76
	AD	LI	.01
		HI	.76
C2(C/M-M)	LI	HI	.69
		AD	.81
	HI	LI	.69
		AD	.99
	AD	LI	.81
		HI	.99
C3(In/C-M)	LI	HI	.78
		AD	.02
	HI	LI	.78
		AD	.41
	AD	LI	.02
		HI	.41
C4(C/M-M)	LI	HI	.52
		AD	.25
	HI	LI	.52
		AD	.79
	AD	LI	.25
		HI	.79
C5(In/M-C)	LI	HI	.29
		AD	.8
	HI	LI	.29
		AD	.74
	AD	LI	.8
		HI	.74
C6(C/C-C)	LI	HI	.12
		AD	.21
	HI	LI	.12
		AD	.59
	AD	LI	.21
		HI	.59

4.2. L2 countability judgment task

Table 6 presents the descriptive statistics of the data from the countability judgment task with English nouns. Of particular interest was how the Korean learners rated the nouns in the incongruent categories in comparison to their counterpart congruent categories. Note that the nouns in C1(In/C-M), C2(C/M-M), C3(In/C-M) and C4(C/M-M) are mass nouns in English; however, C1 and C3 are incongruent categories in which their Korean counterparts were considered as countable according to the plural marker task results. If Korean learners accurately judged the countability of these nouns, they would have rated the nouns in all four categories in a similar way. Interestingly, Korean learners' mean countability ratings showed while the Korean learners across the different proficiency levels judged the congruent nouns in C2(C/M-M) and C4(C/M-M) as uncountable, with the mean ratings below 2.1, they judged the incongruent nouns in C1(In/C-M) and C3(In/C-M) to belong to the countable side of the scale, rating all of them above 3.5. According to ANOVA tests, noun category had a main effect on learners' countability ratings, $F(5, 35) = 50.77, p < .001, r = .86$.

ANOVAs also examined whether significant group differences exist in each of the 6 noun categories among the Korean learners. The results showed that significant differences were found in C1(In/C-M), C2(C/M-M), C3(In/C-M) and C4(C/M-M), $F(2, 175) = 4.01, p = .02, r = .04$; $F(2, 175) = 3.92, p = .02, r = .04$; $F(2, 175) = 3.54, p = .03, r = .04$; $F(2, 175) = 6.5, p = .01, r = .06$ for C1, C2, C3 and C4 respectively. See Table 7 for the ANOVA results. In C1 and C4, the mean ratings of the low-intermediate group were significantly different from those of the high-intermediate ($p = .04$ in C1 and $p = .03$ in C4) and advanced groups ($p = .04$ for C1 and $p = .01$ for C4). In C2, the mean rating of the low-intermediate group was significantly higher

than that of the high-intermediate group ($p=.03$). Lastly, in C3, the mean rating of low-intermediate group was significantly higher than that of the advanced group ($p=.03$).

Table 6. Descriptive Statistics

L1	Korean Groups						Ukrainian	
Proficiency	LI		HI		AD		Advanced	
	M	SD	M	SD	M	SD	M	SD
C1 (In/C-M)	4.2	1.17	3.6	1.16	3.54	1.15	2.37	0.77
C2 (C/M-M)	1.8	1.03	1.44	0.57	1.48	0.63	1.43	0.54
C3 (In/C-M)	4.37	1.23	4.09	0.95	3.81	1.08	2.49	0.81
C4 (C/M-M)	2.07	1	1.69	0.65	1.58	0.65	1.32	0.77
C5 (In/M-C)	2.83	1.07	2.78	1.01	2.65	0.91	2.69	0.69
C6 (C/C-C)	4.36	1.07	4.54	0.81	4.46	0.83	4.97	0.73

Table 7. A summary of ANOVA results

	Df	F	Sig.	Post Hoc Tests
C1 (In/C-M)	2	4	$p=.02$	LI>HI*, LI>AD*
C2 (C/M-M)	2	3.92	$p=.02$	LI>HI*
C3 (In/C-M)	2	3.54	$p=.03$	LI>AD*
C4 (C/M-M)	2	5.24	$p=.006$	LI>HI*, LI>AD*
C5 (In/M-C)	2	1.64	$p=.2$	
C6 (C/C-C)	2	1.74	$p=.18$	

Table 8. Full Tukey post hoc test results

Dependent Variable	Group Comparison		Sig.
C1(In/C-M)	LI	HI	.04
		AD	.04
	HI	LI	.04
		AD	.96
	AD	LI	.04
		HI	.96
C2(C/M-M)	LI	HI	.03
		AD	.09
	HI	LI	.03
		AD	.97
	AD	LI	.09
		HI	.97
C3(In/C-M)	LI	HI	.21
		AD	.03
	HI	LI	.21
		AD	.49
	AD	LI	.03
		HI	.49
C4(C/M-M)	LI	HI	.03
		AD	.01
	HI	LI	.03
		AD	.81
	AD	LI	.01
		HI	.81
C5(In/M-C)	LI	HI	.12
		AD	.68
	HI	LI	.17
		AD	.7
	AD	LI	.68
		HI	.7
C6(C/C-C)	LI	HI	.51
		AD	.16
	HI	LI	.51
		AD	.64
	AD	LI	.16
		HI	.64

The advanced Korean learners were also compared with the Ukrainian learners (See Table 9). The *t*-test results showed that in both incongruent mass noun categories (C1 and C3),

significant differences were found between the Ukrainian group and the advanced Korean learners ($p < .001$). Compared to the Korean advanced learners, the Ukrainian learners rated the incongruent mass nouns in C1(In/C-M) and C3(In/C-M) to be significantly lower on the countability scale, accurately judging them to be on the uncountable side of the scale. However, the Ukrainian learners, like the Korean learners, rated the incongruent nouns in C3(In/C-M) higher than the congruent nouns in C4(C/M-M). Although the differences within the congruent-incongruent pairs were much smaller than what was found in the data of the Korean groups, the difference between C3(In/C-M) and C4(C/M-M) were found to be statistically significant ($p = .01$), while no significant difference ($p = .08$) was found between C1(In/C-M) and C2(C/M-M). With respect to their judgments of the nouns in the congruent categories, while no significant differences between the Ukrainian learners and the advanced Korean learners were found in C2 (C/M-M) and C4(C/M-M), Ukrainians learners judged the C6 nouns to be significantly more countable than the Korean advanced learners ($p = .01$).

Table 9. Comparison between the Korean(K) advanced learners and Ukrainian(UK) learners

	df	t	Sig.	Effect size	Results
C1 (In/C-M)	73.97	4.92	$p < .001$	$d = 1.22$	*K>UK
C2 (C/M-M)	68.69	.22	$p = .82$		
C3 (In/C-M)	74	5.22	$p < .001$	$d = 1.35$	*K>UK
C4 (C/M-M)	73.59	1.38	$p = .17$		
C5 (In/M-C)	74	-2.59	$p = .27$		
C6 (C/C-C)	72.09	-1.01	$p = .01$		

Lastly, all the participants (3 Korean groups and 1 Ukrainian group) similarly judged the nouns in C5. The C5 nouns received with the mean ratings between 2.4 and 2.8 by all learner groups. This was the only category in which no significant differences were shown between any of the pairs.

4.3. Correlations between the plural marker test and L2 countability judgment task

Overall, Korean learners' data from the plural marker test and L2 countability judgment tasks showed very similar patterns in both congruent and incongruent categories. The nouns that were rated high on the Korean plural marker test were also rated high on the English countability judgment task. Pearson's tests were conducted to test whether there is any significant relationship between the two. For each of the proficiency levels, the mean rating for each of the target words was calculated for both tasks. Then, Pearson's test examined whether correlations are found between the mean ratings of the plural marker test and L2 countability judgment task. The results showed a high degree of correlation in all three proficiency levels. The group correlation between the two tasks was the strongest with the lower-intermediate level ($r = .91, p < .001$), less strong with the high-intermediate level ($r = .87, p < .001$) and the least strong with the advanced level ($r = 0.85, p < .001$). The individual correlations were also examined within each of the noun categories. Table 10-12 shows the correlation coefficients calculated for each noun category. Many of the noun categories from the two tasks were found to have weak to moderate correlations.

Table 10. Individual correlation for the low-intermediate learners

		L2 countability judgment task					
		C1	C2	C3	C4	C5	C6
Plural	C1	0.34**					
marker	C2		0.11				
test	C3			0.36**			
	C4				0.26*		
	C5					0.14	
	C6						0.42**

Note: ** Correlation is significant at the 0.01 level; *Correlation is significant at the 0.05 level.

Table 11. Individual correlation for the high-intermediate learners

		L2 countability judgment task					
		C1	C2	C3	C4	C5	C6
Plural	C1	0.37**					
marker	C2		0.45**				
test	C3			0.35**			
	C4				0.32**		
	C5					0.23*	
	C6						0.24*

Note: ** Correlation is significant at the 0.01 level; *Correlation is significant at the 0.05 level.

Table 12. Individual correlation for the advanced learners

		L2 countability judgment task					
		C1	C2	C3	C4	C5	C6
Plural	C1	0.25					
marker	C2		0.56**				
test	C3			0.29*			
	C4				0.36*		
	C5					0.31*	
	C6						0.18

Note: ** Correlation is significant at the 0.01 level; *Correlation is significant at the 0.05 level.

4.4. Forced-elicitation task

Cronbach's alpha for the 40-item forced-elicitation task was .687, showing a moderately acceptable reliability. Table 13 shows the mean accuracy of each noun category for all Korean learner groups. Across the three different levels, similar patterns were found. The mean accuracy rates for the congruent categories (C2, C4 and C6) were relatively high with accuracy rates of around or above 80%. On the other hand, the mean accuracy rates of the incongruent categories (C1, C3 and C6) were relatively low with accuracy rates of below 70%. ANOVA results confirmed that noun category had a main effect on article accuracy, $F(5, 35) = 18.82, p < .001, r = .68$. Also, in several noun categories, the Korean groups were significantly different in their mean accuracy rates (See Table 14). Post hoc test results showed that the low-intermediate learners were significantly less accurate than the high-intermediate learners in C1(In/C-M), C3(In/C-M), C4(C/M-M) and C6(C/C-C). They were also significantly less accurate than the

advanced learners in C1(In/C-M) and C6(C/C-C). On the other hand, no significant differences were found between the high-intermediate and the advanced learners in any of the categories.

Table 13. Korean learners' forced-elicitation task results

Proficiency	Low intermediate		High intermediate		Advanced		Total	
	M	SD	M	SD	M	SD	M	SD
C1 (In/C-M)	0.48	0.23	0.64	0.23	0.69	0.2	0.6	0.24
C2 (C/M-M)	0.84	0.2	0.9	0.17	0.9	0.16	0.88	0.18
C3 (In/C-M)	0.41	0.24	0.52	0.22	0.52	0.23	0.48	0.24
C4 (C/M-M)	0.79	0.19	0.89	0.26	0.91	0.3	0.86	0.25
C5 (In/M-C)	0.61	0.22	0.53	0.28	0.52	0.3	0.55	0.27
C6 (C/C-C)	0.82	0.18	0.89	0.14	0.9	0.14	0.87	0.16

Table 14. A summary of ANOVA results

	Df	F	Sig.	Effect size	Post Hoc Tests
C1 (In/C-M)	2	13.28	$p < 0.001$	$r = .13$	LI<HI**, LI<AD**
C2 (C/M-M)	2	2.22	$p = .11$		
C3 (In/C-M)	2	3.99	$p = .02$	$r = .04$	LI<HI*
C4 (C/M-M)	2	3.52	$p = .03$	$r = .04$	LI<HI*, LI<AD*
C5 (In/M-C)	2	1.86	$p = .16$		
C6 (C/C-C)	2	4.35	$p = .01$	$r = .05$	LI<HI*, LI<AD*

Note: ** Significant at the 0.01 level; *Significant at the 0.05 level.

Table 15. Full Tukey post hoc test results

Dependent Variable	Group Comparison		Sig.
C1(In/C-M)	LI	HI	.31
		AD	.00
	HI	LI	.31
		AD	.00
	AD	LI	.00
		HI	.70
C2(C/M-M)	LI	HI	.4
		AD	.09
	HI	LI	.4
		AD	.11
	AD	LI	.09
		HI	.11
C3(In/C-M)	LI	HI	.01
		AD	.32
	HI	LI	.01
		AD	.76
	AD	LI	.32
		HI	.76
C4(C/M-M)	LI	HI	.25
		AD	.07
	HI	LI	.25
		AD	.85
	AD	LI	.07
		HI	.85
C5(In/M-C)	LI	HI	.27
		AD	.81
	HI	LI	.28
		AD	.64
	AD	LI	.81
		HI	.64
C6(C/C-C)	LI	HI	.01
		AD	.23
	HI	LI	.01
		AD	.13
	AD	LI	.23
		HI	.13

Table 16. Comparison between the Korean and Ukrainian advanced learners.

	Korean Groups		Ukrainian		<i>t</i> -test results		
	Advanced		Advanced		<i>t</i>	Sig.	Effect size
	M	SD	M	SD			
C1 (In/C-M)	0.69	0.2	0.94	0.09	-7.56	$p < 0.001$	$d = 1.72$
C2 (C/M-M)	0.9	0.16	0.95	0.08	-1.56	$p = .12$	
C3 (In/C-M)	0.52	0.23	0.75	0.18	-4.97	$p < 0.001$	$d = 1.12$
C4 (C/M-M)	0.91	0.3	0.95	0.09	-1.05	$p = .3$	
C5 (In/M-C)	0.52	0.3	0.65	0.19	-2.24	$p = .01$	$d = .53$
C6 (C/C-C)	0.9	0.14	0.94	0.1	-1.42	$p = .16$	

The Korean and Ukrainian advanced learners were compared by using *t*-tests. Table 13 shows the results. Significant differences were found in all three of the incongruent categories (C1, C3 and C5), but not in congruent categories (C2, C4 and C6). In all three incongruent categories (C1, C3 and C5), the advanced Ukrainian learners were significantly more accurate than the advanced Korean learners.

Paired sample *t*-tests were also conducted to examine whether significant differences exist in the congruent-incongruent pairs (C1 vs. C2 and C3 vs. C4). Table 14 presents the results. Across all three levels of the Korean groups, the mean accuracy rates for the congruent categories, C2(C/M-M) and C4(C/M-M), were significantly higher than those of the incongruent counterparts, C1(In/C-M) and C3(In/C-M) respectively. As for the Ukrainian learners, a

significant difference in mean accuracy was found only between C3(In/C-M) and C4(C/M-M); no significant difference was found between C1(In/C-M) and C2(C/M-M).

Table 17. Paired sample *t*-tests

	C1 vs. C2			C3 vs. C4		
	<i>t</i>	Sig.	Effect size	<i>t</i>	Sig.	Effect size
Low-intermediate	-8.59	$p < 0.001$	$d = 1.67$	-10.9	$p < 0.001$	$d = 1.77$
High-intermediate	-9.91	$p < 0.001$	$d = 1.3$	-11.11	$p < 0.001$	$d = 1.54$
Advanced	-7.66	$p < 0.001$	$d = 1.12$	-8.21	$p < 0.001$	$d = 1.47$
Ukrainian	0.1	$p = 0.92$		-5.99	$p < 0.001$	$d = 1.48$

4.5 Translation task

Table 15 presents the mean accuracy rates of the Korean learners' translation task for each of the 6 noun categories. The mean accuracy rates and standard deviations show that the Korean learners' accuracy rates fluctuated according to congruency of noun countability to a greater degree than in the forced-elicitation task. The accuracy rates were relatively high with the congruent categories (C2, C4 and C6) and low with the incongruent categories (C1, C3 and C5). According to ANOVA results, the effect of noun category on article accuracy was significant, $F(5, 35) = 28.28, p < .001, r = .87$. The three Korean groups performed similarly in all categories except in C3(In/C-M), $F(2, 175) = 4.81, p = .02, r = .04$. The high-intermediate learners were significantly more accurate with the nouns in C3(In/C-M) than the low-intermediate learners. No

proficiency effect was found on article accuracy in the rest of the noun categories. See Table 19 and 20.

Table 18. Korean learners' translation task results

Proficiency	Korean Groups							
	Low intermediate		High intermediate		Advanced		Total	
	M	SD	M	SD	M	SD	M	SD
C1 (In/C-M)	0.55	0.39	0.61	0.35	0.61	0.34	0.59	0.36
C2 (C/M-M)	0.91	0.23	0.96	0.15	0.95	0.13	0.94	0.18
C3 (In/C-M)	0.59	0.31	0.73	0.25	0.67	0.26	0.67	0.28
C4 (C/M-M)	0.87	0.24	0.91	0.25	0.94	0.16	0.91	0.23
C5 (In/M-C)	0.44	0.39	0.37	0.39	0.35	0.38	0.39	0.38
C6 (C/C-C)	0.81	0.24	0.78	0.28	0.84	0.24	0.80	0.26

Table 19. A summary of ANOVA results

	Df	F	Sig.	Post Hoc Tests	Effect size
C1 (In/C-M)	2	0.5	$p = .61$		
C2 (C/M-M)	2	1.49	$p = .23$		
C3 (In/C-M)	2	3.81	$p = .02$	LI < HI*	$r = .04$
C4 (C/M-M)	2	1.23	$p = .29$		
C5 (In/M-C)	2	0.85	$p = .43$		
C6 (C/C-C)	2	0.71	$p = .5$		

Note: ** Significant at the 0.01 level; *Significant at the 0.05 level.

Table 20. Full Tukey post hoc test results

Dependent Variable	Group Comparison		Sig.
C1(In/C-M)	LI	HI	.54
		AD	.1
	HI	LI	.54
		AD	.82
	AD	LI	.1
		HI	.82
C2(C/M-M)	LI	HI	.41
		AD	.32
	HI	LI	.41
		AD	.87
	AD	LI	.32
		HI	.87
C3(In/C-M)	LI	HI	.01
		AD	.22
	HI	LI	.01
		AD	.57
	AD	LI	.22
		HI	.57
C4(C/M-M)	LI	HI	.83
		AD	.16
	HI	LI	.93
		AD	.09
	AD	LI	.16
		HI	.09
C5(In/M-C)	LI	HI	.66
		AD	.53
	HI	LI	.66
		AD	.47
	AD	LI	.53
		HI	.46
C6(C/C-C)	LI	HI	.8
		AD	.24
	HI	LI	.8
		AD	.69
	AD	LI	.24
		HI	.69

Lastly, paired sample *t*-tests made the congruent-incongruent pair comparisons (C1 vs. C2 and C3 vs. C4). According to the results, which are presented in Table 17, in all three levels, the

Korean learners were significantly more accurate with the noun in the congruent categories, C2(C/M-M-) and C4(C/M-M), than the nouns in the incongruent counterparts, C1(In/C-M) and C3(In/C-M) respectively.

Table 21. Paired samples *t*-test

	C1 vs. C2			C3 vs. C4		
	<i>t</i>	Sig.	Effect size	<i>t</i>	Sig.	Effect size
Low-intermediate	-7.04	$p < .001$	$d = 1.16$	-6.16	$p < .001$	$d = 1.02$
High-intermediate	-8.08	$p < .001$	$d = 1.4$	-5.11	$p < .001$	$d = .7$
Advanced	-7.18	$p < .001$	$d = 1.45$	-6.33	$p < .001$	$d = 1.3$

4.6. Summary of the results

This last section of the chapter summarizes the results of the study by answering the research questions.

1. Do Korean learners' countability judgments of L2 nouns correlate with their countability judgments of the counterpart L1 nouns?

The purpose of the plural marker test which examined Korean speakers' acceptability of nouns with *-tul* was to find out what nouns Korean speakers consider countable or uncountable. The learners' countability judgments of the L2 counterpart nouns were examined through the countability judgment task. The mean ratings of the L2 countability judgment task showed that the learners' L2 countability judgments are significantly more inaccurate when the countability of the L1 counterpart nouns is incongruent with that of L2 nouns. This pattern was consistently

shown regardless of noun type. The strong correlations between L1 and L2 countability judgments were confirmed through the Person correlation tests results. The correlations that were calculated for the entire set of the nouns in the two tasks were strikingly high across the three levels, despite that fact that the half of the nouns are supposed to be incongruent in terms of their countability status. The lower learners' proficiency was, the stronger the overall correlations were between the use of the Korean plural marker and L2 countability judgments. The correlations within each of the categories were weak to moderate in most of the noun categories, including the incongruent categories. The within-category correlations for the incongruent categories were stronger in the low- and high-intermediate learner groups compared to the advanced group. These results confirm the hypothesis that learners' countability judgments of L2 nouns correlate with their countability judgments of the counterpart L1 nouns

2. Does Korean speakers' use of the plural marker with L1 nouns influence their article choices with L2 nouns?

The comparisons of the mean accuracy between the congruent and incongruent categories made it very clear that L2 article choice was influenced by the use of the plural marker in L1. The results from the forced-elicitation task showed that the learners of all three groups alike were significantly more accurate with the nouns in the congruent categories than with the nouns in the incongruent categories. The exact same patterns were shown in the results from the translation task in which learners formed L2 NPs on their own. In all three Korean groups, the nouns in the congruent categories yielded significantly higher accuracy rates than the nouns in the incongruent categories. Overall, the countability congruency effects were very strong across the three levels in both tasks, suggesting that L2 article choice is influenced by learners' L1 countability judgments.

3. Do Koreans and Ukrainian learners show similar or different patterns in their L2 countability judgments and article choices?

The answer to this question is yes and no. In both countability judgment task and forced-elicitation task, the advanced Ukraine learners were significantly more accurate with the nouns in incongruent categories when compared to the advanced Korean learners. The congruent-incongruent pair comparisons for the different noun types revealed that unlike the case of the Korean learners, the Ukraine learners' countability judgments and article choice were not affected by countability congruency when nouns were concrete. However, Ukraine learners showed a similar pattern with abstract nouns. Their countability judgments and article use too were less accurate with abstract nouns in incongruent categories. Ukraine learners' lower accuracy with incongruent abstract nouns was not expected and raises questions about possible interaction between noun type and countability congruency effects. The issue will be further discussed later in the following chapter.

Table 22 combines the descriptive statistics of all four tasks for all participant groups. The overview of the results from the four tasks shows clear contrasts between the congruent and incongruent categories. The results of the study were, for the most part, consistent with the predictions made earlier. The Korean learners accuracy rates were affected by countability congruency regardless of task type, noun type and proficiency level. The next the chapter will discuss in detail what the results suggest directly and indirectly regarding the L2 acquisition of English articles and the nature of L1 transfer involved.

Table 22. Combined results

	Plural Marker Test			Countability Judgment Task				Forced-elicitation Task				Translation Task		
	Mean Rating			Mean Rating				Mean Accuracy				Mean Accuracy		
	KOR			KOR		UK		KOR		UK		KOR		
	LI	HI	AD	LI	HI	AD	AD	LI	HI	AD	AD	LI	HI	AD
C1 (In/C-M)	5.06	4.54	4.48	4.2	3.6	3.54	2.37	0.48	0.64	0.69	0.94	0.55	0.61	0.61
C2 (C/M-M)	1.64	1.58	1.57	1.8	1.44	1.48	1.43	0.84	0.9	0.9	0.95	0.91	0.96	0.95
C3 (In/C-M)	4.84	4.72	4.49	4.37	4.09	3.81	2.49	0.41	0.52	0.52	0.75	0.59	0.73	0.67
C4 (C/M-M)	1.73	1.58	1.52	2.07	1.69	1.58	1.32	0.79	0.89	0.91	0.95	0.87	0.91	0.94
C5 (In/M-C)	2.26	2.16	2.11	2.83	2.78	2.65	2.69	0.61	0.53	0.52	0.65	0.44	0.37	0.35
C6 (C/C-C)	4.63	4.81	4.79	4.36	4.54	4.46	4.97	0.82	0.89	0.9	0.94	0.81	0.78	0.84

CHAPTER 5: DISCUSSION

5.1 Evidence of L1 influence

The current study investigated whether L1 transfer at the lexical level plays a role in L2 countability judgments and article choice by Korean learners. Challenging the assumption that Korean does not make the mass-count distinction, the study considered the possibility that the mass-count distinction is available in Korean, though it is expressed in ways that are different from English. The Korean plural marker was identified to be a morphosyntactic device that makes the mass-count distinction in Korean. By using the Korean plural marker test where learners indicate their acceptability judgments on plural-marked nouns, the study tapped into learners' countability judgments in L1. Based on the learners' responses on the plural marker test, nouns that can take the plural marker were assumed to be treated as countable in Korean, and nouns that do not take the plural marker, as non-countable. It was hypothesized that Korean learners' countability judgments and article use in L1 would correlate with their L1 countability judgments as manifested in their use of the plural marker. The study aimed to provide evidence for L1 transfer at the lexical level by testing the hypotheses.

According to Jarvis (2000), the presence of L1 influence can be verified by observing the following possible L1 effects (p.254-255):

- a. Intra-L1-group congruity between L1 and IL performance; learners' use of some L2 feature can be shown to parallel their use of a corresponding L1 feature.
- b. Intra-L1-group homogeneity; learners who speak the same L1 behave in a uniform manner when using the L2.

- c. Inter-L1-group heterogeneity; comparable learners of a common L2 who speak different L1s diverge in their IL performance

Jarvis states that the emergence of any one of these effects could, in principle, reveal the presence of L1 influence, and finding two of the effects could be regarded as a convincing case for L1 influence, but testing all three potential effects would be ideal for ensuring methodological rigor. The current study considered all the three potential effects of L1 influence in finding evidence for L1 transfer at the lexical level in Korean learners' L2 countability judgments and article use. This section discusses how the results of the current study correspond to each of the three types of L1 transfer effects in the order presented.

Starting with intra-L1-group congruity between L1 and IL performance, the study revealed high levels of congruence between Korean learners' use of the plural marker in L1 and their countability judgments in L2. According to the results of the Korean plural marker test and English countability judgment task, nouns that were accepted as countable in Korean were judged to be countable in English, and nouns that were not accepted as uncountable in Korean were judged to be uncountable in English. As a result, learners' countability judgments on nouns in the incongruent categories were significantly less accurate than on nouns in the congruent categories. The high levels of congruency between countability judgments in L1 and L2 were also reflected in the significant differences in Korean learners' article accuracy rates between the congruent and incongruent noun categories in the forced-elicitation task and translation task. In both tasks, learners' article accuracy was significantly lower with nouns in the incongruent categories than in the congruent categories. Countability mismatches between L1 and L2 resulted in lower accuracy rates in learners' article choice across all noun types. The concrete and abstract mass nouns in English whose counterpart Korean words were countable were incorrectly used

with the indefinite article (*a/n*). Similarly, learners incorrectly omitted the indefinite article (*a/n*) with countable nouns in English whose counterpart Korean words were uncountable. In sum, learners' L2 countability judgments and article use were shown to parallel their use of the Korean plural marker. This type of evidence shows “what it is in the L1 that motivates that IL behavior” (Jarvis, 2000, p.255).

Next, the second type of L1 effects, intra-L1-group homogeneity, is found when learners who speak the same L1 behave in a uniform manner when using the L1. The current study included three groups of Korean learners at different levels of proficiency, therefore it was possible to examine whether the Korean learners, within and across the proficiency levels, behave the same way as a group. The study found that the Korean learners performed in a uniform manner, not only within but also across the proficiency levels. Though the advanced and high-intermediate groups often performed significantly better than the low-intermediate group, the three groups exhibited the same pattern; their countability judgments and article choices were always more accurate with nouns in the congruent categories than nouns in the counterpart incongruent categories. This pattern was consistently shown in both forced-elicitation and translation tasks regardless of noun type. The consistent pattern of the results that are found across the tasks and proficiency levels strengthens the argument that L1 is largely responsible for the observed effects in Korean learners' countability judgments and article use.

Lastly, concerning inter-L1-group heterogeneity, the study compared Korean learners to Ukrainian learners to test whether the observed effects were specific to Korean learners only. Unfortunately, the study only had one Ukrainian group that matched to the advanced Korean group. It was hypothesized that Korean advanced learners' accuracy in C1 vs. C2 and C3 vs. C4 would show patterns that are different from that of the Ukrainian advanced learners due to the

effects of L1 transfer at the lexical level that result from countability incongruence between Korean and English nouns. The results showed that the Ukrainian learners were consistent with the predictions only in some of the noun categories: C1 vs. C2. In the concrete noun categories (C1 vs. C2), the Ukrainian learners performed as expected; their accuracy was not affected by countability congruency. However, in the comparison of C3 and C4 which are abstract noun categories, the Ukrainian learners showed the same patterns as Koreans, with significantly lower accuracy rates with the incongruent C3 nouns than with the congruent C4 nouns.

A close examination of the results for individual nouns revealed that there was a high degree of variability in C3; the accuracy of some nouns were markedly lower than the rest of the nouns in the same category. In interpreting data from the control group in a transfer study, Jarvis (2000) warned researchers about instances where learners from different L1 backgrounds do not differ from one another in their use of the L1 simply because the effects of their L1s coincide to produce the same IL behavior. The hypothesis that only Korean advanced learners, but not Ukrainian advanced learners, would be influenced by countability congruency was based on the premise that the countability of the target nouns in Ukrainian is congruent with the counterpart nouns in English but incongruent with the nouns in Korean. In order to find out whether the Ukrainian learners too might have been influenced by the countability of Ukrainian nouns, native speakers of Russian and Ukrainian were consulted to obtain information on the countability of the target nouns in Ukrainian and Russian. It turned out that some of the C3 nouns were actually incongruent with English nouns and congruent with Korean nouns in terms of countability.

Table 23 lists the items in C3 that were particularly problematic for the Ukrainian learners along with their accuracy on the forced-elicitation task and countability in Ukrainian and Russian. According to the informants, Ukrainian speakers are likely to consider these nouns to

be countable because the plural morpheme can be suffixed to these nouns in Ukrainian and Russian. That is, when using the same criterion for the mass-count distinction in Korean, the countability status of these nouns is incongruent with English and congruent with Korean, which gives rise to the countability congruency effects as in the case of the counterpart Korean nouns in C3.

Table 23. Ukrainian learners' accuracy for non-countable individual nouns in C3

Nouns	Category	Accuracy	Countability in Ukrainian	Countability in Russian
<i>information</i>	C3	0.73	Countable	Countable
<i>evidence</i>	C3	0.67	Countable	Countable
<i>research</i>	C3	0.3	Countable	Countable

The most problematic C3 noun which stood out with a strikingly low score was *research*. According to one of the informants, judging the noun countability of *research* can be particularly problematic for Ukrainian learners for two reasons. First, as mentioned already, the counterpart Ukrainian and Russian words can take the plural marker, thus Ukrainian learners might consider the word to be countable based on their knowledge of Ukrainian and/or Russian. Second, while English makes the distinction between the abstract concept (e.g. /research/), and specific instances of research (e.g., /a study/), Ukrainian and Russian have only one word for both *research* and *a study*, which can be pluralized, thus is considered to be countable. Korean is similar to Ukrainian and Russian in this regard. Both *research* and *a study* are translated into one word in Korean, and the word can take the plural marker *-tul*. Since the two words are not differentiated in Korean and Ukrainian, it is possible that Ukrainian and Korean learners consider

research and *a study* to be alike in terms of countability. If the countability of the two words is assumed to be the same, it is likely that they are considered to be countable since the L1 counterpart words in Korean and Ukrainian are countable. Future research could further examine whether this type of transfer is possible in other languages.

In conclusion, Ukrainian learners' unexpected results that were similar to those of Korean seemed to be L1-induced by a similar process as in Korean. It seems that Korean and Ukrainian learners alike had confusion with some of the C3 nouns for the same reasons. Therefore, these results from the control group should not discount but rather corroborate the argument for L1 transfer at the lexical level.

With all three potential effects of L1 influence identified, the study provides necessary and sufficient evidence to show that L2 countability judgments and article use exhibit L1 influence at the lexical level.

5.2. L1 Transfer at the lexical level

L1 transfer that was examined in the current study had to do with how individual lexical items are treated in L1. This type of transfer that arises at the lexical level is different from the type of L1 transfer that has been argued by the parametric account (e.g. Snape, 2008) to be the primary source of L2 article problems. According to the parametric account (e.g. Snape, 2008), L2 article errors occur because learners treat all nouns as a single category of mass nouns due to the influence from the L1 parametric setting which governs noun formation. Korean belongs to the group of [+arg, -prd] languages that requires neither articles nor number marking while English belongs to the group of [+arg, +prd] languages in which all nouns need to be licensed by projecting a functional determiner. Transferring the Korean setting in L2 English production

would result in overuse of bare nouns in English, which are ungrammatical when nouns are countable. Therefore, concerning article choices between the indefinite articles (a/n) and zero article, the parametric accounts predicts overuse of zero article, but not overuse of the indefinite articles. The learners' tendency to overuse zero article affects their article accuracy with count and mass nouns in the opposite directions; high accuracy with count nouns and low accuracy with mass nouns.

On the other hand, the current approach which takes into account the individual lexical items does not make predictions regarding noun type (count vs. mass) or article error type (overuse vs. underuse of indefinite articles). Instead, the countability of individual words, and the countability congruency between L1 and L2 is predicted to play a role in L2 countability judgments and article use. Learners' article errors that occur due to transfer at the lexical level manifest learners' misjudgment of noun countability for individual words rather than mistreatment of the entire noun class as mass nouns. Distinguishing between L1 transfer at the lexical level and transfer of the L1 parameter setting is not always possible. For example, when a learner incorrectly omits the indefinite article (*a* or *an*) with a count noun in indefinite context, it is not clear whether the omission error was made because the learner considers all English nouns as be masslike due to transfer of the Korean parametric setting, or because the learner incorrectly judged the countability of the particular noun based on his or her L1 knowledge. In previous research, all article omission errors were treated as the case of the former. In order to tease apart the two different types of L1 transfer, the current study included a measure of L1 countability judgments, and categorized nouns in a way that the two types of transfer could be differentiated by the different predictions they make.

The Korean learners in the current study often made article choices that support the view of transfer at the lexical level and contradict the parametric account. The Korean learners across all levels often incorrectly overused the indefinite articles with both concrete and abstract mass nouns in the incongruent categories. Also, inconsistent with the parametric account that predicts higher accuracy with mass nouns over count nouns, learners were significantly more accurate with congruent count nouns than with incongruent mass nouns. Again, these results do not necessarily mean that L1 parametric setting has no effect on learners' L2 article use. The fact that bare nouns with no articles are allowed by the L1 parametric setting may exert influence on L2 NP formation. In other words, Korean learners may sometimes omit articles because NPs in L1 are generally formed with no article rather. However, the current findings show that among the intermediate to advanced level learners, the effects of transfer at the lexical level is more prominent than the effect of transfer of L1 parameter setting.

The evidence of the countability congruency effects that arise as a result of L1 transfer at the lexical level has theoretical implications for understanding countability features in classifier languages. Regarding the mass-count distinction in classifier languages, the study showed that some aspects of classifier languages are mischaracterized by the NMP, according to which plural marking and the mass-count distinction do not exist in classifier languages. The results of the plural marker test showed that various types of Korean nouns can be pluralized, and Korean speakers distinguish nouns that can take the plural marker from nouns that cannot. Though classifier languages do not have articles, as accurately described by the NMP, it does not necessarily mean that the mass-count distinction is entirely missing in these languages. The NMP makes a misstep by equating 'no article' to 'no mass-count distinction', failing to recognize the fact that classifier languages may have other ways to express the meanings denoted by the

English articles. The misunderstandings about classifier languages occurred by making crosslinguistic comparisons between L1 and L2 at the level of parameter setting. Taking a look at relevant features beyond the level of parameter settings can reveal similarities and differences that might not be captured by the values of the parameter settings ([+feature], or [-feature]). In the current case, when the countability features were reexamined from the feature assembly perspective, Korean turned out to be similar to English in that Korean too makes the mass-count distinction like English, however, the two languages were also very different from each other in how the features are assembled. It was these new revelations about classifier languages that opened the possibility of investigating the effects of L1 transfer at the lexical level which has not been considered before in the acquisition of English articles by speakers of classifier languages.

Some may point to the fact that Koreans often disagreed on whether nouns can take *-tul* to argue whether Korean has truly selected [+count] or [+plural]. As Lardiere (2009, 196) puts it, “If a language has productive plural-marking but does not require it obligatorily, has it actually selected the feature from the universal set of features? (Lardiere, 2009, p196) ” Whether Korean should be classified as a [+plural] [+count] language or a [-plural] [-count] language is an important question for a theoretical discussion in linguistics. Unfortunately, there is little consensus among linguists about what criteria should be used to determine whether a language has truly selected a feature (Lardiere, 2009). As for second language researchers, this question carried a weight of significance in generative approach to second language acquisition. Under the SLA-as-the-parameter-setting approach, it was considered that features that are not present in learners’ L1 are harder to acquire than features that are accessible to adult learners through L1 (e.g., Hawkins, 2005; Tsimpli & Dimitrakopoulou, 2007). Therefore, whether or not a language has selected the feature in question becomes the basis for formulating hypotheses and providing

a theoretical account for observed L2 phenomena. This was also true for previous research in acquisition of articles by classifier languages. The parametric account hypothesizes that articles would be difficult to acquire for speakers of classifier languages based on the fact that the countability features are missing in their L1s. In this approach, changing the status of classifier languages from [-count] to [+count] would completely alter the direction of the hypothesis. If classifier languages are assumed to have the same status as English, prevalent article errors by speakers of classifier languages would not be predicted in the first place, and it would be difficult to provide a theoretical account for why English articles are so problematic for classifier languages as shown in many studies.

On the other hand, when viewed from the feature reassembly approach, whether or not classifier languages should be considered to belong to the same group as English based on their parameter setting becomes less important. According to the feature reassembly approach, second language acquisition is much more complex than what has been previously described as a matter of parameter-resetting or feature selection. Even when learners' L1 and L2 appear to have selected the same feature, the exact specification of the feature might greatly differ in two languages. As in the case of the [+plural] feature in Korean and English, the feature could be assembled in totally different ways that "the [+plural] in one language is not exactly the same feature as [+plural] in another language" (Lardiere, 2009, p. 215). Therefore, the challenge of the learning task cannot be determined by the mere fact that the relevant features exist in L1.

The current study showed that even though Korean and English seem to have selected the same feature, [+count], the reassembly of the features poses great difficulty for Korean learners because the features in L1 and L2 have different restrictions, co-occur with different morphosyntactic elements, and are distributed over different sets of lexical items. The Korean

learners in the current study seemed to be quite successful with the task of appropriately expressing the countability features on articles; they correctly used indefinite articles with nouns that they judged as countable, and zero article with nouns that they judged as uncountable. However, the influence from L1 hindered identifying a right set of L2 nouns for which articles should or should not be used. The Korean learners often misused articles because the L2 mass-count distinctions were still being made based on nouns' association with the L1 countability features (e.g., *-tul*) rather than the L2 countability features (e.g. articles).

The evidence of L1 transfer at the lexical level found in the study is a intriguing case of L1 transfer when considering that the English articles and Korean plural marker are not formal morpholexical equivalents as the case may be between the English plural marker (-s) and the Korean plural marker. Even though the Korean plural marker and English articles express the same feature [+countability], learners might not recognize the fact as immediately as they might with the English plural marker (-s) and the Korean plural marker. L1 transfer could be more easily observed when L2 acquisition concerns a L2 element whose morpholexical equivalence is found in L1 because learners initially might assume that the L1 and L2 features work the same way. For example, as Lardiere (2009) discusses, speakers of English who are acquiring Korean plural marking are likely to think of a counterpart equivalent in L1, and may assume that English plural morpheme (-s) may function the same way as the Korean plural marker (*-tul*). However, in case of acquiring L2 articles, it might not easily occur to Korean learners that English articles and Korean plural marker realize the same feature. What might be more obvious to the learners would be the fact that there is no article system in Korean.

It is unlikely that learners would consciously think about what nouns take *-tul* to decide whether those nouns should be used with articles or not. Korean *-tul* and English articles are

only indirectly linked through an intermediary concept of countability and learners may not be aware of the link that exists between the Korean plural marker and English articles. Regardless, it is apparent that use of L2 words triggers the mental links between the counterpart L1 words and their associated features. To illustrate, when the learner is faced with a need to use a L2 word, *problem*, for example, its counterpart L1 word (*munje*) is likely to be activated, which, in turn would activate all semantic and morphosyntactic information of the L1 word, including that the word can take the plural marker, thus, is a countable noun. The information that *munje* in Korean is a countable noun would trigger the link to another piece of information that singular countable nouns in English are used with *a/n* in indefinite context. At the end of the process, learners' would correctly use *a* with *problem*. Based on the positive outcome, this process can be described as positive transfer. Unlike congruent nouns, incongruent nouns cause negative transfer. For example, with an incongruent word, *evidence*, for example, the learner might decide to use the indefinite article (*an*) when the information that the counterpart Korean word (*jeungu*) can be used with the plural marker is activated and influences the article choice.

How the use of the Korean marker (*-tul*) influences English article choice shows that the words we know in our L1 and L2 are deeply interconnected. Korean learners acquire the implicit knowledge of the mass-count distinction in L1 while using and being exposed to a variety of morphosyntactic elements in Korean, including the plural marker (*-tul*), consequently, noun countability becomes part of learners' knowledge of word meanings. According to Jarvis and Pavlenko (2010) when learners acquire L2 words, it is likely that L1 meanings underlie L2 words until they become aware of the differences between L1 and L2 words. Research on lexical transfer also shows that learners tend to assume a semantic equivalence between words in the new language and their perceived translation counterparts in a language already known

(Hasselgren, 1994). The delayed acquisition of L2 noun countability shown in the study is understandable because when a noun is treated as countable according to the L1 grammar, learners would initially assume that the counterpart L2 word that is supposed to refer to the same or similar entity or concept share the same meanings in terms of countability. The pervasive errors in L2 countability judgments even among the advanced-learners suggest that Korean learners do not depart from that assumption even after their proficiency in English has reached intermediate to advanced levels. In order to make use of L2 input in coming to the realization that L1 and L2 words might differ in their countability, learners should recognize that English articles and plural marker express the mass-count distinction. One would think that the presence of plural marker (-s) in English which is the direct morpholexical counterpart of the Korean plural marker might be particularly helpful for acquiring the information on L2 noun countability. Investigating learners' plural marker use with count and mass nouns in English could be helpful to better understand learners' issues with L2 countability judgments. However, the current study focused on learners' article use only because part of the motivation for investigating L2 countability judgments was to understand learners' problems with using articles correctly.

Lastly, I would like to discuss an unexpected result from the Korean plural marker test that suggests a possibility of reverse L1 transfer at the lexical level. The current study unexpectedly found significant differences among the three Korean groups in their acceptability ratings for plural-marked nouns in two of the incongruent categories (C1 and C3). The nouns in both C1(In/C-M) and C3(In/C-M) are supposed to be countable in Korean but are uncountable in English while the former consists of concrete nouns and the latter, abstract nouns. In the plural marker test, both advanced learners and high-intermediate learners rated the C1 nouns significantly lower than the low-intermediate learners, indicating that to the high-intermediate

and advanced learners, the C1 nouns were not as clearly countable as they were to the low-intermediate learners. With the nouns in C3, the advanced learners were significantly different from the low-intermediate learners in their acceptability ratings. Again, the advanced learners gave significantly lower ratings than the low-intermediate learners, showing that the advanced learners considered the nouns less countable than the low-intermediate learners. In both categories, higher-level learners' L1 countability judgments were significantly closer to the uncountable side of the countability rating scale than the countability judgments of lower-level learners. These findings suggest that there is a possibility that higher-level learners' L1 countability judgments are affected by the L2 grammar. The possibility of L2 English grammar influencing native Korean speakers' countability judgments of L1 nouns was also mentioned by Suh (2008), who also found unexpected behaviors among the native speakers of Korean. In her study on heritage learners' acquisition of Korean plural marking, Korean speakers in the control group varied in their acceptability ratings of ungrammatical NPs. Plural-marked nouns can co-occur with a classifier (measure word) in English, but it is ungrammatical in Korean. However, 20% of the control group accepted the ungrammatical NPs. In discussing the unexpected results, Suh mentioned that Korean speakers' exposure to and proficiency in English might have influenced their grammaticality judgments of ill-formed NPs in L1. Whether transfer at the lexical levels could occur from L2 to L1 should be further investigated in future research.

5.3. L2 countability judgments and article use

The current study provides direct evidence that countability judgments are indeed a major source of L2 article errors. In the current study, Korean learners' article accuracy was lower with the incongruent nouns whose countability was misjudged and higher with the congruent nouns whose countability was correctly judged. The results are consistent with Butler (2002) and White

(2010) who claimed based on learners' verbal and written reports that L2 article errors are often caused by misdetection of noun countability. The current study adds quantitative evidence to confirm the previous finding.

L2 countability judgments were still very problematic for the advanced level learners as well. While the high-intermediate learners were more accurate than the low-intermediate level learners in 4 of the 6 noun categories in the forced-elicitation task, the advanced learners did not perform significantly better than the high-intermediate learners in any of the categories. What was most striking was that in the translation task, the advanced learners were not significantly better than low-intermediate learners in any of the noun categories, let alone the high-intermediate learners. The data of the current study suggest that learners initially make improvement in their article accuracy as their L2 proficiency improves from low-intermediate to high-intermediate levels, but little progress is made after their proficiency reaches a certain point. Previous research also noted that problems with countability judgments are persistent among advanced level learners (Butler, 2002; Master, 1987). Butler (2002) reported that Japanese advanced learners frequently made errors in detecting definiteness, and their misdetection of definiteness was often caused by their inaccurate countability judgments. During the interview with the researcher, the Japanese learners including the advanced learners often cited the difficulty of detecting countability. Butler argued that advanced learners' problems with countability were one of the most significant hurdles for them to overcome in properly detecting definiteness and using articles appropriately.

But why do the learners at different proficiency levels perform similarly on the translation task unlike on the forced-elicitation task. In the forced-elicitation task, the high-intermediate and advanced learners were differentiated from the low-intermediate level learners

by significantly higher accuracy in many of the noun categories. However, in the translation task, despite the significant differences in their English proficiency, in most of the noun categories, no significant differences among the three groups were found in their article accuracy. A comparison of the means scores between the translation task and the forced-elicitation task for each category and proficiency group revealed that the reason why the score gaps among the three groups were narrower on the translation task than on the forced-elicitation task was because the low-intermediate learners' scores for the four mass noun categories were much higher on the translation task.

The low-intermediate learners' distinctively higher accuracy on the translation task seemed to be related to the differences in the nature of the two tasks. In the forced-elicitation task, learners were asked to choose between the indefinite article (a/n) and zero article for each of the target nouns. Since the task, by design, forces learners to think about noun countability, learners are more likely to become more conscious of their article choice than usual as the task forces them to think about noun countability. In such task condition, learners' are more likely to be affected by L1 transfer at the lexical level than their tendency of omitting articles due to transfer of the L1 parameter setting. This may or may not increase learners' article accuracy depending on the countability congruency of the nouns involved. While the forced-elicitation task draw learners' attention directly to articles, learners are less likely to focus on their article use during the translation task. In addition, since Korean sentences usually do not contain elements that overtly express number, countability and (in)definiteness of nouns apart from its context, in order to produce appropriate NPs in English, learners have to add these components to NPs in English when translating from Korean to English. In such condition, learners, particularly at lower levels, are likely to overuse bare nouns because the Korean NPs, including the ones in the

given sentences they are translating, often have no articles. Learners' overuse of zero article would increase the accuracy with mass nouns and lower the accuracy with count nouns. With the same mass nouns for which they chose the indefinite article (*a/n*) in the forced-elicitation task, the low-intermediate learners showed the tendency of omitting articles in the translation task. The high-intermediate learners and advanced learners, on the other hand, were more consistent in their article use regardless of task type.

The learners' tendency of omitting articles and overusing bare nouns that was shown in the translation task among the low-intermediate level learners suggests that L1 transfer of the parameter settings also has effects on lower-level learners' article use. As I discussed before the fact that no article is needed in NP construction in Korean is likely to contribute to overusing bare nouns in English. In this regard, the parametric account is valid to an extent. However, note that even though the effects of the transfer of L1 parameter settings were detected among the low-intermediate levels, the effects were insignificant. In both forced-elicitation task and translation task, the low-intermediate learners too were significantly less accurate with incongruent mass nouns than with congruent mass nouns. If transfer of L1 parameter setting played a main role in learners' article use, there would have been no significant difference between the congruent and incongruent nouns. The current findings show that learners' countability judgments and article use are largely influenced by L1 transfer at the lexical level, and the effects of transfer of L1 parameter are minimal.

5.4. Noun type effects

In the current study, the countability congruency effects that arise as a result of L1 transfer at the lexical level were a much more prominent factor for L2 article accuracy than the

noun type effects. In Table 24, I ordered the 6 categories according to their accuracy rates from the category with lowest accuracy (most difficult) to category with the highest accuracy (least difficult). In both forced-elicitation and translation tasks, the three lowest accuracy rates were of the incongruent categories and three highest rates were of the congruent categories. Previous research on L2 article use reported that learners have more difficulty with abstract nouns in general than concrete noun (Butler, 2002; White, 2010). This finding was not supported in the current study. The Korean learners were significantly more accurate with congruent abstract nouns than with incongruent concrete nouns, suggesting that noun type based on concreteness did not matter as much as countability congruency did.

Table 24. Difficulty hierarchy of the 6 noun categories

Forced-elicitation task		
	Most difficult	Least difficult
Low-intermediate	C3 > C1 > C5 > C4 > C6 > C2	
High-intermediate	C3 > C5 > C1 > C4 = C6 > C2	
Advanced	C3 = C5 > C1 > C2 = C6 > C4	
Translation task		
	Most difficult	Least difficult
Low-intermediate	C5 > C1 > C3 > C6 > C4 > C2	
High-intermediate	C5 > C1 > C3 > C6 > C4 > C2	
Advanced	C5 > C1 > C3 > C6 > C4 > C2	

However, there was one noun category in which the noun type effects could not be controlled: C5(In/M-C). Both advanced Korean and Ukrainian learners frequently made article errors with the nouns in C5(In/M-C) which included abstract nouns that can be either countable or uncountable. Due to the flexibility in their countability status, article choice for the C5 nouns additionally requires sensitivity to the context. According to the results of the countability judgment tasks, both Korean and Ukrainian learners tend to consider the C5 nouns to be uncountable, which account for article omission errors that frequently occurred in both advanced Korean and Ukrainian groups. According to Amuzie & Spinner (in press), who also found similar results regarding the nouns with dual countability memberships, learners have more difficulty with the C5 nouns that are often associated with atelic dynamic verbs. Amuzie and Spinner discusses that the boundedness of abstract nouns based on the boundedness of the verbs and adjectives that the nouns are derived from or associated with (Paradis 2005; Barner *et al.* 2008). According to these analyses, the boundedness of verbs stems from the inherent temporal boundaries of the event denoted by the verb (lexical aspect), while the boundedness of adjectives stems from the gradability of the adjective (Paradis 2001). Amuzie and Spinner reported that learners were more accurate with nouns that are associated with stative verbs (e.g. *to hate, to love*) and nouns that are associated with achievement or iterative verbs (e.g., *to jump, to kick*) in judging their countability because stative actions are clearly unbounded in that they clearly do not have an end point while achievement actions are clearly bounded with an immediate end point. On the other hand, the C5 nouns fall between the two on the continuum of boundedness, thus, the temporal boundaries of the dynamic actions or events might be less clear to the learners, making their countability judgments more difficult.

Some researchers suggested that learners tend to view noun countability as a fixed, static property of nouns (e.g., Butler, 2002; Yoon 1993). If this is true, learners' chance for making article errors increases when the C5 nouns appear in countable context as in the current study, because learners tend to view them as uncountable nouns. However, since the C5 nouns were not used in mass contexts in the current study, no evidence is available to claim that the learners at intermediate to advanced levels consider countability to be static and unchangeable.

5.5. Pedagogical implication

The current study shows how complex and daunting the learners' tasks are in acquiring L2 articles and how difficult it is for learners to overcome the L1 influence. Teaching noun countability would be an enormously difficult job especially for those who work with learners from classifier language backgrounds. The instruments of the study consisted of nouns that are quite frequently used. Yet, the results of the L2 countability judgment tasks show that learners even at advanced levels often misjudged the countability of L2 nouns. Considering that noun countability contributes to word meaning only in a very subtle way, providing explicit instruction on noun countability might be beneficial for learners to help them recognize that articles express noun countability, and that nouns in L1 and L2 may differ in their countability. Then, how should noun countability be taught to best help learners to accurately use article? The current study does not provide a direct answer for the question, however, some aspects of the current findings have pedagogical implications, which I discuss in this section. The teaching suggestions that are provided below are most relevant for those who teach Korean learners of English since the data of the study came from that population.

According to the results of the study, learners' accuracy significantly decreases when L2 noun countability is incongruent with L1. The finding suggests that if a teacher has the knowledge of learners' L1, he or she might be able to identify words that are likely to cause more problems for the learners in making countability judgments. One may think that it would be unproductive and unrealistic to create a list that includes all nouns whose countability is incongruent with that of the L1 counterparts. The list is likely to end up being very long if all incongruent nouns are combined and presented altogether in one list. However, if the incongruent nouns could be categorized based on their noun type (concrete vs. abstract, count vs. mass) like how they were categorized in the current study, the number of examples of incongruent nouns for each noun type is would not be endless. Table 25 shows an example of how incongruent nouns can be presented by noun type for Korean learners of English. The two categories in Table 20 are C1 and C3 that were included in the study instruments and the examples listed for each categories are mostly the target nouns used for C1 and C3. Note that it took three rounds of testing to identify these incongruent nouns because a vast majority of Korean nouns were actually congruent with English in terms of countability according to how Korean used *-tul* with nouns, and it was difficult to find more than 6 nouns for incongruent categories. One might be able to add many more food items that could go to the first category but only a few more can be added to the second category. The list of these examples will be useful as

Table 25. Nouns that frequently cause article errors

	Noun Type	Countability In English	Examples
1	Concrete	Mass	cabbage, corn, furniture, equipment, luggage, trash, fruit, food
2	Abstract	Mass	advice, evidence, information, homework, news, research, vocabulary

these are mostly high-frequency words. The second category in particular includes words that are very frequently used in academic contexts, and as shown in the study, learners often incorrectly use the indefinite articles with them. Going over the list by noun type and showing learners how they are used in real contexts would help increase article accuracy with these words.

One incongruent category that is left out that teachers should consider covering is C5. I suggest teaching the C5 nouns separately from other incongruent noun types due to their unique characteristics. Many abstract nouns in English like the nouns in C5 can be either countable or uncountable. In the current study, both Korean and Ukrainian learners had difficulty with this type of abstract nouns. It could be that learners are not aware that these nouns can be either count or mass nouns. Showing learners how the same words are used in countable and uncountable ways in different contexts would not only solve this problem but also help increase their sensitivity to countability context. The reason why I suggest that this type of noun be taught separately from others was that by doing so, teachers can emphasize to learners that it is only certain types of nouns that behave this way. Abstract nouns often tend to be treated as a single category (Amuzie, 2011). Presenting abstract nouns by noun type and showing how each of them is different in terms of countability can help learners avoid making inaccurate generalizations about abstract nouns.

5.6. Limitations

The current study has several limitations that should be addressed. The chief limitations of the study stemmed from the control group. While there were three groups of Korean participants (low-intermediate, high-intermediate and advanced level), there was only one advanced group of Ukrainian learners. Having more Ukrainian learners whose proficiency levels

match those of the low- and high- intermediate Korean would have helped interpreting the results of both Korean and Ukrainian learners in many ways. For example, the advanced Ukrainian learners like the Korean learners were significantly less accurate with some of the C3 nouns. Based on the information provided by the native speakers of Ukrainian learners, I concluded that the results were likely to be induced by L1 transfer at the lexical level. This argument could have been further substantiated if the same but stronger L1-induced effects were found among lower-level Ukrainian learners. Alternatively, investigating Ukrainian learners' countability judgments of the L1 counterpart words could have solved the same problem. Unfortunately, the Ukrainian learners only completed the forced-elicitation task but not the L1 countability judgment task. Thus, it was impossible to run correlation analyses between the two. Another point to note regarding the control group is that, according to the background questionnaires, all of the advanced Ukrainian learners in the study were learning German, which is a language with an article system. Few Korean advanced learners, however, reported any experience with another foreign language other than English. It is possible that Ukrainian learners might have had more awareness about the use of English articles than the Korean learners due to having more exposure to various foreign languages.

Secondly, the current study included a translation task in order to elicit spontaneous L2 article use. The translation task was preferred over other types of production tasks (e.g. free writing) because the translation task could force learners to use the target nouns in indefinite contexts. This was necessary because learners' countability judgments cannot be determined if the nouns were used with the definite article (*the*). However, the translation task turned out to have its own problems. Since there is a variety of ways to translate the same sentence, learners often avoided using the target nouns. In fact, this had been expected and in order to avoid this

problem, specific words or expression were provided for each target sentence in the translation task. The Korean participants were told to use these words and expressions in their translation. However, despite the specific instruction given to them, many participants ended up not using the target words. It turned out that some learners simply ignored the instruction and others, especially lower-level learners, were not able to use the expressions in their translations. Due to limited proficiency in English, the low-intermediate learners tended to translate the sentences word-by-word, and often they could not think of a way to translate the sentence using the provided words or expressions. Also, some learners used the definite article even though the use of the definite article would slightly change the meaning of the original Korean sentence. I suggest that future research investigating learners' article production consider using a sentence-completion task as an alternative. A sentence-completion task has the benefits of the translation task such as having control over semantic context, vocabulary and syntax, but still allows learners to form NPs on their own, while avoiding the problems that were discussed.

Another point to note is that learners' article accuracy with the C5 nouns seemed to be affected by both the countability congruency effects and confusion created by the flexible nature of their countability. With these two variables confounded, it is hard to evaluate to what extent each of the two variables contributed to learner difficulty with these nouns. Since these nouns were only used in countable context in the current study, it is not clear whether the learners' problems with these noun had to do with not knowing that some nouns can be used either way or having difficulty of determining the countability context despite knowing that some nouns can be either count or mass nouns.

A last point, which is not necessarily a limitation but should be discussed, is the fact that the study included a very small portion of nouns. This was largely because of the difficulty with

identifying Korean nouns whose noun countability was clearly incongruent with that of the counterpart English nouns. According to the pilot plural marker tests, most concrete countable nouns in Korean were congruent with English nouns in their countability. The study included equal numbers of congruent and incongruent concrete nouns for research purposes. However, they by no means represent the ratio of between congruent and incongruent nouns in general. Also, it was difficult to categorize most abstract nouns in Korean into count or non-count category because Koreans greatly differed in their acceptability of plural-marked abstract nouns, and their mean ratings fell in the mid range on the acceptability scale. However, note that many abstract nouns in English, as those in Korean, are not clearly countable or uncountable because they can be used in either countable or non-countable ways depending on the context. It is likely that the countability ratings of many abstract nouns in English would have similarly patterned the acceptability ratings of Korean abstract nouns on the plural marker test if the English nouns were presented in a context-free list. Therefore, this issue illustrates the nature of the countability of abstract nouns in Korean. However, the fact that abstract nouns in both English and Korean fall in the middle of the countability continuum does not make countability judgments with English abstract nouns easy for Korean learners. Even though the countability of many abstract nouns in English may be congruent with Korean abstract nouns in context-free situations in that they both are not clearly countable or non-countable, it is rarely the case that English abstract nouns can be both countable and non-countable in a given context. While the countability of many abstract nouns in English can change from context to context, when they appear in a certain context, they are either countable or non-countable. Therefore, Korean learners must discern whether an abstract noun is being used as countable or non-countable in a given context in order to correctly use English articles in indefinite contexts. Since the countability of Korean abstract nouns is

unclear, it is plausible that learners have difficulty with determining the countability context of abstract nouns. This could be one of the reasons why abstract nouns are harder than concrete nouns for Korean learners in making countability judgments.

5.7. Future research

There are some questions that arose from the current findings that remain unanswerable that future research can address. Starting with the most important finding, the current study showed that L1 transfer at the lexical level has effects on learners' L2 English article choice. The current finding suggests fruitful avenues for future research on L2 article acquisition by speakers of other classifier languages. For example, as noted by some researchers (e.g., Cheng & Sybesma, 1998; Li, Barner & Huang, 2008; Lardiere 2009, 2010), Chinese arguably has their own plural-marking and mass-count distinction systems that operate by using the plural suffix (*-men*) and classifiers (mass classifier vs. count classifier). Based on the current finding, Chinese learners' L2 countability judgments and article use could also be affected by L1 transfer at the lexical level. By reexamining the countability features other classifier languages in the light of the feature reassembly approach, future research could investigate the possibility of L1 transfer at the lexical level or other type of L1 transfer during L2 article use among the speakers of other classifier languages.

The current study also identified a noun type that needs more research: abstract nouns that can be used as either count or mass nouns. The same noun type has been reported to be very problematic for Korean learners by Amuzie and Spinner (in press), the only previous study that included a variety of abstract nouns. It is obvious that learners are more confused with this particular group of abstract nouns. What remains unclear is whether the confusion arises due to

the difficulty of determining the countability context or the effects of L1 transfer at the lexical level or the combination of both. Future research should focus on nouns with dual countability memberships to address the issue. In both Amuzie & Spinner (in press) and the current study, abstract nouns that were included in the category of nouns with flexible countability were all verb-related; they were derived from or associated with verbs. As suggested by Amuzie and Spinner (in press), future research should also consider including other abstract nouns whose countability is flexible but are not related to verbs, such as *environment*, *culture*, or *language* to have a complete array of abstract nouns with flexible countability.

A last topic for future research that I would like to mention is the possibility of L2 influence on L1 countability judgments. The current finding that significant differences existed between the advanced learners and low-intermediate learners in their acceptability ratings for plural marked Korean nouns in two of the incongruent categories (C1 and C3) raises the possibility that among higher-level learners, reverse transfer from L2 to L1 could occur at the lexical level. This should be a potential topic future research for those who are interested in the effects of L2 acquisition on L1.

5.8. Conclusion

The current study investigated L1 effects on L2 article use, and in doing so, it considered how the countability features were assembled in Korean. Based on research findings that the mass-count distinction in Korean is expressed on the plural marker (*-tul*), the study hypothesized that Korean's use of *-tul* might influence their countability judgments of English nouns that are realized on English articles. The results showed that Korean learners' countability judgments and article choice were influenced by how the individual words were treated in Korean, showing that

L1 transfer arises at the lexical level. Regardless of L2 proficiency, noun type and task type, learners were consistently less inaccurate with incongruent nouns than congruent nouns. The learners' errors shown in the current study contradicted the predictions by the parametric account, according to which speakers of classifier languages treat all nouns as masslike. Korean learners in the study often incorrectly overused the indefinite articles with mass nouns, suggesting that Korean learners consider certain mass nouns in English as countable due to the L1 transfer at the lexical level. On the other hand, the marginal effects of transfer of L1 parameter setting were also detected in the translation task among the low-intermediate level learner, indicating proficiency and task effects exist though minimal.

The current study showed that the feature reassembly as a theoretical framework allows finer-grained analyses and offers more accurate account of L2 article choice by speakers of classifier languages than the previous parametric account. The feature reassembly approach illuminated the nature of L1 influence in L2 article acquisition by speakers of classifier languages, and in turn, the complexity of learning tasks faced by learners in acquiring L2 articles. The current findings support the hypothesis that learners' problems with L2 countability judgments and article use were posed by the language-specific assembly of the countability feature in Korean. Korean learners even at an advanced level still seemed to associate the countability of L2 nouns with the way the countability feature is expressed in L1, which resulted in inaccurate countability judgments and misuse of articles.

Overall, the study makes a valuable contribution to the literature on L2 acquisition of English articles by speakers of classifier languages. The current study has revealed that L1 influence goes much deeper than the level of parameter-setting, as previously known. L1 influence comes down to the level of individual lexical items. Also, the current study has shown

that acquiring L2 articles is a much more complex task than what has been previously described by the parametric account. The new information and insights gained from the current study should be certainly important for moving toward the goal of having a more complete understanding of L2 acquisition of English articles by speakers of classifier languages.

For teachers and learners of English who often wonder why English articles seem impossible to master, the current study gives a more accurate description of challenges learners are faced with and what it takes for speakers of classifier languages to successfully acquire L2 articles. This does not ease the pain for learners from classifier language backgrounds. However, showing exactly what they need to go through should better serve learners than inaccurately underestimating the difficulty of learning tasks as was done by the parametric account. I believe that the picture of their tasks that was quite obscure has been made more accurate and detailed by the current study, therefore should better guide their learning and teaching in the long term.

Appendices

Appendix A. Korean plural marker test (Translated in English)

Some nouns in Korean can take the plural marker(-tul) but some nouns cannot. Below you will see a list of nouns with the plural marker. How natural do they sound to you. Rate the acceptability of each plural-marked noun on the scale.

Example)		Totally unacceptable					Totally acceptable
	hakseng-tul [student-PL]	1	2	3	4	5	6
	jungwi-tul [justice-PL]	1	2	3	4	5	6

1. [homework-PL]	1	2	3	4	5	6
2. [rule-PL]	1	2	3	4	5	6
3. [submission-PL]	1	2	3	4	5	6
4. [food-PL]	1	2	3	4	5	5
5. [cabbage-PL]	1	2	3	4	5	6
6. [oil-PL]	1	2	3	4	5	6
7. [change-PL]	1	2	3	4	5	6
8. [information-PL]	1	2	3	4	5	6
9. [equipment-PL]	1	2	3	4	5	6
10. [education-PL]	1	2	3	4	5	6
11. [decision-PL]	1	2	3	4	5	6
12. [trash-PL]	1	2	3	4	5	6
13. [success-PL]	1	2	3	4	5	6
14. [courage-PL]	1	2	3	4	5	6
15. [advice-PL]	1	2	3	4	5	6
16. [vocabulary-PL]	1	2	3	4	5	6
17. [suggestion-PL]	1	2	3	4	5	6

18. [creativity-PL]	1	2	3	4	5	6
19. [mistake-PL]	1	2	3	4	5	6
20. [patience-PL]	1	2	3	4	5	6
21. [research-PL]	1	2	3	4	5	6
22. [result-PL]	1	2	3	4	5	6
23. [news-PL]	1	2	3	4	5	6
24. [evidence-PL]	1	2	3	4	5	6
25. [furniture-PL]	1	2	3	4	5	6
26. [fruit-PL]	1	2	3	4	5	6
29. [salt-PL]	1	2	3	4	5	6
30. [safety-PL]	1	2	3	4	5	6
31. [honesty-PL]	1	2	3	4	5	6
32. [luggage-PL]	1	2	3	4	5	6
33. [corn-PL]	1	2	3	4	5	6
34. [heat-PL]	1	2	3	4	5	6
35. [snow-PL]	1	2	3	4	5	6
36. [smoke-PL]	1	2	3	4	5	6
37. [air-PL]	1	2	3	4	5	6
38. [sugar-PL]	1	2	3	4	5	6
39. [repetition-PL]	1	2	3	4	5	6
40. [communication-PL]	1	2	3	4	5	6

Appendix B. English countability judgment task

Directions: Indicate the countability of each noun on a scale of 1 to 6.

Example)	Always non-countable					Always countable	
computer	1	2	3	4	5	<u>6</u>	
knowledge	1	<u>2</u>	3	4	5	6	

	Always non-countable					Always countable	
1. homework	1	2	3	4	5	6	
2. rule	1	2	3	4	5	6	
3. submission	1	2	3	4	5	6	
4. cabbage	1	2	3	4	5	6	
5. oil	1	2	3	4	5	6	
6. food	1	2	3	4	5	6	
7. change	1	2	3	4	5	6	
8. information	1	2	3	4	5	6	
9. equipment	1	2	3	4	5	6	
10. education	1	2	3	4	5	6	
11. decision	1	2	3	4	5	6	
12. trash	1	2	3	4	5	6	
13. success	1	2	3	4	5	6	
14. courage	1	2	3	4	5	6	
15. advice	1	2	3	4	5	6	
16. vocabulary	1	2	3	4	5	6	
17. suggestion	1	2	3	4	5	6	
18. creativity	1	2	3	4	5	6	
19. mistake	1	2	3	4	5	6	
20. patience	1	2	3	4	5	6	

21. research	1	2	3	4	5	6
22. result	1	2	3	4	5	6
23. news	1	2	3	4	5	6
24. evidence	1	2	3	4	5	6
25. furniture	1	2	3	4	5	6
26. fruit	1	2	3	4	5	6
27. salt	1	2	3	4	5	6
28. safety	1	2	3	4	5	6
29. honesty	1	2	3	4	5	6
30. luggage	1	2	3	4	5	6
31. corn	1	2	3	4	5	6
32. heat	1	2	3	4	5	6
33. snow (noun)	1	2	3	4	5	6
34. smoke	1	2	3	4	5	6
35. air	1	2	3	4	5	6
36. sugar	1	2	3	4	5	6
37. repetition	1	2	3	4	5	6
38. celebration	1	2	3	4	5	6
39. communication	1	2	3	4	5	6
40. improvement	1	2	3	4	5	6

Appendix C. Forced-elicitation task

1. Students who did not submit (a, Ø) homework today need to do so tomorrow.
2. Student: Can I talk to you for a minute after the class? I have (a, Ø) question about my midterm grade.
3. Students were sending text messages in class. So I made (a, Ø) new rule. I said they should turn off their cell phones before entering the classroom.
4. You can help add variety to these newsletters by submitting an article of your own. I haven't refused (a, Ø) submission yet. You can mail it, email it or give it to me personally.
5. You need to keep (a, Ø) cabbage in the refrigerator. When you cook (a, Ø) cabbage, do not use (an, Ø) oil. I use (a, Ø) butter. That's my secret to make (a, Ø) food taste good.
6. The school hired a new coach for the upcoming football season. This will be (a, Ø) big change for the players because they have to adjust to the new coaching style.
7. You can order a free magazine. The magazine has (an, Ø) information on buying (a, Ø) equipment as well as marketing.
8. You do not need to go to a private school to get (a, Ø) good education.
9. Mark is so indecisive. It takes him forever to make (a, Ø) decision on anything.
10. Don't stay in that hotel. Their room wasn't clean. The air conditioner didn't work. And I even found (a, Ø) trash on the bed!
11. We installed a new security system in our house. Now I feel safe and have (a, Ø) peace of mind.
12. Jim fell in (a, Ø) love with Sara. But he did not have (a, Ø) courage to confess his love.
13. Can you give me (a, Ø) advice on how to memorize (a, Ø) vocabulary?
14. Chris: Next week is our 20th wedding anniversary. We are going to have (a, Ø) big celebration with our kids. I want to buy a surprise gift for my wife. Do you have (a, Ø) suggestion for a gift?
Rachel: How about (a, Ø) jewelry?
15. I believe that (a, Ø) repetition can be a key to becoming an expert.
16. Anna: What do you think makes a good teacher?
Jim: I consider (a, Ø) patience to be one of the most important qualities.
17. Professor: I said that (a, Ø) creativity is an important criterion for evaluation. But you copied the example that I showed in class anyway.
Student: I know that was (a, Ø) bad mistake. But I misunderstood the instructions. I won't do it again.
18. My professor is an expert on lies. She is doing (a, Ø) research on how people react to obvious lies

- s. She said she found (an, Ø) interesting result.
19. Kelly: I heard (a, Ø) surprising news. John was arrested for stealing a laptop from the office.
Scott: Well, we don't know if he is the one who stole the laptop or not. But if he did, the police couldn't find (an, Ø) evidence of it. They will release him soon.
20. Hannah: I want to move the table to this corner.
David: Can you please stop rearranging (a, Ø) furniture? You are moving things every day.
21. Esther: I'm hungry.
Erica: I have (an, Ø) apple. I can give it to you.
Esther: No. I don't eat (a, Ø) fruit at night.
22. One way to eat healthy is to reduce (a, Ø) salt in your diet.
23. Where children play, remove all sharp and pointy objects. Always put (a, Ø) safety first
24. You shouldn't lie to your boyfriend. It's important to keep (a, Ø) honesty first in your relationship.
25. I was wondering if there is a facility for storing (a, Ø) luggage in the airport.
26. Some people like to cook (a, Ø) corn in the oven instead of on the stove.
27. Global warming must be real. This summer was unbelievably hot. Some people even died because of (an, Ø) extreme heat. In addition, we haven't had (a, Ø) snow in five years.
28. For the past three days, I've been smelling (a, Ø) smoke even though nothing's burning. This is driving me crazy.
29. Breathing (a, Ø) polluted air can seriously harm your health and even shorten your life.
30. During science class, one student asked why we need (a, Ø) sugar in our blood.
31. When a player makes (a, Ø) repetition of errors, you should stop the practice and talk to the player about his mistakes.
32. The president said that his first priority is to reform (an, Ø) education.
33. The police were accused of illegally obtaining the contents of (a, Ø) communication.
34. Linda: All tickets were sold out and we raised more than \$20,000. It was (a, Ø) great success.

Appendix D. Translation task

1. [He did his best and got a good result.]
2. [I can't believe that he made such a foolish mistake.]
3. [The school made a new rule; students cannot wear jeans anymore.]
4. [Which school are you applying for? You have make a decision by tomorrow.]
5. [The professor is doing research with his students]
6. [The teacher gives homework every week.]
7. [I am saving money to buy furniture.]
8. [It is not easy to memorize English vocabulary.]
9. [Put safety first.]
10. [Anger was growing inside of him]
11. [Our team showed what courage is.]
10. [Teachers should have patience.]
12. [Many people believe that you need to go to a private school to get a good education.]
13. [Now students can submit the application online. This is a big improvement.]
14. [We need to find evidence to arrest him.]
15. [I need information on driver's license test.]

16. [Keep **corn** in the refrigerator.]
17. [I found **trash** on the bed]
18. [I eat **fruit** in the morning.]
19. [I learned how to store **food** for a long time.]
20. [Use butter instead of **oil**.]
21. [This system keeps **heat** outside.]
22. [We did not get **snow** here last year.]
23. [We are planning **a big celebration** for my dad's 60th birthday.]
24. [I haven't had **a communication** with the owner of the house yet.]

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