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UNIVERSITY OF SOUTHAMPTON

FACULTY OF HUMANITIES

Department of Modern Languages and Linguistics

**SECOND LANGUAGE ACQUISITION OF DEFINITENESS:
A FEATURE-BASED CONTRASTIVE APPROACH TO SECOND
LANGUAGE LEARNABILITY**

by

Elina Tuniyan

Thesis for the degree of Doctor of Philosophy

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ABSTRACT

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SECOND LANGUAGE ACQUISITION OF DEFINITENESS:

A FEATURE-BASED CONTRASTIVE APPROACH TO SECOND LANGUAGE LEARNABILITY

Elina Tuniyán

The main goal of this thesis is to investigate learnability and development in the second language (L2) acquisition of syntax-semantics mismatches. Specifically, this thesis examines the acquisition of definiteness and its expression through articles in L2 English by native speakers (L1) of article-less Mandarin Chinese and Russian. Difficulties in the acquisition of the English article system have been widely attested in L2 acquisition research. In particular, it has been suggested that L2 learners from article-less languages assign inappropriate meanings to the English articles *the* and *a* (Ionin *et al.*, 2004; Ko *et al.*, 2008; Cho, 2016; *inter alia*). However, what remained unclear is why acquiring a universal concept such as definiteness is problematic for L2 English learners. This thesis offers a novel insight into the nature of the learning task involved in the L2 acquisition of English articles through reconsidering the semantics of definiteness and through formulating the acquisition task situated within the Feature Reassembly Hypothesis (henceforth, FRH, Lardiere, 2009) and the cline of difficulty in feature acquisition (Slabakova, 2009).

Following Birner and Ward (1994) and Schwarz (2009, 2013), this thesis suggests that the concept of definiteness is comprised of two notions: familiarity and uniqueness. Further support for this claim comes from languages that distinguish between familiarity and uniqueness by employing two definite articles (German, Fering). This thesis suggests that in English both notions are expressed through one form of the definite article *the*. Cross-linguistic evidence shows that in languages without articles, as in Chinese and Russian, both familiarity and uniqueness are usually expressed through bare nouns, with the relevant interpretation filled in by context. However, familiarity can be optionally expressed through demonstratives. Since definiteness is a binary concept, all languages have means to express indefiniteness, that is, non-familiarity and non-uniqueness. In English, these two notions are expressed through the indefinite article *a*. In contrast, in Chinese and Russian, bare nouns are usually used to express non-familiarity and non-uniqueness, although unstressed numerals in these languages can also express these notions.

Moreover, evidence from the different uses of definite noun phrases suggests that the expression of familiarity and uniqueness is dependent on another semantic concept, i.e. anaphoricity. The different meanings of definiteness are operationalised as the semantic features [familiar, anaphoric] and [unique, anaphoric] in this thesis. Under the FRH, the L2 acquisition task consists of reconfiguring features from the way they are realised in the L1 to the way they are expressed in the L2. Within the FRH, Slabakova (2009) further predicts that reassembling features that are expressed covertly, through context in the L1, but overtly, through a morpheme in the L2, will be more difficult than the overt-to-overt feature reassembly. These predictions are tested in a study with 61 Chinese learners of English (intermediate and advanced) and 48 Russian learners of English (beginner, intermediate and advanced). The results in two tasks, an acceptability judgement task and a written sentence production task that tested the interpretation and use of articles in different semantic contexts provide evidence for both the FRH and Slabakova's (2009) predictions. In addition, this thesis reveals different factors that affect the mapping and restructuring processes of feature reassembly, such as the transparency of form-feature mapping, the semantics and uses of the closest morphological counterpart in the L1, the initial non-target feature mapping, and the acquisition of a new constraint. The findings also reveal that anaphoricity is a factor that plays a role in L2 learners' interpretation and use of the English article *the*. Overall, this thesis advances our understanding of learnability problems in the L2 acquisition of syntax-semantics mismatches.

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DECLARATION OF AUTHORSHIP

I, ELINA TUNIYAN, declare that the thesis entitled

SECOND LANGUAGE ACQUISITION OF DEFINITENESS: A FEATURE-BASED CONTRASTIVE APPROACH
TO SECOND LANGUAGE LEARNABILITY

and the work presented in it are my own and has been generated by me as the result of my own original research.

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- Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
- None of this work has been published before submission.

Signed: Elina Tuniyang

Date: 4 June 2018

To my family

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Chapter 1: Introduction

1.1 Objectives of this thesis

The main objective of this thesis is to investigate learnability and development in the second language (L2) acquisition of syntax-semantics mismatches. The specific objective is to investigate the acquisition of definiteness and its expressions through articles in L2 English by native speakers of article-less Mandarin Chinese and Russian within the Feature Reassembly Hypothesis (Lardiere, 2008, 2009a,b) and Slabakova's (2009) cline of difficulty in feature acquisition. Although the L2 acquisition of definiteness in English has been extensively investigated over the past 30 years (Huebner, 1983; Thomas, 1989; Robertson, 2000; Ionin et al., 2004; Hawkins et al., 2006; Ko et al., 2010; Trenkic, 2008; Yang & Ionin, 2009, among many others), the findings have been inconsistent, suggesting that more research is needed in this area.

The novelty of the present investigation is that this thesis reconsiders the concept of definiteness, which has been treated as a unified notion in second language acquisition research. This thesis argues that definiteness is comprised of two independent meanings, familiarity and uniqueness, whose expression is dependent on another notion, i.e. anaphoricity. The different semantic meanings of definiteness are operationalised as the semantic features [familiar, anaphoric] and [unique, anaphoric] in this thesis. A semantic feature in this thesis is defined as "grammatical meaning encoded by languages of the world" (Cho and Slabakova, 2014: 164). In English, the features [familiar, anaphoric] and [unique, anaphoric] are expressed through dedicated morphemes: the definite article *the* expresses the features [+familiar, ±anaphoric] and [+unique, ±anaphoric], whereas the features [–familiar, –anaphoric] and [–unique, +anaphoric] are realised through the indefinite article *a*. In Mandarin Chinese and Russian, these features do not receive realisation through dedicated morphemes and are usually expressed through context. However, the feature [+familiar, ±anaphoric] can be realised through demonstratives in these languages, while the features [–familiar, –anaphoric] and [–unique, +anaphoric] can be expressed through unstressed numerals.

Based on the Feature Reassembly Hypothesis (henceforth, FRH, Lardiere, 2008, 2009a,b), the learning task in L2 acquisition consists of reconfiguring features from the way they are mapped and assembled in the L1 onto new L2 configurations. Within the FRH, Slabakova (2009) predicts that remapping and reassembling features that are realised overtly, i.e. through morpholexical items, in the L1 and the L2 will be easier than reconfiguring features that are expressed covertly,

i.e. through context, in the L1 but are realised overtly in the L2. Although, according to Lardiere the FRH was proposed as a theory of morphosyntactic features, in this thesis I apply the FRH to the acquisition of semantic features.

Applying the predictions of the FRH and Slabakova's cline of difficulty in feature acquisition to the second language acquisition of the features [familiar, anaphoric] and [unique, anaphoric], the learning task is seen as reconfiguring these two features from the way they are realised in the L1, Mandarin Chinese and Russian, onto the English articles *the* and *a*. However, acquisition problems are predicted to arise due to the differences in how these features are expressed in the L1 and the L2 and due to different factors that affect the mapping and restructuring processes of feature reassembly. I test these predictions by investigating the interpretation of articles in different semantic contexts (definite and indefinite) in an acceptability judgment task and article production in a written sentence production task in a study with 61 Chinese learners of English (intermediate and advanced) and 48 Russian learners of English (beginner, intermediate and advanced). The findings of the study will provide new insights into L2 learnability and advance our understanding of the L2 acquisition of syntax–semantics mismatches.

1.2 The learning task and learnability problems in acquiring syntax-semantics mismatches

In order to formulate the exact learning task in the acquisition of syntax–semantics mismatches, it is important to understand how the model of grammar is structured and where the semantics module is located within that structure. This thesis adopts the Minimalist view on language architecture (Chomsky, 1993, 1995, 1998). Under this view, the core linguistic module of the Language Faculty is the computational system (CS), an innate universal system which interacts with two performance systems, the sensorimotor (SM) system, i.e. phonological system which is responsible for sound perception and production, and the Conceptual Intentional System, i.e. semantic system, which is in charge of interpreting concepts and intentions. The interaction takes place at two interfaces: Phonological Form (PF) (syntax-phonology interface) and Logical Form (LF) (syntax-semantics interface). The CS contains the phrase structure rules (such as the operations Merge and Agree) which are applied when creating syntactic derivations. Lexical items selected from the lexicon are then inserted into syntactic derivations. After that, representations in the CS pass through two interfaces to the SM system and the CI system for pronunciation and interpretation, respectively. The interaction of the CS with the SM and the CI at the respective interfaces, PF and LF, is what establishes sound-meaning mappings in a language.

On the minimalist model of the Language Faculty, the CS is universal for all languages and variation across languages is argued to lie in the lexicon, that is, in the L2 functional morphemes and their meanings which are expressed through syntactic, phonological and semantic features. The learning task for L2 learners is then seen as acquiring the L2 lexicon. For example, an L2 English learner has to learn that the English simple past tense morpheme *-ed* entails a one-time finished event interpretation and a habitual interpretation, while the past progressive tense morpheme *be + ing* expresses an ongoing event in the past.

However, this learning task can be complicated by the fact that languages differ in what universal meanings are mapped onto what morphosyntactic forms and whether they are realised through morphosyntactic forms at all (Jackendoff, 2002; Ramchand & Svenonius, 2008). In other words, language variation, is also possible at LF, i.e., at the syntax-semantics interface. For example, Spanish is different from English in mapping the aforementioned semantic primitives onto grammatical morphemes. Thus, a one-time finished event interpretation is mapped onto the Spanish Preterit morpheme while ongoing and habitual interpretations are mapped onto the Spanish Imperfect morpheme. Another example of the syntax-semantics mismatch is the expression of the concept of past in English and Mandarin Chinese. While English, as discussed above, uses a dedicated morpheme *-ed* to mark the concept of past, Mandarin Chinese does not have such a morpheme and instead uses other means to mark past tense such as aspectual markers, time adverbials and the discourse context. This shows that, in addition to learning the target L2 lexicon, L2 learners have to acquire interpretative mismatches between the L1 and the L2 grammar structures.

Previous studies have shown that the acquisition of syntax-semantics mismatches is problematic for L2 learners (see Slabakova, 2008 for an extensive review of studies on syntax-semantics mismatches). As an illustration of learnability problems at the syntax-semantics interface, consider the acquisition of definiteness in L2 English by L1 Russian and Korean speakers investigated in Ionin et al. (2004). English uses a dedicated morpholexical item to mark definiteness (*the*) and indefiniteness (*a*), while Russian and Korean do not. This does not mean that the concept of definiteness is absent in Russian and Korean. Russian and Korean can express (in)definiteness but through other means such as, for example, contexts, demonstratives or word order. Therefore, the learning task for L2 learners is to map definiteness onto *the* and indefiniteness onto *a* in L2 English. Ionin and colleagues found that L2 learners are not always successful in this mapping, and that they occasionally map specificity, a closely related meaning to definiteness, rather than definiteness onto articles in English (see Section 2.2.2 for a detailed discussion of this study).

However, simply arguing that the learning task involves the L2 acquisition of syntax-semantics mismatches does not allow us to make developmental predictions for acquisition. There are two questions that should be addressed. Firstly, if a given L2 morpheme expresses more than one meaning, the question arises which of the meanings will be learned first and which will take time to acquire. An example of such morpheme is the past tense morpheme *-ed* in English, which in addition to marking past tense, also marks perfective aspect (e.g., *The cow jumped over the moon*); irrealis mood in conditionals (e.g., *If I only had the brain...*); optionally marks stative verbs in sequence of tense constructions (e.g., *Roger said that he disagreed with her analysis*) and is not obligatory expressed in historical present contexts (e.g., *So we asked some guy to come over and help us. So he opens the car and everyone gets out...*) (Lardiere, 2007:235). As can be seen the obligatory contexts for the use of the past form *-ed* are rather complex, and involve the one-form-to-many meanings mapping situation. In other words, the mapping of the morpheme *-ed* onto the different meanings it can express is not transparent. As argued by Dekeyser (2005: 3), “Rather than forms, meanings, or form-meaning relationships, it is the transparency of form-meaning relationships to a learner who is processing language for meaning that determines the difficulty of acquisition”. This suggests that acquiring non-transparent morphemes, i.e. morphemes that express more than one meaning, is expected to be problematic for L2 learners.

The second question is: what happens if L2 learners have to acquire a meaning which is expressed through an overt morpheme in the L2 but through a covert, null, morpheme in the L1. This is the learning task faced by L2 learners who acquire the meaning of definiteness and its expressions through articles in English but whose L1 lacks articles and does not have a dedicated morpheme to mark the meaning of definiteness (as in Mandarin Chinese, Korean, Russian). The above examples show that the acquisition task is more complex than previously assumed and that a more refined account to the L2 learnability problem is needed.

1.3 Why is a feature-based contrastive approach necessary for investigating learnability problems related to syntax-semantics mismatches?

Acknowledging the complexity of the learning task and addressing the aforementioned questions, Lardiere (2008, 2009a,b) proposed the Feature Reassembly Hypothesis (FRH). According to the FRH, the L2 learning task is seen as the assembly or reassembly of the target L2 formal features. The FRH predicts that this reassembly goes through two processes: (1) the mapping process, during which the complete feature set of the L1 morphological item is mapped onto the L2

morpholexical item (based on perceived similarities between the meanings that the L1 and the L2 items express); and (2) the restructuring process, which involves readjusting the target L2 feature set through adding or deleting features based on the evidence in the input.

Feature reassembly is argued to be difficult since it requires implicit 'noticing' the exact featural composition of the target L2 lexical items, based on evidence in the L2 input. This noticing might be problematic if evidence in the input is scarce or ambiguous. This, in turn, might lead to non-target form-meaning mappings in the L2 grammar, which will cause problems with consecutive feature reassembly. The Feature Reassembly Hypothesis has been tested in a number of recent studies (Choi & Lardiere, 2006; Dominguez et al., 2011, 2017; Gil & Marsden, 2013; Hwang & Lardiere, 2013; Shimanskaya & Slabakova, 2015) that investigated the L2 learnability of syntax-semantics mismatches (discussed in Chapter 5).

However, cross-linguistic evidence shows that not all languages mark universal meanings with dedicated overt morpholexical items (e.g. past tense, evidentiality, definiteness). Therefore, although the FRH is well suited to the acquisition of formal syntactic features that are marked on morpholexical items, it requires some modification in order to account for the acquisition of semantic features which are not morphologically marked in either the L1 or the L2.

Slabakova (2009) integrates the insights from Ramchand and Svenonius's (2008) proposal into formulating the learning task and making predictions for L2 acquisition of features that can be marked either morphologically or expressed through context. Ramchand and Svenonius (2008) argue that all languages have the same core syntax and the universal computational system (semantic/pragmatic component), that computes grammatical meanings such as argumenthood, definiteness, specificity, among others. In other words, Ramchand and Svenonius (2008) propose that the functional categories C[omplementasier], T[ense], D[eterminer] and the relevant syntactic features are present in languages cross-linguistically; however, languages differ in the way they assign the values of a functional head: syntactically or postsyntactically. That is, according to Ramchand and Svenonius (2008), variation between languages lies in the way they express universal meanings: overtly through morpholexical items or covertly through the discourse context.

To illustrate their proposal, Ramchand and Svenonius (2008) compare the expressions of the meaning of definiteness and specificity in three different languages: Norwegian, English and Russian. Norwegian has double definiteness marking: the definite suffix is attached to an NP to yield a definite interpretation, and if an NP is preceded by an adjective, a free standing definite article must be added. It is suggested in the literature on Norwegian (Anderssen, 2007) that the definiteness suffix in Norwegian is, in fact, a marker of specificity, whereas a free-standing

determiner is a true definiteness marker. In contrast to Norwegian, English marks definiteness with the definite article *the*, while specificity is not overtly marked in English and has to be interpreted through discourse context. Russian is different from both Norwegian and English, in the sense that it does not consistently mark either definiteness or specificity overtly, and both of these interpretations are generally filled in by context. Ramchand and Svenonius (2008) argue that, although Russian does not systematically mark definiteness on noun phrases syntactically, the null D head is present in Russian, as it is needed for the expression of argumenthood.¹

Applying their proposal to first language (L1) acquisition, Ramchand and Svenonius (2008) hypothesise that features that are expressed covertly, i.e. through context, in the L1 will be more difficult to acquire than features that are realised overtly through dedicated morphemes. This hypothesis is based on the idea that noticing features that are expressed covertly through discourse context might take longer for L1 learners than noticing features that are expressed consistently through a dedicated overt morpheme. However, Ramchand and Svenonius (2008) point out that this does not mean that all the features that are realised overtly are easy to acquire to the same extent. They hypothesise that only those features that receive unambiguous evidence in the L1 input will be acquired early.

While Ramchand and Svenonius's (2008) hypothesis awaits testing for L1 acquisition, Slabakova (2009) adopts it for the L2 acquisition of features. Slabakova predicts that the acquisition of L2 features which are realised overtly, i.e. through a morpheme, in the L1 and the L2 will be easier than the acquisition of features that are expressed through a morpheme in the L2 but are negotiated by context in the L1. These predictions are based on the same assumptions suggested by Ramchand and Svenonius (2008) for L1 acquisition, namely, that features that are realised overtly through a morpheme are more salient and, thus, easier to acquire.

Slabakova's (2009) predictions have only recently received empirical investigation in studies that focused on the acquisition of the semantic features in the L1-L2 pairings which differ with regard to whether they express features overtly or covertly. To the best of my knowledge, Cho and Slabakova (2014) are pioneers in this regard. They extended Slabakova's (2009) proposal to the acquisition of semantic features that are marked by a morpheme in the L1 but context in the L2 and to features that are marked by context in both the L1 and the L2. Cho and Slabakova (2014)

¹ See Pereltsvaig (2007) who provides extensive evidence for the support of the claim that a DP with a null spec. D is present in Russian. But also see Trenkic (2004) and Boškovic (2005, 2008, 2009) for a view that the functional category DP is absent in languages without articles. In other words, on the latter view the presence or absence of the category DP constitutes a parameter. The above argument goes beyond the scope of this thesis; however, this thesis adopts the view of the Universal-DP hypothesis (Progovac 1998; Rappaport 2002; Pereltsvaig 2007, among others).

investigated the acquisition of definiteness in L2 Russian by L1 English and L1 Korean learners. Russian is an article-less language that lacks a dedicated morpheme that marks definiteness and instead expresses definiteness covertly through discourse context. However, Russian has other ways of signalling definiteness such as word order and adjectival possessor modifiers. Korean is similar to Russian in lacking dedicated overt ways of expressing definiteness (i.e., articles). English, on the other hand marks definiteness through an overt form of articles.

The findings showed that L2 learners have difficulty acquiring meanings that are realised covertly, i.e., through word order, in L2 Russian, while meanings encoded by overt morphemes, i.e. adjectival possessor modifiers, were less problematic. Cho and Slabakova (2014) concluded that overt versus covert feature expression are important factors that play a role in the acquisition of grammatical meanings in the L2. In addition, Cho and Slabakova (2014: 8) suggested that there might be “other factors implicating relative ease or difficulty of acquisition, for example, prosodic constraints on syllable structure, detectability of the feature exponent in the speech signal, one-to-one versus many-to-many exponents mapping, semantic complexity, etc.”

To summarise, since a necessary condition for the acquisition of meaning in the L2 is the acquisition of the syntactic and semantic feature information of functional morphemes, knowing about matches and mismatches in the L1 and L2 grammar structures will allow us to formulate the learning task and predict what properties of the L2 might be easy or difficult for acquisition. This idea is reflected in a recent quote from Slabakova (2016: 394): “Using a comparative linguistic feature-based approach, in which the learning tasks are concrete and spelled out based on linguistic analysis, is our only hope of making testable predictions for acquisition sequences”. This section has shown that combining Lardiere’s (2009a,b) feature-based account for L2 acquisition with Slabakova’s (2009) cline of difficulty in feature acquisition allows us to formulate the exact learning task and more concrete predictions on the ease or difficulty of acquisition of syntax-semantic mismatches based on the language pairings and learning directions involved.

1.4 Research questions addressed in this thesis

The current study focuses on the role of overt and covert feature marking in reassembling the features of definiteness in L2 English by L1 Mandarin Chinese and Russian speakers, describing the complex learning task based on the FRH (Lardiere, 2008, 2009a,b) and Slabakova’s (2009) cline of difficulty in feature acquisition. That is, the present study examines the acquisition of semantic features in the opposite learning direction from that investigated by Cho and Slabakova (2014), namely, learning features that are expressed covertly in the L1 but overtly in the L2. This learning

direction has not yet received detailed investigation. Therefore, the present study aims to fill this gap. Investigating L2 acquisition within the FRH has received a lot of interest in the recent years (e.g., Choi & Lardiere, 2006; Dominguez et al., 2011, 2017; Hwang & Lardiere; Cho & Slabakova, 2014, 2015; Cho, 2016); however, it is still a relatively new area of research. The study reported in this thesis is an attempt to contribute to this area of research. In addition, following Slabakova (2009), this thesis addresses the question of whether the two features of definiteness, [familiar, anaphoric] and [unique, anaphoric], have the same status in terms of difficulty of reassembly, discussing a developmental pattern in the acquisition of these two features. The specific goal of this study is to investigate other factors, in addition to the type of feature expression (overt vs. covert), that affect the mapping and restructuring processes of feature reassembly. The following three general research questions are addressed in this thesis:

(1) Research Questions

General Research Question 1: What factors play a role in the mapping process of feature reassembly? In particular:

Specific Research Question 1a: Are L2 learners influenced by the differences in the expression of the target features in the L1 and the L2? More specifically, is mapping a feature from an overt L1 morpheme onto an overt L2 morpheme easier than mapping a feature that is realised covertly in the L1 (bare noun) but through a morpheme in the L2?

Specific Research Question 1b: Are L2 learners affected by the transparency of form-feature mappings in the mapping process? That is, is mapping features that are expressed through one form in the L2 and the L1 easier than mapping features that are conflated in one form in the L2 but are distributed on two different forms in the L1?

Specific Research Question 1c: Are L2 learners affected by L1 transfer in the mapping process? In particular, do L2 learners map features from the closest equivalent morpholexical item in the L1 to a morpholexical item in the L2 (based on similarity in meaning or grammatical function)?

General Research Question 2: What factors play a role in the restructuring process of feature reassembly? In particular:

Specific Research Question 2a: Does initial non-target feature mapping affect L2 learners' ability for consecutive feature restructuring?

Specific Research Question 2b: Are L2 learners able to add a new constraint not available in the L1 during feature reassembly?

General Research Question 3: Are L2 learners ultimately able to reassemble the target feature set?

1.5 Organisation of this thesis

This thesis is organised into 8 chapters. Chapter 2 reviews previous findings and accounts in the area of L2 article acquisition. Chapter 3 investigates the meaning of definiteness and its expressions cross-linguistically. Chapter 4 introduces the semantic features and contexts under investigation in this thesis. Chapter 5 discusses the theoretical framework adopted in this thesis, namely, the Feature Reassembly Hypothesis (Lardiere, 2008; 2009a,b) and offers an overview of studies that tested this hypothesis. Chapter 6 discusses the learning task and predictions and presents the method that was used to test these predictions. Chapter 7 presents the results in the experimental study. Finally, Chapter 8 discusses the findings and concludes by considering implications and limitations of the study and by providing suggestions for future research.

Chapter 2: Previous research on the second language acquisition of definiteness in English: problems with article semantics

2.1 Introduction

The investigation of the second language acquisition of definiteness and its expression through the definite and indefinite articles in English has received a lot of interest in SLA research (Huebner, 1983; Thomas, 1989; Robertson, 2000; Ionin et al., 2004; Hawkins et al., 2006; Ko et al., 2010; Trenkic, 2008; Yang & Ionin, 2009, among many others). The two main questions that were investigated are: what kind of mental representations a speaker of a language that lacks an article forms when s/he learns an L2 with articles and whether convergence on the target grammar is possible at advanced levels of proficiency. It has been observed that L2 learners of English who come from article-less L1s have difficulty in the target-like use of articles in English, even at advanced levels of proficiency. These learners make two types of errors when they express the meaning of definiteness in English: article omission and article substitution. It has been attested that L2 learners omit articles in obligatory contexts, that is, in contexts in which a native English speaker would produce an article. Article omission errors have been attributed to L1 transfer which arguably leads to a mapping problem between the morphological component and the syntax (Prevost & White, 2000; White, 2003; Lardiere, 2004), prosodic difficulties (Goad & White, 2004) or a syntactic misanalysis (Trenkic, 2008).

It was also shown that L2 learners substitute or misuse articles, that is, they use an inappropriate article in an obligatory context, such as the definite article in indefinite contexts and the indefinite article in definite contexts. The errors of substitution have been attributed to problems with the semantics of articles, for example, to the fact that L2 learners incorrectly map specificity onto the English articles (Parrish, 1987; Thomas, 1989; Ionin et al., 2004). More recently it has been attested that L2 learners have difficulty with the uniqueness component of the definiteness meaning encoded in articles (Ko et al., 2008; Yang & Ionin, 2009; Ko, et al. 2010 ; Cho, 2016), although no conclusive proposal has been offered to account for this problem. This chapter discusses different proposals that have been put forth in an attempt to account for the problems that L2 learners have with the semantics of articles in English. The chapter concludes with the

implications of the previous research on the L2 acquisition of definiteness in English and points out its limitations and unanswered questions.

2.2 L2 learners are affected by specificity in article use

2.2.1 Early studies

The investigation of the difficulty that L2 learners have when acquiring article semantics in English goes back to Huebner (1983), who started investigating different semantic contexts for the use of articles. The division into different semantic contexts was based on Bickerton's (1981) Language Bioprogram Hypothesis, according to which the use of articles in natural languages is governed by two universals: the semantic universal *specificity*, i.e. the feature [\pm specific referent] ([\pm SR]) and the discourse-pragmatic universal *assumed hearer knowledge*, i.e., the feature [\pm hearer knowledge] ([\pm HK]). Bickerton (1981, 1989) based his model on the observation that some creole languages (e.g. Guyanese Creole and Hawaiian Creole) use articles only with specific referents, while zero articles are used with non-specific referents. In other words, articles are used if a specific referent is known to the speaker only or to both the speaker and the hearer. If a referent is not specific, i.e., is not known to the speaker or is a generic noun phrase, no article is used. This, according to Bickerton (1981), shows that the specificity/non-specificity distinction as a basic distinction made for reference in natural languages.

Huebner (1983) investigated the use of articles in contexts which contained the interplay between these two binary semantic features in four semantic contexts: specific indefinite [$-$ HK, $+$ SR], specific definite [$+$ HK, $+$ SR], non-specific indefinite [$-$ HK, $-$ SR], and generic [$+$ HK, $-$ SR], as exemplified in (2) (from Thomas, 1989: 337)

(2) Huebner's (1983) classification of the uses of articles in English

- a. Specific definite reference [$+$ SR][$+$ HK]: *the*
Ex.: *Chris approached me carrying a dog. **The dog** jumped down and started barking.*
- b. Specific indefinite reference [$+$ SR][$-$ HK]: *a, \emptyset*
Ex.: *Chris approached me carrying **a dog**.*
- c. Indefinite generic (non-specific) reference [$-$ SR][$-$ HK]: *a, \emptyset*
Ex.: *I guess I should buy **a new car**.*
- d. Generic reference [$-$ SR][$+$ HK]: *a, \emptyset , the*
Ex.: ***A paper clip** comes in handy.*

Based on Huebner's (1983) classification in (2), in non-generic contexts (a,b,c) in English the definite article is used with specific referents that are known to both the speaker and the hearer (2a), that is, in [+HK] contexts, while the indefinite article is used with specific referents for the speaker only (2b) or with non-specific referents for the speaker (2c)², that is, in [-HK] contexts. In other words, the use of articles in English is based on the binary feature [+HK]. It should be noted here that, on Huebner's classification, a specific referent refers to a referent whose existence can be asserted in the actual world. In contrast, if the referent is non-existent, it is non-specific, as, for example, noun phrases in the scope of negation, and in modal and irrealis scope.

Huebner (1983) found that a Hmong speaker in his longitudinal study incorrectly produced the definite article in specific indefinite contexts ([-HK, +SR]). Following Huebner (1983), a number of studies tested the use of articles in the four aforementioned semantic contexts yielding similar results to the ones attested in Huebner (1983), namely misuse of the definite article with specific indefinite referents. Some researchers (Master, 1987; Young, 1996) argued, following Huebner (1983), that even though L2 learners overgeneralise *the* to specific indefinite contexts, they, nevertheless, are aware that the definite article in English encodes the feature [+HK] and not the feature [+SR].

However, there were also proposals that L2 learners do, in fact, incorrectly associate the definite article with the feature [+specific referent], thus producing non-target *the* in [-HK +SR] contexts (Parrish, 1987; Thomas, 1989). Thomas (1989) suggested that this proposal is line with Bickerton's (1981, 1984) Language Bioprogram Hypothesis, according to which there are languages (e.g., creole) that distinguish the use of articles based on presence or absence of a specific referent: articles are used for specific referents and no article is used for non-specific referents. Based on this observation, Bickerton (1981, 1984) argues that sensitivity to specificity/non-specificity distinction is innate. Therefore, Thomas (1989) hypothesised that L2 learners of the English article system initially base their use of articles on the distinction between [-SR] and [+SR] contexts, thus using the indefinite article in [-SR] contexts and the definite article in [+SR] contexts, and not based on the target distinction between [-HK] and [+HK] contexts.

As the above discussion shows, no principled explanation was offered as to why L2 learners incorrectly use the definite article with specific but indefinite referents. The following sections

² As this thesis does not investigate generic contexts, these contexts will not be discussed here.

review recent advances in the area of the L2 acquisition of articles and discuss the proposals that offer a more principled explanation for L2 article interpretation and use.

2.2.2 The Article Choice Parameter

In an attempt to offer a principled explanation for the difficulty L2 learners from article-less L1s have in acquiring the article system in English, Ionin, Ko and Wexler (2004) (henceforth, Ionin et al., 2004) introduce a semantic parameter. This semantic parameter is based on the observation that cross-linguistically languages base their article system either on definiteness or specificity, where definiteness involves the consideration of knowledge of both the speaker and the hearer and specificity reflects the speaker's knowledge only. Ionin et al. (2004) follow Fodor and Sag's (1982) definition of specificity as 'speaker intent to refer' to a referent that possesses some noteworthy property. Ionin et al.'s (2004) analysis of specificity differs from the view of specificity introduced by Bickerton (1981) and adopted by Huebner (1983), Thomas (1989), and Robertson (2000), among others. On Bickerton's (1981) model a referent is specific if the speaker asserts the existence of that referent in the actual world, while Ionin et al.'s (2004) definition of specificity is more restrictive as it involves not only existence of an object or individual in the actual world but crucially speaker intent to refer to this object or individual. The definitions of definiteness and specificity, as proposed by Ionin et al. (2004), are given in (3):

- (3) If a Determiner Phrase (DP) of the form [D NP] is ...
- a) [+definite], then the speaker and hearer presuppose the existence of a unique individual in the set denoted by the NP.
 - b) [+specific], then the speaker intends to refer to a unique individual in the set denoted by the NP and considers this individual to possess some noteworthy property.

(Ionin et al., 2004: 5)

Ionin et al. (2004) suggest that the article system in English is organised based on the definiteness/indefiniteness distinction, while articles in Samoan are grouped based on the specificity/non-specificity distinction (Mosel & Hovdhaugen, 1992), as summarised in Table 1.

Table 1. Article grouping cross-linguistically

Article Grouping by Definiteness (English)

	+definite	-definite
+specific	<i>the</i>	<i>a</i>
-specific		

Article Grouping by Specificity (Samoan)

	+definite	-definite
+specific	<i>le</i>	
-specific	<i>se</i>	

(Ionin et al., 2004: 13)

Table 1 shows that in English the definite article *the* is used with definite NPs and the indefinite article *a* is used with indefinite NPs, regardless of whether an NP is specific or nonspecific. In Samoan, on the other hand, the distinction between definiteness and indefiniteness is irrelevant, and the specific article *le* is used with specific NPs (NPs that refer to particular individuals that possess a noteworthy property) and the nonspecific article *se* is used with nonspecific NPs (non-particular NPs, whose identity is not important or is irrelevant) (for examples in Samoan, see Mosel & Hovdhaugen, 1992: 259-262). Based on the two patterns of article grouping across languages, Ionin et al. (2004: 12) put forward the Article Choice Parameter (ACP) and the Fluctuation Hypothesis (FH).

(4) *The Article Choice Parameter*

A language that has two articles distinguishes them as follows:

The Definiteness Setting: Articles are distinguished on the basis of definiteness.

The Specificity Setting: Articles are distinguished on the basis of specificity.

(5) *The Fluctuation Hypothesis*

- a. L2 learners have full access to UG principles and parameter-settings.

- b. L2 learners fluctuate between different parameter-settings until the input leads them to set the parameter to the appropriate value.

(Ionin et al., 2000: 16)

Applying the Fluctuation Hypothesis to the acquisition of the Article Choice Parameter, Ionin et al. (2004) postulate that L2 learners have access to the two settings of the Article Choice Parameter (definiteness and specificity), and that L2 learners fluctuate between these two settings until the input leads them to set the definiteness setting of the parameter for English. Thus, Ionin et al. (2004) propose that L2 learners' errors will not be random but rather will reflect possible UG parameter-settings. Moreover, according to them, L2 learners from article-less languages, where L1 transfer and preference for one or another parameter are ruled out, would have access to both definiteness and specificity settings of the Article Choice Parameter, but would not initially know that the definiteness setting is the right setting for English articles. Therefore, L2 learners are supposed to fluctuate between the two parameter settings: sometimes using *the* to mark definiteness (and *a* indefiniteness) and sometimes using *the* to mark specificity (and *a* non-specificity) until the input leads them to reset the parameter to match their L2. The predictions for article choice in L2 English are presented in Table 2.

Table 2. Predictions for L2 acquisition of articles in English (based on Ionin et al., 2004: 18-19)

	+definite	-definite
+specific	Target use of <i>the</i>	Overuse of <i>the</i>
-specific	Overuse of <i>a</i>	Target use of <i>a</i>

Table 2 shows that both settings of the Article Choice Parameter predict that one article (*the* in English) should be used in [+specific, +definite] contexts while another article (*a* in English) should be used in [-specific, -definite] contexts. The two filled cells are where the two settings of the Article Choice Parameter differ. In the definiteness setting (English), specific definites and non-specific definites are grouped together, and non-specific indefinites and specific indefinites are grouped together. The grouping in the specificity setting (Samoan) is the opposite: definites and indefinites are grouped together based on either specificity or non-specificity. Ionin et al. (2004)

predicted that L2 learners of English will be accurate in their article use in [+definite, +specific] and [–definite, –specific] contexts where both settings of the ACP match, while showing fluctuation in [+definite, –specific] and [–definite, +specific] contexts where the settings of the ACP differ.

Ionin et al. (2004) tested the aforementioned predictions with native speakers of Russian and Korean, languages without articles, in a forced-choice elicitation task. The learners were asked to read short contexts and choose between three answer options: the indefinite article, the definite article or no article. The four semantic contexts in their study and the predictions for the use of articles are exemplified below.

(6) [+definite, +specific] context: target use of *the* predicted

Kathy: My daughter Jeannie loves that new comic strip about Super Mouse.

Elise: Well, she is in luck! Tomorrow, I'm having lunch with (a, the, —) creator of this comic strip—he is an old friend of mine. So I can get his autograph for Jeannie!

(7) [+definite, –specific]: overuse of *a* predicted

Bill: I'm looking for Erik. Is he home?

Rick: Yes, but he's on the phone. It's an important business matter. He is talking to (a, the,—) owner of his company! I don't know who that person is—but I know that this conversation is important to Erik.

(8) [–definite, +specific]: overuse of *the* predicted

Meeting on a street

Roberta: Hi, William! It's nice to see you again. I didn't know that you were in Boston.

William: I am here for a week. I am visiting (a, the, —) friend from college—his name is Sam Brown, and he lives in Cambridge now.

(9) [–definite, –specific]: target use of *a* predicted

Chris: I need to find your roommate Jonathan right away.

Clara: He is not here—he went to New York.

Chris: Really? In what part of New York is he staying?

Clara: I don't really know. He is staying with (a, the, —) friend—but he didn't tell me who that is. He didn't leave me any phone number or address.

(Ionin et al., 2004: 22-23)

The two definite contexts, on the one hand, and the two indefinite contexts, on the other hand, differ with regard to whether the intended NP refers to a specific or a non-specific referent. As can be seen from the examples (6) and (8), the referent is specific if the speaker names some of its noteworthy properties. In contrast, the examples (7) and (9) show that the referent is non-specific if the speaker explicitly denies that they possess any information about the referent.

The results showed that both the L1 Russian and Korean L2 learners followed a similar pattern: they overused *a* in [+definite, -specific] contexts (31% for the L1 Russian group and 17% for the L1 Korean group), and overused *the* in [-definite, +specific] contexts (37% for the L1 Russian group and 17% for the L1 Korean group), while being target-like in the other two contexts. Ionin et al. (2004) suggest that the fact that the L1 Korean speakers were generally much better at using articles was due to their overall higher proficiency level. Based on the results in the elicitation task, Ionin et al. conclude that L2 learners are sensitive to specificity in their article choice in English. As a result, they overuse *the* with [+specific] indefinites and overuse *a* with [-specific] definites. Therefore, Ionin et al. suggest that optionality in article use is systematic: L2 learners who are in the fluctuation stage of article acquisition treat the articles in English as encoding both the feature [+definite] and the feature [+specific]. However, the individual results show that the performance of only 22 out of the total of 70 L2 seems to support the FH, while other L2 learners adopted the target definiteness setting (n=21) or followed the three not predicted patterns, i.e., specificity, partial fluctuation or miscellaneous (n=27).

To recapitulate, Ionin et al. (2004) offer a semantic explanation of persistent difficulties with article use attested for L2 English learners from article-less L1s, putting forth the Article Choice Parameter. They argue that the acquisition task for L2 learners consists in learning that articles in English express the semantic notion of definiteness and not specificity. The errors of article misuse are attributed to the fluctuation between the semantic universals of definiteness and specificity. In other words, Ionin and colleagues ascribe the difficulty in the acquisition of the article system in English to the non-target like knowledge of the semantics of English articles.

2.2.3 Alternative explanations

The Fluctuation Hypothesis has been an influential account of the misuse of articles in L2 English over the past 14 years. Ionin et al.'s (2004) study has been replicated in a series of studies that seem to provide support for the proposal that L2 learners from different L1 backgrounds fluctuate between associating articles in English with either definiteness or specificity (see Ionin, Zubizarreta & Maldonado, 2008; Ionin, Zubizarreta & Philippov, 2009 for L1 Russian; Kim & Lakshmanan, 2009 for L1 Korean; Snape, 2009 for L1 Mandarin Chinese; among others). However, the Fluctuation Hypothesis and the interpretability of the findings in Ionin et al.'s study were questioned by a number of researchers who suggested alternative proposals for the misuse of articles by L2 learners (Hawkins et al., 2006; Trenkic, 2008; Tryzna 2009).

For instance, Hawkins et al. (2006), who tested the FH in a study with L1 Japanese and L1 Greek L2 English learners, argue against the Article Choice Parameter and suggest that putting forth a parameter that is relevant to a specific construction only, i.e. articles, is not an optimal choice in UG. They argue that L2 learners fluctuate between definiteness and specificity because both features are available to L2 learners from UG and not because they have not set the appropriate value of the ACP. Hawkins et al. (2006), propose an alternative explanation for the L2 learners' sensitivity to the notion of specificity in their article use, following Distributed Morphology approach to grammatical organisation (Halle & Marantz, 1993; Harley & Noyer, 1999). According to Distributed Morphology approach, a vocabulary item is inserted in context (terminal node) if the features of the vocabulary item match those of the terminal node. However, under this approach, since terminal nodes can consist of bundles of features, while vocabulary items are comprised of specific features, a complete match between the features is not required. Hawkins et al. suggest that the category D in English is comprised of the bundles of features in (10) and the contexts of insertion of articles in (11):

- (10) [D, +definite, +singular] (= 'the')
- [D, +definite, -singular] (= 'the')
- [D, -definite, +singular] (= 'a')
- [D, -definite, -singular] (= '∅')

- (11) *a* ↔ [D, -definite, +singular]
- the* ↔ [D, +definite]
- ∅ ↔ [D]

They suggest that the misuse and misinterpretation of articles by L2 learners is due to non-target like assembly of the features [\pm definite] and [\pm specific] from the UG inventory on articles in L2 English and to non-target identification of features of terminal nodes. In particular they argue that these misrepresentations can be learner specific and, therefore, can account for inter-learner variability in the use of articles, that is, for individual variability. (This proposal, according to Hawkins et al. (2006) can also account for the performance of individual learners in Ionin et al.'s (2004) study). For example, Hawkins et al. (2006) suggest that one of the Japanese participants (participant J5) in their study is argued to have the grammar with the following terminal nodes and vocabulary entries:

(12) [D, +specific, +singular]

[D, +specific, -singular]

[D, -specific, +singular]

[D, -specific, -singular]

(13) *a* \leftrightarrow [-specific, +singular]

the \leftrightarrow [+specific]

\emptyset \leftrightarrow []

In other words, this learner is predicted to use the definite article in [+specific] contexts, regardless of whether they are definite or indefinite. Other learners can differ from this learner and from each other in what features they assign to terminal nodes and articles in L2 English. In other words, Hawkins et al. (2006) suggest that non-target use of articles by L2 learners is due to the assignment of non-target feature specifications to English articles in the developing L2 grammar rather than to a fluctuation between the two settings of the ACP. However, Hawkins et al. (2006) do not specify what determines these non-target feature assignments and why L2 learners vary in the features they assemble onto *the* and *a*.

Another criticism of Ionin et al.'s (2004) proposal comes from Trenkic (2008) who argues that the results in Ionin et al.'s (2004) study might be due to the way specificity was operationalised in their test items. Trenkic (2008) argues that specificity is not a linguistic universal, thus, it cannot account for article misuse in English. Trenkic suggests that it is possible that in Ionin et al.'s study L2 learners were sensitive to the pragmatic component of noteworthiness (as this is how specificity was operationalised in their task design). In other words, when a referent possessed some unique noteworthy property (for the speaker), it was considered specific. That is, Trenkic (2008: 1) suggests that sensitivity to 'the stated/denied familiarity with the referent (an extra-

linguistic factor)' can account for the misuse of articles in Ionin et al.'s study. She proposes that L2 learners use an explicit strategy associating *the* with the presence of "explicitly stated knowledge" (ESK) and associating *a* with the absence of ESK. She tested this proposal in a study with L1 Mandarin Chinese L2 English learners, who seemed to show sensitivity to ESK in their article choice. Therefore, Trenkic concludes that the results in Ionin et al.'s (2004) study might have been biased by the way the notion of specificity was operationalised in the test items.

Tryzna (2009) provides new evidence that questions the interpretation of the results in Ionin et al.'s (2004) study and the tenability of the Article Choice Parameter. She shows that the article *le* in Samoan is used not only with specific indefinites and specific definites, as proposed by Ionin et al. (2004), but also with non-specific definites (while non-specific indefinites are marked with the article *se*). In other words, it appears that *le* is used with definite NPs regardless of whether they are specific or non-specific. In other words, Samoan distinguishes between [-specific, -definite] NPs, on the one hand, and all other NPs ([+specific, -definite], [+specific, +definite], and [-specific, +definite]) on the other hand. In other words, this evidence shows that not all the claims of the Article Choice Parameter can be supported. Thus, for example, no overuse of the indefinite article is predicted with [-specific, +definite] NPs, yet it was attested in Ionin et al.'s study. Tryzna (2009) replicated Ionin et al.'s (2004) study with L1 Polish and L1 Mandarin Chinese speakers. The findings in her study show that the fluctuation pattern was not observed for the Polish group, while the Chinese group fluctuated between *a* and *the* with specific indefinites in singular context but not in plural contexts, therefore, only partially supporting the FH. In addition, based on the individual results, that indicate optionality of article use across all contexts, Tryzna (2009: 68) argues that the use of articles is "better characterised by variability rather than fluctuation".

The above discussion shows that although sensitivity to specificity appears to affect L2 learners' article choice, there is disagreement as to whether this sensitivity is due to the fluctuation between the definiteness setting and the specificity setting of the Article Choice Parameter or to other factors such as the incorrect assembly of the target features on articles (Hawkins et al., 2006) and the operationalisation of the test items in Ionin et al.'s study (2004). In addition, it is suggested that L2 learners performance is often characterised by variability rather than fluctuation (Tryzna, 2009) and not all speakers of article-less L1s fluctuate between specificity and definiteness in their article use. This factor is not taken into consideration under the Fluctuation Hypothesis since it is argued to apply to speakers of article-less languages in general, regardless of the L1 spoken. Although the role of specificity on article choice continues to receive interest in L2 acquisition research (Sabir, 2015, Lopez, 2017), recent evidence has shown that, in addition to

specificity, the semantic notion of uniqueness affects L2 article choice, as discussed in the following section.

2.3 L2 learners have problems with uniqueness

A number of recent studies have attested that, in addition to being affected by specificity in article use, L2 learners from article-less L1s have problems with the uniqueness component encoded in the definite article in English. This problem manifests itself as non-target use of the definite article in non-unique indefinite contexts and in contexts in which only demonstratives should be felicitous. The section discusses previous studies that reported these errors and reviews proposals that were put forth to account for them.

2.3.1 L2 learners do not always map uniqueness onto the definite article

Recent studies on the L2 acquisition of articles (Ko et al. 2008; Yang and Ionin 2009; Ko et al. 2006, 2010) have observed that L2 English learners from article-less L1s overuse the definite article in contexts that do not involve the feature [+specific]. Thus, L2 learners use the definite article in indefinite contexts that are [-specific], but which are [+partitive], as in (14). A [+partitive] context is a context which is compatible with an overt partitive, such as the construction 'one of the NP', for example 'one of the puppies'. In these contexts, an indefinite NP refers a non-specific indefinite member of a previously mentioned set. Thus, in (14) a puppy refers to one of the puppies from the set of five puppies. In [-partitive] contexts, which are not compatible with an overt partitive construction 'on the of the NP' and which do not involve mention of a previous set where a potential referent can be found, exemplified in (15), overuse of the definite article was reported.

(14) [+partitive, -definite, -specific]

This pet shop had five puppies and seven kittens. Finally, John chose a puppy.

(15) [-partitive, -definite, -specific]

Kevin had to memorize two stories and three poems from his textbook. But, he spent the whole evening reading a comic book.

(Ko et al., 2008: 121)

Although the effects of partitivity on the use of articles by L2 English learners have been observed in some early studies (see Kaneko, 1996 for L1 Japanese; Ionin, 2003 for L1 Russian and Korean), these effects have not been systematically investigated. In an attempt to account for the non-target use of the definite article in partitive contexts, Ko et al. (2006, 2010) expand on Ionin et al.'s (2004) proposal that article choice is UG constrained by semantic universals of definiteness and specificity, adding one more universal to this list, mainly presuppositionality. Ko et al. (2006, 2010) put forth an account of the overuse of the definite article with indefinites in partitive contexts, arguing that L2 learners associate the definite article with presuppositionality (presupposition of existence of a referent for the speaker and the hearer).

Ko et al. (2006, 2010) suggest that three independent semantic factors, i.e. definiteness, specificity and presuppositionality, affect article use by L2 learners of English. Moreover, they propose that L2 learners fluctuate between encoding definiteness, specificity and presuppositionality in *the*. Ko et al. (2006, 2010) follow the Fregean view of definiteness (Heim, 1991), according to which definiteness entails the presupposition of existence plus uniqueness. Ko et al. (2006, 2010) treat indefinites as being quantificational expressions (following Heim, 1991), thus suggesting that the semantic notion of indefiniteness lacks both of the above presuppositions. However, they propose that indefinites become presuppositional in partitive contexts, when an indefinite is a member of a previously mentioned set.

In order to test the effects of presuppositionality on article choice, Ko et al. (2006, 2010) investigated article use in indefinite partitive contexts. Ko et al. (2006, 2010) operationalised partitivity with indefinites with the indefinite article *a* as compatible with overt partitive constructions such as *one of the*. On the contrary, non-partitivity was incompatible with overt partitives. In (16a), a set of puppies is mentioned in the context, and a puppy (one of the puppies) is a part of that set. In (16b), no set of puppies is mentioned; therefore, the context is not partitive.

(16) Examples of partitive and non-partitive contexts

a. [+partitive] context

Janet went to a pet shop and saw five puppies and six kittens there. After much deliberation, she chose *a puppy/one of the puppies*.

b. [-partitive] context

Janet was walking down the street when she heard somebody whine. She looked down, and was surprised to see *a puppy/#one of the puppies*.

(Ko et al., 2010: 224)

In order to preclude the possibility that overuse of the definite article in partitive contexts might be due to the fact that L2 learners use *the* when the same noun is mentioned for the second time or that L2 learners do not pay attention to the singular/plural distinction, implicit partitive contexts were used along with explicit partitive contexts. In explicit partitive contexts (17a), an explicit set, of which an indefinite is a member, is mentioned in the context. In implicit partitive contexts, on the other hand, a set is only implied through previous mention of an indefinite NP (17b):

(17) Partitive contexts

a. explicit partitive

This pet shop had five puppies and seven kittens, and Aaron loved all of them. It was difficult for him to make up his mind. But finally, he got *a puppy*.

b. implicit partitive

Jamie went to see our local softball team play. She had a good time. Afterwards, she met *a player*.

(Ko et al., 2010: 231)

Ko et al. (2010) point out that in order to show that L2 learners associate *the* with presuppositionality rather than partitivity as membership in a previously mentioned set, L2 learners should use the definite article correctly in all definite contexts (that are presuppositional by default) and not only in previous mention contexts. In contrast, L2 learners are predicted to overuse the definite article in indefinite partitive contexts, which are presuppositional but which lack uniqueness.

Ko et al. (2010) tested the above predictions with 20 L1 Korean L2 English learners (4 intermediate and 16 advanced) by employing a forced-choice elicitation task based on Ionin et al. (2004). The forced-choice elicitation task consisted of short dialogues in English, in which an article was missing in the target sentence, and participants were instructed to choose between *a*, *the* or no

article. Three context types comparing the use of articles in explicit versus implicit contexts as well as in non-partitive contexts are presented in (18):

(18)a. [-definite,+partitive]: partitivity established explicitly

Elissa: How is your nephew Aaron doing? He is such a nice little boy!

Robert: He has some good news—his parents finally allowed him to get a pet—just one! So last week, he went to our local pet shop. This pet shop had five puppies and seven kittens, and Aaron loved all of them. But he could get only one!

Elissa: Oh, so what did he do?

Robert: Well, it was difficult for him to make up his mind. But finally, he got (a, the, —) puppy. Aaron went home really happy!

b. [-definite,+partitive]: partitivity established implicitly

Jane: Your friend Lucy looks really excited. What's going on?

Mary: Well, last Sunday was a really a big day for her. She went to the airport to see her mother off, and ran into the Boston Red Sox team. You know what? She was very lucky—she got an autograph from (a, the, —) player. And afterwards, she met some friends at the airport! What a day!

c. [-definite,-partitive]

Elissa: How is your nephew Joey doing? He is such a nice boy!

Robert: Well, he was a bit depressed the last few days. So, his parents decided to get him a pet. So last week, he went to our local pet shop.

Elissa: Oh, so did he buy some animal there?

Robert: No, he did not like the puppies in the pet shop, in fact. But then he was walking home, and he found (a, the, —) kitten in the street! So now he has a new pet after all!

(Ko et al., 2010: 236)

The results showed that L2 learners overused the definite article in partitive contexts but not in non-partitive contexts. In addition, there was no significant difference in the overuse of *the* between explicit and implicit partitive context, suggesting that overuse of *the* is not due to mere repetition of the same noun phrase. As predicted, L2 learners hardly ever overused the definite article in non-partitive context.

Ko et al. (2006, 2010) also investigated the combined effects of partitivity and specificity on the use of articles in the four definite contexts as illustrated in (19). Their prediction was that the highest overuse of *the* will be present with referents which are both [+partitive] and [+specific].

(19)a. [-definite, +partitive, +specific]

Molly: So what did your guest Mr. Svenson do over the weekend?

Jamie: Well, he went to see our local softball team play. He had a good time. Afterwards, he met (a, the, —) player—she was very nice and friendly. And she played really well!

b. [-definite, +partitive, -specific]

Ben: I just saw Tom, and he looked really excited. Do you know why?

Melissa: Yes—he was able to see the Boston Red Sox team while they were practicing. And he is a huge fan! He even got a signature from (a, the, —) player—I have no idea which one. Tom was really excited!

c. [-definite, -partitive, +specific]

Jennifer: Hello, Helen? This is Jennifer!

Helen: Hi, Jennifer! It's wonderful to hear from you. I suppose you want to talk to my sister?

Jennifer: Yes, I haven't spoken to her in years! I'd like to talk to her now if possible.

Helen: I'm very sorry, but she doesn't have time to talk right now. She is meeting with (a, the, —) very important client from Seattle. He is quite rich, and she really wants to get his business for our company! She'll call you back later.

d. [-definite, -partitive, -specific]

Wife: Where is Peter? I haven't seen him all evening.

Husband: He is on the phone—he has been on it for hours.

Wife: That's not like Peter at all—he almost never uses the phone.

Husband: But this time, he is talking to (a, the, —) girl—I have no idea who it is, but it's an important conversation to Peter.

(Ko et al., 2010: 239-240)

The results (see Table 3 below) showed that the highest overuse of *the* was attested in contexts which were both partitive and specific (38.75%). However, the additive effect of these two

contexts was not significant, which was not in line with the predictions. On the contrary, when the context was neither partitive nor specific, L2 learners rarely overused *the*.

Table 3. The effects of partitivity and specificity in indefinite contexts (based on Table 5, Ko et al., 2010: 240)

Context		Overuse of <i>the</i>
[+partitive]	[+specific]	38.75%
	[-specific]	16.25%
[-partitive]	[+specific]	30.00%
	[-specific]	3.75%

Moreover, the main ANOVA result showed that there was not significant interaction between partitivity and specificity on *the* use ($F_{(1, 18)} = .168$, $p = .686$), thus suggesting that these two semantic concepts affect *the* overuse independently. In other words, both specificity and partitivity lead to overuse of the definite article. That is, L2 learners overuse the definite article in partitive contexts both in specific or nonspecific contexts, and they overuse the definite article in specific contexts, regardless whether the context is partitive or not. The results also showed that the overuse of the definite article in [+partitive] contexts was reduced by half when the context was [-specific]. As for individual performance, out of 20 Korean participants, 10 were target-like in article choice, only 2 participants made errors in partitive contexts and 5 participants made errors in specific contexts (the remaining 3 participants made mixed errors).

In addition 10 definite contexts, targeting the use of the definite article with prior mention definites, in bridging contexts as well as with generics and possessives were included in the task. These contexts were included to show that the effect of presuppositionality is real and is not due to partitivity (prior mention). Therefore, the definite contexts were both partitive and non-partitive.

(20) Examples of partitive versus non-partitive definite contexts

- a. [+partitive, +definite], prior mention: existence of coach presupposed; existence established through prior mention of a set (team → coach)

Sally: I heard that your daughter Karen is a big fan of the Chicago Bears team!

Roger: Yes, she is. She went to Chicago to see them play. And she got a signature from (a, the, —) head coach. I have no idea who that is, but Karen was really happy.

- b. [-partitive, +definite], no prior mention: existence of governor presupposed; existence established through world knowledge, not prior mention

Husband: So who should we invite to dinner this Saturday night?

Wife: How about Alex and Kate?

Husband: No, that won't work. Kate won't be in town—her company needs her to fly west on an assignment. She is meeting with (a, the, —) governor of Oregon—you know, I can't remember who that is.

(Ko et al., 2010: 244-45)

The results showed that L2 learners used the definite article correctly with both previous mention definites (80.6%) and with definites not involving prior mention (87.5%). Therefore, Ko et al. (2010) argue that L2 learners associate *the* with presuppositionality rather than with partitivity (existence in a previously mentioned set). Based on the findings in their study, Ko et al. (2010) conclude that three independent semantic universals, namely definiteness, specificity and presuppositionality, affect article choice in L2 English learners. However, the question remains as to what leads L2 learners of English to associate the definite article with presuppositionality and not with presuppositionality and uniqueness, assuming that both are semantic universals.

Ko, Perovic, Ionin, and Wexler (2008) (henceforth, Ko et al., 2008) tested the effect of presuppositionality on article choice, attested for L1 Korean L2 English learners (Ko et al., 2006, 2010), with L2 learners from a typologically different but article-less L1, namely Serbo-Croatian. Moreover, they investigated the role of L2 proficiency in article use, hypothesising that variation across learners from different L1s might be due to proficiency and not L1 transfer. The data collected in their experiment from 30 advanced L1 Serbo-Croatian (henceforth, SC) learners of English was compared to the data obtained in the study with 16 advanced and 4 intermediate Korean L2 English learners (Ko et al. 2006, 2010). Ko et al. (2008) report the results in four indefinite contexts, investigating the effects of partitivity and specificity. Table 4 presents the results for the SC group along with the results of the Korean group, reported in Ko et al. (2006, 2010).

Table 4. Overuse of *the* in partitive and specific contexts (Ko et al., 2008: 124)

Context		Overuse of <i>the</i>
[+partitive]	[+specific]	SC: 17.5% Korean: 38.8%
	[-specific]	SC: 15% Korean: 16.3%
[-partitive]	[+specific]	SC: 7.5% Korean: 30%
	[-specific]	SC: 7.5% Korean: 3.8%

Overall, overuse of *the* across all contexts was less common for the SC group than for the Korean group. However, both groups overused *the* more often in [+partitive, +specific] contexts than in the other contexts. Moreover, while the effect of partitivity was significant for both groups, the effect of specificity was not significant for the SC group. In other words, the SC group overused the definite article significantly more in partitive contexts, but not in specific contexts. As far as individual results are concerned, 22 out of 30 participants in the SC group were target like in their use of articles (compared to 10 out of 20 for the Korean group); 3 SC speakers and 2 Korean speakers made partitivity errors, while only 1 SC participant made specificity errors (versus 5 speakers in the Korean group).

Based on these results, Ko et al. (2008) conclude that partitivity affects article choice in L2 learners, regardless of their L1. Moreover, they suggest that partitivity effects are more persistent than specificity effects. That is the reason why the advanced SC group make errors only in partitive contexts. In other words, Ko et al. (2008) argue that overcoming specificity effects, which requires learning that the use of the definite article presupposes the common ground between the speaker and the hearer, happens earlier than overcoming partitivity effects, that is, learning that the use of *the* requires the presupposition of existence and uniqueness, and not just the presupposition of existence. In other words, they suggest that proficiency plays a role in determining which effects are persistent in article use.

Ko et al. (2008) suggest that the reason partitivity effects are more persistent than specificity effects is due to the fact that definiteness always entails presuppositionality, while it does not necessarily entail specificity. In other words, according to them, it is easier to abandon the

hypothesis that *the* is associated with specificity than that it is associated with presuppositionality.

Another study that reports problems with computing uniqueness is Yang and Ionin (2009). They investigated interpretation of English articles in [+unique] versus [-unique] contexts by 65 L1 Mandarin Chinese L2 intermediate English learners in an acceptability judgement task. The participants were asked to read pairs of sentences and judge on a scale from 1 (unacceptable) to 4 (acceptable) whether the second sentence is an acceptable continuation of the first sentence. There were 40 sentence pairs targeting 5 categories, presented in (21)-(25).

(21) *Uniqueness established through previous mention (target the)*

- a. I saw a cat. I stroked the cat.
- b. I saw a cat. I stroked a cat.

(22) *Uniqueness established through association (target the)*

- a. I went to a wedding yesterday. The bride was very beautiful.
- b. I went to a wedding yesterday. A bride was very beautiful

(23) *Uniqueness established through the possession relation, with a genitive of-PP (target the)*

- a. I bought a house. The roof of my house is grey.
- b. I bought a house. A roof of my house is grey.

(24) *Non-uniqueness with previous mention (target a)*

- a. Dennis has many interesting books.
His cousin borrowed the book from him yesterday.
- b. Dennis has many interesting books.
His cousin borrowed a book from him yesterday.

(25) *Non-uniqueness with association (target a)*

- a. I went to a wedding yesterday. The guest gave a speech.
- b. I went to a wedding yesterday. A guest gave a speech.

(Yang & Ionin, 2009: 330)

The target article in the categories (21)-(23) is the definite article *as*, according to Yang and Ionin (2009), the reference is made to a unique referent in the context. In contrast, only the indefinite article is felicitous in (24)-(25), since the intended referent is one of the members of a previously introduced set. The results are summarised in Table 5 (from Yang & Ionin, 2009: 331).

Table 5. Mean score for each context across the five categories for two groups of participants

Categories	L1-Chinese L2-English learners (N=65)		L1-English speakers (N=27)	
	mean rating of sentences with the	mean rating of sentences with a	mean rating of sentences with the	mean rating of sentences with a
1. unique through previous mention (target: <i>the</i>)	3.223	2.104*	3.574	2.009*
2. unique through association (target: <i>the</i>)	3.400	2.285*	3.694	2.055*
3. unique through possession relation, with 'of' (target: <i>the</i>)	3.392	2.881*	3.528	1.870*
4. non-unique with previous mention (target: <i>a</i>)	2.435*	2.873	1.843*	3.389
5. non-unique with association (target: <i>a</i>)	3.004	3.088	2.194*	3.176

*difference in mean rating of *the* vs. *a* is significant at $p < .05$

The results show that L2 learners distinguish between the definite article and the indefinite article in categories 1-3 (Table 5), preferring the definite article, which is appropriate in these categories. Based on this evidence, Yang and Ionin (2009) argue that the Chinese group are able to distinguish *the* from *a* based on the concept of uniqueness. As far as the indefinite categories are concerned, the Chinese group tended to rate the infelicitous *the* in these categories quite highly. In particular, they do not differ in their ratings of *a* and *the* in category 5 (Table 5), i.e., non-uniqueness with association. Yang and Ionin (2009) argue that the results in category 5 suggests that L2 learners associate *the* with membership in a previously mentioned set, but not with uniqueness. However, they do not offer an explanation as to why non-unique contexts with association are more problematic than non-unique contexts with previous mention.

To recapitulate, Yang and Ionin (2009) argue that overuse of the definite article in partitive contexts by the Chinese group of learners is due to the difficulty in establishing uniqueness. They suggest that L1 Chinese L2 English learners know that the definite article encodes the presupposition of uniqueness, as they have access to the semantic universal of definiteness with the central notion of uniqueness. However, they have problems in establishing it as they associate the definite article with the discourse factors of previous mention and association. They follow Ko et al. (2006, 2008) in suggesting that L2 learners associate the definite article with the presupposition of existence, as this presupposition is established through previous mention or association. However, similar to Ko et al. (2006, 2008), they do not offer a plausible account for such associations.

2.3.2 L2 learners map the semantics of demonstratives onto the definite article

It has been observed that L2 learners from article-less L1s tend to map the semantics of L1 demonstratives onto the definite article in English. This, in turn, results in non-target use of the definite article in contexts in which demonstratives are good but a definite article is not felicitous. For example, Robertson (2000) reports that L1 Mandarin Chinese L2 English learners in his study produced demonstratives, in particular the demonstrative *this*, in the immediate situation context (based on the classification proposed by Hawkins, 1978), in which a definite article would be expected in the English native speaker grammar. An example of such misuse is exemplified in (26).

(26) Erm . . . , okay. Er, there's a, in *this triangle*, there's a + in the two, two line, two . . . you know, er, *this triangle* . . .

(Robertson, 2000: 168)

The sentence in (26) was uttered by an L1 Mandarin Chinese speaker when completing a referential communication task. In this task, two learners worked together and they had to reproduce each other's diagrams on an A4 sheet, by giving verbal instructions to each other and without seeing each other's diagrams. In other words, this an example of an immediate situation use, in which the intended referent is not visible to the hearer and, therefore, the use of demonstratives is not felicitous in English. Yet, as can be seen from (26) this learner produces demonstratives rather than a definite article with the target NP. The main focus of Robertson's study was to investigate the suppliance and omission of articles in English in obligatory contexts

and not on the distinction between the use of demonstratives and the definite article. However, the findings showed that L2 learners sometimes used demonstratives in contexts in which only the definite article is appropriate in English. Robertson suggests that this use is due to the fact that Mandarin Chinese native speakers equate the definite article in English with the closest equivalent in their L1 Mandarin Chinese, i.e. the demonstratives *zhei* 'this' and *nei* 'that', and assign their semantics to the definite article in English.

Ionin, Baek and Kim (2012) (henceforth, Ionin et al., 2012) were the first study that systematically investigated the interpretation that L2 learners assign to the definite article versus demonstratives in English. Following Roberts (2002) and Wolter (2006), Ionin et al. (2012) argue that both the definite article and demonstratives encode uniqueness; however, while for the definite article uniqueness is established in the discourse, uniqueness with demonstratives applies to the immediately salient situation. They illustrate this difference citing an example from Wolter (2006: 4), as exemplified in (27).

(27) A woman entered from stage left. Another woman entered from stage right.

That/this/#the woman was carrying a basket of flowers.

Following Wolter (2006), Ionin et al. (2012) suggest that *the woman* is not felicitous in (27) as two women are mentioned in the previous context. On the contrary, *that woman* is perfectly fine as it refers back to the immediately salient antecedent, i.e. *another woman*.

Ionin et al. (2012) hypothesised that since the native language, i.e. Korean, of the L2 learners in their study lacks articles but has demonstratives, L2 learners will initially map the semantics of demonstratives onto *the* in English, assigning it the semantics of uniqueness which is computed in the immediately salient situation rather than in the discourse. In other words, under this hypothesis, L2 learners were predicted to allow *the woman* in (27) to refer to 'another woman'. Ionin et al. (2012) also tested the interpretation of demonstrative and definite descriptions in contexts in which both demonstratives and the definite article are felicitous, namely in anaphoric (second-mention) contexts, as illustrated in (28).

(28)The curtain rose. A woman came onto the stage. Then *the/that woman* started singing and dancing.

(Ionin et al., 2012:75)

Ionin et al. (2012) investigated the interpretation of demonstrative versus definite descriptions by 48 L1 Korean L2 English learners (of intermediate and advanced proficiency) in two tasks: a written elicited production task and a picture-based comprehension task. The written task was a forced-choice elicitation task: L2 learners were presented with a context (story) and were asked to fill a gap choosing from four possible answers: *the, that, a, one*. There were three experimental conditions, as presented below.

(29)*Unique and salient category: both ‘the’ and ‘that’ possible, but ‘the’ preferred*

Betsy was staying at a hotel, and didn’t have anything to read. It was too early to go to bed. So she went to a bookstore, and bought a magazine. Then she came back to her hotel and read ____ magazine. She enjoyed it a lot.

(30)*Unique and non-salient category: ‘the’ preferred over ‘that’*

Vicky was getting ready for a long train trip, and she wanted something to read on her trip. So she went to the library, and got out a book and a new magazine, and packed them in her bag. The next day, Vicky got on the train. She found her seat and sat down. Then, she read ____ book. It was really interesting.

(31)*Non-unique category: ‘that’ preferred over ‘the’*

Richard went to a bookstore and bought two books to read. One of the books turned out to be long and boring. But the other book had a really exciting storyline. So Richard finished ____ book. He read it in just one night.

Two variables were operationalised in their task design: uniqueness of the target NP and salience. Thus, a context was considered unique, if there was one referent that matched the descriptive content of the target NP, as in (29) and (30). If the context contained two potential referents, the context was considered non-unique (31). The context was considered salient if the antecedent for the target NP was introduced in the immediate preceding sentence, as in (29) and the context

was non-salient, if the target NP and its antecedent were separated by intervening sentences, yielding the referent less immediately salient, as exemplified in (30).

The results showed that while L2 learners were target-like in choosing the definite article in contexts in which it is an appropriate choice in English, i.e., unique and salient (29) and unique and non-salient (30), L2 learners, in particular those of low proficiency, produced *the* in contexts in which the definite article is not felicitous in English, i.e., non-unique category in (31).

Accounting to these results, Ionin et al. (2012) suggest that L2 learners, particularly those of low proficiency level, have not yet learned that the use of the definite article implies that uniqueness is calculated relevant to the entire discourse rather than to the immediately salient discourse.

In the picture-based comprehension task, L2 learners were presented with pictures that contained a number of identical objects, for example six pencils. They were instructed to first draw two arrows below two pencils and then draw triangles around *the* pencils or *those* pencils. It was predicted that if L2 learners associate demonstratives with the definite article they will be computing uniqueness, or inclusiveness (maximality) in this case, relevant to the immediate salient discourse: in other words, L2 learners were predicted to draw triangles around the two pencils with arrows rather than around the maximal set of 6 pencils. This indeed was attested for both L2 learner groups, regardless of their proficiency.

Based on the results in the two tasks, Ionin et al. (2012) concluded that mapping the semantics of L1 demonstratives onto the definite article in English results in the assignment of non-target form-meaning mappings to the definite article in English. On their proposal, the definite article is assigned the semantics of uniqueness which is computed relevant to the immediately salient discourse rather than to the entire discourse.³ In addition, Ionin et al. suggest that these non-target form-meaning mappings are more difficult to overcome in comprehension than in production. To summarise, although the results in Ionin et al.'s study were obtained from L2 learners whose L1 is Korean, and more data from L2 learners of different L1s is needed in order to generalise their findings, the results show that L2 learners from article-less L1s are influenced by the semantics of demonstratives in their L1 when they acquire the definite article in English.

A recent study by Cho (2016) looks at the acquisition of definites in English also by L1 Korean speakers. To the best of my knowledge, this is the first study that investigated the acquisition of

³ Note that based on the proposal advanced in this thesis, it is the notion of familiarity that unites demonstratives and the definite article, and not the notion of uniqueness as suggested by Ionin et al. (2012).

definites in English within the Feature Reassembly Hypothesis (Lardiere, 2008, 2009a, 2009b). Therefore, it is of particular relevance to the present investigation. Cho (2016) proposes that the definite article in English encodes the semantic features [+definite, ±anaphoric]. In other words, definites are divided between anaphoric and non-anaphoric. Anaphoric definites refer to definites that have an antecedent in the preceding discourse, as exemplified in (32). Non-anaphoric definites, on the other hand, have no potential antecedent, as illustrated in (33) (from Cho, 2016: 3-4).

(32) I bought a car and a bicycle. The bicycle was more expensive than the car.

(33) The moon was very bright last night.

Korean lacks articles, but has demonstratives. Following Chang (2009), Cho suggests that Korean distinguishes between the two types of definites, i.e. anaphoric and non-anaphoric, but it only marks anaphoric definites through the demonstrative *ku*, while bare nouns are used with non-anaphoric definites. Cho proposes that *ku* in Korean has the features [+definite, +anaphoric]. In other words, it does not encode the [-anaphoric] feature, which is, on the other hand, encoded in the definite article in English.

Based on the Feature Reassembly Hypothesis (Lardiere, 2009), Cho predicts that the difference in the way English and Korean mark the distinction between anaphoric and non-anaphoric definites (i.e., *the* marks both anaphoric and non-anaphoric definites, while *ku* marks only anaphoric definites) is expected to influence the acquisition of the definite article by L1 Korean speakers. More specifically, Cho predicts that due to perceived similarities between demonstratives and the definite article, Korean speakers will initially map the features [+definite, +anaphoric] from *ku* onto *the* in English. With increased exposure to input, Korean speakers are predicted to add the feature [-anaphoric] to the featural specification of *the*.

Cho tested these predictions through examining L2 Korean speakers' judgments of anaphoric and non-anaphoric definites in an acceptability judgment task (AJT). The AJT contained 4 types of definite contexts: direct anaphoric, taxonomic anaphoric, anaphoric bridging and non-anaphoric bridging. Each context contained sentences with target definite NPs and sentences with non-target indefinite NPs. The four contexts are illustrated below (from Cho, 2016: 10).

(34) *Direct anaphoric definite context*

- a. Jackie made a cake for the party. She served the cake with coffee and tea.

- b. Kevin ordered a cake from the grocery store. #He went to pick up a cake but it was not ready.

(35) *Taxonomic anaphoric definite context*

- a. Lydia's family purchased a dessert. They ate the cake after dinner.
- b. Marianne and her daughters shared a dessert. #They enjoyed a cake.

(36) *Anaphoric bridging definite context*

- a. Tori baked for her office this morning. Her co-workers enjoyed the cake.
- b. Rachel baked for her husband. #He enjoyed a cake

(37) *Non-anaphoric bridging definite context*

- a. It was Sophie's first birthday. She smashed the cake with her hands.
- b. Patrick celebrated his birthday with his friends. #They enjoyed a cake.

In (34), the target DP, *the cake*, is directly anaphoric to the same head noun antecedent, *a cake*, mentioned in the first sentence. In (35), the target DP, *the cake* is anaphoric to the previously mentioned *a dessert* through lexical association. Cho includes two types of bridging contexts, in which the intended definite NP does not have an explicit antecedent. However, she distinguishes between two types of bridging: anaphoric and non-anaphoric. Thus, she argues that (36) is an example of anaphoric bridging: although the target DP *the cake* does not have an explicit antecedent, Cho suggests that the antecedent *a cake* is implied as a direct object of the verb to bake. Non-anaphoric bridging definites (37), according to Cho, do not have an antecedent (either explicit or implicit), and they are definite through situational uniqueness. Situational uniqueness is what, according to Cho, makes *the cake* definite in (37).⁴ An indefinite NP is infelicitous in either of the four contexts. In addition, control items in which only indefinite NPs are acceptable, since the intended referent is mentioned for the first time and is not unique in context, as in (38), were included in the AJT.

⁴ However, note that in (37), *the cake* is definite because it is general knowledge that in a situation of a birthday there is usually one unique cake. In other words, on the proposal advanced in this thesis, *the cake* is indirectly anaphoric to *a birthday* by being its unique part, since without the mention of *a birthday* in the preceding discourse, the utterance *the cake* will not be felicitous if mentioned out-of-the-blue and its interpretation depends on the previously mentioned indirect antecedent

(38)Caroline had a day off yesterday. She went to see a play/# the play.

Cho (2016) shows that in Korean, the demonstrative *ku* is felicitous not only in contexts involving explicit anaphoric NPs, as in (34) and (35), but also in anaphoric bridging contexts, as in (36). In contrast, only bare NPs are allowed in (37). The difference between how English and Korean express the features [+definite, +anaphoric] and [+definite, –anaphoric] are summarised in Table 6.

Table 6. The encoding of different types of definite NPs in English and Korean (Cho, 2016: 8)

	Anaphoric definite [+definite, +anaphoric]			Non-anaphoric definite [+definite, –anaphoric]
	Direct anaphoric	Taxonomic anaphoric	Anaphoric bridging	Non-anaphoric bridging
English	the	the	the	the
Korean	ku	ku	ku	bare NP

Cho predicted that if L2 learners transfer the semantic features of [+definite, +anaphoric] from *ku* to *the*, they will be more target-like in anaphoric than in non-anaphoric definite contexts. The participants were asked to read pairs of sentences in the AJT and rate on a scale from 1 (unacceptable) to 4 (acceptable) whether the second sentence in a pair is an acceptable continuation of the first sentence.

The results showed that the native control group rated definite NPs (target) higher than indefinite NPs across all four definite conditions. The L1 Korean intermediate group distinguished between definite NPs (rating them higher) and indefinite NPs in the three anaphoric contexts, but not in the non-anaphoric definite context. As for the advanced group, they rated definites higher than indefinites in the direct and taxonomic anaphoric conditions, but did not differ in their ratings between definite and indefinite NPs in the anaphoric and non-anaphoric bridging conditions. As for the ratings in the control indefinite condition, both intermediate and advanced groups rated indefinite NPs (target) higher than definite NPs in this condition.

Based on the results from the intermediate L2 learners, Cho argues that these L2 learners mapped the features [+definite, +anaphoric] from *ku* to *the*. That is why they are target-like in anaphoric definite contexts, but not in non-anaphoric contexts. Accounting for the performance in the indefinite condition, Cho suggests that since all indefinite NPs are necessarily non-anaphoric, and L2 learners initially map only the feature [+anaphoric] onto *the*, L2 learners are target in interpreting indefinite NPs.

As for the advanced L2 learner group, Cho suggests that their non-target like performance in bridging contexts (both anaphoric and non-anaphoric) compared to other definite contexts can be accounted for by the nature of bridging contexts themselves. More specifically, Cho speculates that since bridging NPs require presupposition of accommodation on behalf of the hearer (for example, that Tori baked a cake and not cookies in (36) and that a birthday party had just one cake in (37)), advanced L2 learners seem to accommodate indefinite NPs in these contexts. In other words, she suggests that the interpretation of articles by advanced L2 learners is not governed by anaphoricity and that they have correctly assembled the target [+definite, ±anaphoric] features on *the*. However, this claim does not receive support by the advanced L2 learners' data. The learners were predicted to be more accurate at rating the definite article in the [+anaphoric] bridging condition than in the [-anaphoric] bridging condition, if they map [+anaphoric] from *ku* onto *the*. Contra the predictions, the advanced learners treated these conditions in the same way, not differing in their ratings between definite and indefinite NPs in these two conditions.

2.4 Implications and limitations of previous research and unanswered questions

Previous research on the L2 acquisition of definiteness in English has shown that L2 English learners have problems in expressing the meaning of definiteness through articles in English. These problems with the use of articles are ascribed to non-target form-meaning mappings, i.e. mapping of non-target semantics onto the articles in English. More specifically, as the discussion in this chapter has shown, L2 learners tend to map the meaning of specificity onto the definite article, incorrectly producing it in specific indefinite contexts. A lot of research has been done on the effects of specificity on article choice. However, since most of the studies replicated Ionin et al.'s (2004) study, the limitation of this research is that findings were obtained using the same

methodology. In other words, in order to preclude the possibility that sensitivity to specificity is not due to the task effect (as argued, for example, by Trenkic, 2008), further research should investigate the effect of specificity on article choice using a different task or a combination of different tasks.

In addition, following Hawkins et al. (2006), Trenkic (2008) and Tryzna (2009), this thesis argues against the construction of a specific semantic parameter. However, the premises for this argument are different from those advanced in the aforementioned proposals. This thesis argues that semantics is universal and is not subject to parameterisation. Although it is possible that the semantic notion of specificity influences article choice in the L2 grammar, this thesis suggests that since specificity is a universal notion which all languages can express, languages variation lies in how they express this notion. For example, in English specificity is marked on the demonstrative *this*, while in Samoan specificity is expressed by articles. In Mandarin Chinese, on the other hand, specificity is expressed through other means, such as *yi* 'one' *CL[classifier]* construction. In other words, L2 English learners know what the notion of specificity entails, however, they have not yet acquired that specificity is not overtly marked on articles in English and how this notion interacts with definiteness. In addition, as articles in English are used in different types of contexts, L2 learners might have difficulty figuring out what meanings articles in English encode, thus, optionally associating them with either specificity or definiteness.

In other words, it is possible that the problem lies in the form-meaning mapping at the syntax-semantics interface which is influenced by L1 transfer rather than in a fluctuation between the two settings of a semantic parameter. That is, L1 transfer, which is not taken into account under the ACP, can account for L2 learners' article choice. In particular, L1 transfer can account for the fact that even when L2 learners are matched for proficiency and the length of exposure to the L2 input, L2 learners from some L1 backgrounds are better in using articles (i.e., hardly ever fluctuate) than L2 learners from other L1 backgrounds. This was attested, for example, in Tryzna's (2009) study, in which L1 Polish speakers were better in using articles than L1 Chinese speakers.

Another finding from the previous research is that L2 English learners have problems in mapping the meaning of uniqueness onto the definite article, thus incorrectly using it in non-unique indefinite contexts. However, this difficulty has only recently received systematic investigation and the findings so far have been inconclusive. Accounting for the misuse of the definite article in non-unique indefinite contexts (i.e. partitive contexts), previous proposals suggested that this is due to the fact that L2 learners associate the definite article with the presupposition of existence, previous mention and association, but not always with the presupposition of uniqueness (Ko et al., 2006, 2010; Yang & Ionin, 2009). However, since the meaning of uniqueness is a universal

meaning that is expressed in all languages, a question remains as to why L2 English learners have difficulty mapping this meaning onto the definite article in English.

For example, on Ko et al's (2006, 2010) proposal, it is not clear why L2 learners choose to associate the definite article with presuppositionality and not with uniqueness. Both presuppositionality and uniqueness are entailed in *the*, and both of these semantic universals are present in L2 learners' L1s. Therefore, there should not be any a priori reason for associating *the* with just presuppositionality and not with both presuppositionality and uniqueness. Other researchers, Yang and Ionin (2009), suggest that L2 learners assign the target semantics, namely that of (non)uniqueness, to English articles; however, they tend to rely on previous mention and association in their use of articles in English. Yang and Ionin (2009) do not offer an explanation for such over-reliance and acknowledge that it is not clear why L2 learners tend to rely on previous mention and association in their use of articles in English and how L2 learners overcome this over-reliance.

As for the attested misuse of the definite article in contexts that require the use of demonstratives, it is argued that this is due to the L1 transfer of the semantics of L1 demonstratives onto *the*. More specifically, Ionin et al. (2012) suggest that although L2 learners map uniqueness onto the definite article in English, they compute uniqueness relative to the immediately salient situation, as is the case for demonstratives, and not relative to the discourse situation, as is the case for the definite article.⁵ As will be shown in Chapter 3, it is the notion of familiarity, rather than uniqueness, that the definite article and demonstratives have in common, and it will be further suggested (Chapter 6), that the reason L2 learners incorrectly allow the definite article in contexts requiring demonstratives is because L2 learners compute familiarity relative to the immediately salient antecedent, as is the case for demonstratives, and not relative to the most salient antecedent, as is the case for the definite article.

In a recent study by Cho (2016), she suggests that L2 learners from article-less L1s are better in using the definite article in contexts which are compatible with the use of demonstratives in an article-less L1, i.e. anaphoric definite context, because they map anaphoric definiteness from L1 demonstratives onto *the*. In addition, Cho assumes that only definite contexts can be anaphoric. However, as will be discussed in Chapter 3, indefinite NPs can also be anaphoric and that anaphoricity is not an inherent feature of definite NPs, as suggested by Cho (2016).

⁵ Note that on the proposal advanced in this thesis, it is the semantic notion of familiarity (and not uniqueness) that demonstratives and the definite article have in common.

As can be seen from the review of the previous studies, there is not a consensus as to whether uniqueness is mapped or not onto the definite article in English. The discussion of the previous studies also shows that in some studies definiteness is equated with uniqueness, while in a recent study by Cho (2016), the distinction is made between anaphoric and non-anaphoric definites.

This thesis aims to offer a new account for the attested problems with the misuse of the definite article in non-unique indefinite contexts and in contexts requiring demonstratives. This is achieved by, first, reconsidering the semantics of definiteness and how this notion is expressed cross-linguistically, and, second, through formulating the exact acquisition task situated within the Feature Reassembly Hypothesis (Lardiere, 2008, 2009a,b) and the cline of difficulty in feature acquisition proposed by Slabakova (2008). In particular, it is argued that the concept of definiteness is comprised of two independent notions: familiarity and uniqueness, and not just one (either familiarity or uniqueness, as treated in previous studies). It is further argued that the mismatches between how uniqueness and familiarity are expressed in the L1 and the L2 will affect the acquisition of the expression of these features in the L2 (as discussed in Chapter 6). The notion of definiteness and the cross-linguistic analysis of this meaning are discussed in Chapter 3.

Chapter 3: Definiteness reconsidered: two notions of definiteness cross-linguistically

3.1 Introduction

This chapter discusses the semantics of definiteness and its expressions across languages, focusing on English, Mandarin Chinese and Russian, the three languages under investigation in this thesis. First, the chapter offers an overview of the two main competing approaches to defining definiteness, the Uniqueness Approach and the Familiarity Approach.⁶ Then, it looks at the way the meaning of definiteness is expressed in English. This discussion is followed by a section that considers how each approach to definiteness accounts for the different uses of the articles in English. The discussion shows that each of the approaches to definiteness can account only for some uses of the definite article in English, suggesting that both approaches to definiteness are needed (as argued by Birner & Ward, 1994; Schwarz, 2009).

Section 3.5 offers cross-linguistic evidence that both familiarity and uniqueness are two independent notions of the meaning of definiteness. The evidence comes from languages that mark familiarity and uniqueness with two distinct definite articles (Fering, German) as well as from languages in which familiarity is marked with a definite article while uniqueness is expressed via bare nominals (Akan). In addition, evidence from article-less languages shows that the distinction between familiarity and uniqueness is present even in the absence of articles. In these languages, while familiarity and uniqueness are usually expressed through bare NPs, familiarity can be optionally marked by demonstratives.

Based on the cross-linguistic distinction between the two notions of definiteness, this thesis argues, following Birner and Ward (1994), Schwarz (2009, 2013) and Jenks (2017), that familiarity and uniqueness are universal meanings of definiteness. Furthermore, it is proposed that although English does not mark the distinction between familiarity and uniqueness morphologically, the two notions are expressed through one form, i.e. the definite article in English. The chapter concludes by proposing that the cross-linguistic variation in the expression of definiteness lies in

⁶ Although in my discussion of definiteness I focus on these two accounts, I should note that there are other accounts of definiteness which do not preclude that other aspects, such as, for example, referent salience (Lewis, 1978) or referent givenness (Gundel et al., 1993), play a role in the use of definite descriptions.

the way languages choose to express familiarity and uniqueness. More specifically, the variation lies in whether languages express these two notions overtly through morpholexical means or covertly through bare nominals. The detailed examination of the meaning of definiteness as well as the discussion of the cross-linguistic variation in how languages express this meaning will allow us to formulate the exact learning task that native speakers of Mandarin Chinese and Russian face when they acquire definiteness in L2 English (discussed in Chapter 6).

3.2 The semantics of definiteness: two competing approaches

Through decades the analysis of definiteness has been characterised through a longstanding debate on the main notions that this concept expresses. The word definiteness is often used as an umbrella term for such concepts as familiarity and uniqueness. While some suggest that at the core of definiteness lies uniqueness (Frege, 1892; Russell, 1905; Strawson, 1950; Abbott, 1999, 2004; Elbourne, 2013; among many others), others argue that it is familiarity that defines this concept (Christophersen, 1939; Heim 1982). The following section discusses these two views on definiteness.

3.2.1 The Uniqueness Approach

The Uniqueness Approach to definiteness goes back to the philosophical views of Frege (1892), Russell (1905), and Strawson (1950). Under the Russellian view to definiteness, singular definite nouns assert the existence and uniqueness of an entity, as exemplified in (39).

(39)The student arrived.

a. $\exists x[\text{Student}(x) \ \& \ \forall y[\text{Student}(y) \rightarrow y = x] \ \& \ \text{Arrived}(x)]$

b. There is one and no more than one thing which is a student, and that thing arrived.

(from Abbott, 2004: 4)

The sentence in (39) asserts that there is one and only one entity x such that x is 'the student' and it has the property of 'arrived', and no other entity has this property. In other words, there exists only one, unique, entity that meets the descriptive content of the NP.

Indefinite NPs, on the other hand, do not involve uniqueness, and merely assert the existence of an entity, as illustrated in (40).

(40) A student arrived.

a. $\exists x[\text{Student}(x) \ \& \ \text{Arrived}(x)]$

b. There exists something which is both a student and arrived.

(from Abbott, 2004: 3)

The sentence in (40) asserts that there is at least one student who arrived. However, it is vague to whether there were or not other students who arrived. In other words, indefinites are neutral to the uniqueness requirement.

While on Russell's view, definite NPs assert the existence and uniqueness of an entity, on Strawson's (1950, 1952) view, existence and uniqueness of an entity are presupposed.⁷ In other words, a unique referent should be presupposed to exist in a given situation in order for a sentence to satisfy its true value condition. In addition, on Strawson's view, uniqueness should apply to the relevant universe of discourse, rather than to the world at large, as suggested by Russell. Therefore, the main difference between examples (39) and (40) is that the definite NP in (39) presupposes that there is at most one (unique) entity in the domain of discourse, while the indefinite NP in (40) lacks such presupposition.

To recapitulate, the Uniqueness Approach to definiteness considers the presupposition of uniqueness as the core of definiteness. Under this account, the hearer can identify the speaker's intended referent based on the descriptive content of the noun phrase in the relevant discourse situation.

3.2.2 The Familiarity Approach

The Familiarity Approach to definiteness goes back to Christophersen (1939) and is formalised in Heim (1982). Based on this approach, a definite NP signals a familiar referent for the speaker and the hearer, whereas an indefinite NP introduces a novel referent. A referent here stands for a

⁷ This claim was expressed earlier by Frege (1892)

mental representation of an entity denoted by a linguistic expression in the universe of discourse. In other words, a referent is familiar if the speaker and the hearer already have some mental representation of the intended referent at the time of discourse, while a referent is novel if such mental representation is absent. Heim (1982: 6) points out that “[f]amiliarity may be a matter of having an antecedent in the text, or else of having a contextually salient referent”.

On this view, the referent is familiar if it has been previously introduced through a linguistic antecedent in the text, as in (41).

(41) There is *a cat* behind you. *The cat* is hungry.

(Heim, 1982: 237)

In (41), the first mention of ‘a cat’ refers to a new referent for the hearer, while ‘the cat’ in the second sentence refers to a familiar, and, thus, definite, referent for the hearer, as it has been previously introduced by the linguistic antecedent ‘a cat’.

However, having a linguistic antecedent in text is not a necessary condition for establishing familiarity. Thus, (42) can be uttered in a situation with a contextually salient cat, for example, in a visible situation containing a cat which is perceptually salient to the speaker and the hearer.

(42) The cat is hungry.

(Heim, 1982: 235)

In other words, familiarity in (42) is established based on the fact that *the cat* is visible and is perceptually salient for the speaker and the hearer in the discourse situation.

To recapitulate, the Familiarity Approach to definiteness considers familiarity as the core of definiteness suggesting that familiarity entails that the hearer already has a mental representation of the speaker’s intended referent. Familiarity on this account can be achieved through either previous mention or through contextual salience. The next section discusses the expressions of definiteness in English and how each approach to definiteness accounts for their uses.

3.3 Definiteness in English

Languages that have articles in their grammatical system, express the meaning of definiteness and indefiniteness through definite and indefinite articles. As the main focus of this thesis is on definiteness, the expressions of indefiniteness will only be mentioned to show how they contrast with the expressions of definiteness. English, the language under investigation in this thesis, expresses definiteness through the definite article *the* and indefiniteness through the indefinite article *a*. This section discusses the four main uses of the definite article in English (after Hawkins, 1978) and how these uses contrast with the uses of the indefinite article. The section also looks at the distinction between the uses of the definite article and demonstratives, since the latter can be used interchangeably with the definite article in some contexts, while in other contexts they are infelicitous. The section concludes by discussing how each of the two approaches to definiteness accounts for the uses of the definite article and by showing that neither approach is able to account for all the uses of the definite article in English.

3.3.1 Articles

The study of the definite article and its uses in English has received a lot of attention over the years (Christophersen, 1939; Grannis, 1972; Hawkins 1978; Lyons, 1980; Löbner, 1985; Birner & Ward, 1994; among many others). Hawkins (1978) is one of the most comprehensive studies of definiteness in English. Hawkins (1978) distinguishes between four major uses of the definite article in English: anaphoric use, associative anaphoric use, visible/immediate situation use and larger situation use. These uses are discussed and exemplified below.

In the anaphoric use, the definite NP is anaphoric to the linguistic antecedent introduced in the previous discourse, as exemplified in (43).

(43) *Anaphoric use*

- a. Fred was discussing an interesting book in his class. I went to discuss the book with him afterwards.

(Hawkins, 1978: 86)

In (43), a new referent, *an interesting book*, is introduced into the discourse with an indefinite article. The subsequent mention of the same referent is then made with the use of the definite

article, *the book*, since the referent has already formed a mental representation in the hearer's mind (through the first mention of *a book*).

The associative anaphoric use, or the so-called bridging use (Clark, 1975), is illustrated in (44). This use is based on the associative relationship between an indefinite antecedent and its definite associates. This associative relationship (bridging between the definite NP and its antecedent) is established based on general knowledge that the relevant definite NPs are unique parts of some larger objects or situations realised through an indefinite NP.

(44) *Associative anaphoric (bridging) use*

- a. Mary stopped to look at *a house*. *The door* was open.

(Hawkins, 1978: 101)

Thus, in (44), the definite article is felicitously used with *door*, as it is general knowledge that a situation of a house generally contains one (unique) entrance door.

In the visible situation use, exemplified in (45), it is the uniqueness of the referent in a given visible situation that yields a definiteness reading.

(45) *Visible situation use*

- a. Pass me the bucket, please.

(Hawkins, 1978: 103)

Thus, in (45), the intended referent of *the bucket* can be unambiguously identified by the hearer as it refers to only one (unique) referent in the relevant visible situation.

The immediate situation use is similar to the visible situation use in that the definite NP refers to a unique referent, as illustrated in (46). However, contrary to the visible situation use, the referent need not be visible for discourse participants.

(46) *Immediate situation use*

- a. Don't go in there, chum. *The dog* will bite you.

(Hawkins, 1978: 112)

Thus, the utterance in (46) informs the hearer that there is a unique dog in the immediate situation of utterance that might bite him.

In the larger situation use, exemplified in (47), the intended referent is definite as it refers to a unique entity in the relevant larger situation, such as in a situation of a town, country or the world.

(47) *Larger situation use*

- a. The Prime Minister has just resigned.

(Hawkins, 1978: 116)

In (47), the use of the definite article is felicitous with *Prime Minister* because based on general knowledge it is known that a given country has just one (unique) prime minister.

With regard to the uses of the indefinite article, Hawkins (1978) suggests that the indefinite article is used when the referent is mentioned for the first time (out-of-the-blue) and the hearer does not have a mental representation of the referent in his mind. This use is exemplified in (48).

(48) *First mention (out-of-the-blue) use of indefinite NPs*

- a. A student came up to me yesterday.

(Hawkins, 1978: 196)

In (48), the speaker introduces a referent, *a student*, to the hearer for the first time, and this referent is not familiar to the hearer. However, Hawkins (1978) points out that the use of the indefinite article with *student* does not inform the hearer of whether only one student came up to

the speaker yesterday or whether there were more than one student. In other words, indefinite NPs express non-familiarity but seem to be neutral to the presupposition of uniqueness.

However, Hawkins (1978) argues that indefinite NPs can implicate non-uniqueness if they are part/member of a set. Hawkins (1978) contrasts the four major uses of the definite article with the uses of an indefinite article and illustrates how the non-uniqueness reading arises with indefinite NPs. Thus, Hawkins (1978) shows that indefinite NPs implicate non-uniqueness in anaphoric uses (49) and in associative anaphoric uses (50). In this uses, the intended indefinite NP is a part/member of an explicitly or implicitly introduced set.

(49) Anaphoric use of indefinite NPs

- a. Some students were standing outside the factory gate. Bill kept his eye on them. After a little while *a student* came up to him and asked him his name.

(Hawkins, 1978: 174)

(50) Associative anaphoric use of indefinite NPs

- a. I've just decided to inspect a house. I decided not to buy it because a window was loose.

(Hawkins, 1978: 176)

Thus, in (49): a group/set of students (*some students*) is mentioned in the first sentence. *A student* in the second sentence can then be found in this set. Similarly, in (50) *a window* in the second sentence is a non-unique part of the previously mentioned *house*, as based on general knowledge we know that a house contains several windows.

In addition, the non-uniqueness of indefinite NPs can arise in situational uses. Thus, in the visible/immediate situation use in (51), *a bucket* refers to a non-unique bucket in a visible situation that contains a set of buckets.

(51) Visible/immediate situation use of indefinite NPs

- a. Pass me a bucket. (in a situation with several buckets)

In the larger situation use in (52), the intended indefinite referent *a member of parliament* refers to a non-unique referent, since we know based on general knowledge that parliament consists of a number of members.

(52) *Larger situation use of indefinite NPs*

- a. A member of parliament has just died.

(Hawkins, 1978: 173)

To summarise this section, the four major uses of the definite article show that its uses convey the presupposition of familiarity on behalf of the hearer (anaphoric use) or the presupposition of uniqueness of a referent in a given situation (visible/immediate situation, larger situation and associative anaphoric uses). The uses of the indefinite article, on the other hand, presuppose non-familiarity on behalf of the hearer and only weakly implicate non-uniqueness of a given referent in some uses.

3.3.1.1 A note on specificity

The notion that is often discussed with relation to definiteness in the semantics literature is the concept of specificity. As discussed in Lyons (1999), specific NPs have extensional or referential readings, whereas non-specific NPs are interpreted as intentional and non-referential. English articles express the semantic notion of definiteness, or more specifically as argued in this thesis, the semantic notions of familiarity and uniqueness. Although in English articles do not express the semantic notion of specificity⁸, NPs in English can be interpreted as specific or non-specific based on the type of context. Compare the sentences (a) and (b) in the examples below (from Lyons, 1999: 167):

⁸ There are languages with articles in which articles express specificity, such as Samoan, Shuswap and Sango. See Lyons (1999: 57-60) and the discussion of Ionin et al's (2004) study in Section 2.2.2.

(53) Specificity in definite contexts

- a. Joan wants to present the prize to *the winner* but he doesn't want to receive it from her. (specific)
- b. Joan wants to present the prize to *the winner* so she'll have to wait around till the race finishes. (non-specific)

(54) Specificity in indefinite contexts

- a. Peter intends to marry *a merchant banker* even though he doesn't get on at all with her. (specific)
- b. Peter intends to marry *a merchant banker* though he hasn't met one yet. (non-specific)

In (53), *the winner* in (a) receives a specific reading as this NP refers to a specific referent in the context. In contrast, *the winner* in (5b) is interpreted as non-specific as it does not refer to a specific referent in the given context. Similarly, *a merchant banker* is interpreted as specific in (54a) but *non-specific* in (54b). These examples show that specificity is an independent concept from definiteness, since regardless of whether an NP is definite or indefinite, it can be interpreted as specific and non-specific.

As discussed in Section 2.2.2, Ionin et al. (2004) have shown that L2 learners from articleless L1s incorrectly associate English articles with the specificity/non-specificity distinction. In particular, they associate *the* with specificity and to a lesser extent *a* with non-specificity. Note that specificity in those studies was operationalised differently from the way specificity is discussed in Lyons (1999). More specifically, for Lyons the distinction between specific and non-specific readings is essentially the distinction between referential and non-referential readings in opaque contexts. In contrast, for Ionin et al. (2004) an NP is specific if the speaker intends to refer to it and considers it to possess some noteworthy property, whereas it is non-specific if there is no such intent, as repeated here for definite contexts (from Ionin et al., 2004: 22-23).

(55) Specific definite context

... Tomorrow, I'm having lunch with *the creator of this comic strip*—he is an old friend of mine. So I can get his autograph for Jeannie!

(56) Non-specific definite context

... He is talking to *the owner of his company!* I don't know who that person is—but I know that this conversation is important to Erik.

L2 learners' sensitivity to the specificity/non-specificity distinction is not investigated in the present thesis. In other words, none of the contexts in the test items were operationalised based on the specificity/non-specificity distinction as proposed by Ionin et al. (2004). Therefore, the discussion of the role of specificity in the acquisition of articles in English will not concern us in this thesis.

3.3.2 Demonstratives

It is often suggested in the semantics and linguistics literature that demonstratives seem to overlap with the definite article in some uses but not the others (Hawkins, 1978; Himmelmann, 1996; Wolter, 2006). Thus, demonstratives can be used in the visible situation (57) and anaphoric (58) uses of the definite article. On the contrary, demonstratives are not felicitous in the larger situation (59) and associative anaphoric (60) uses.

(57) *Visible situation use: the/that*

- a. Pass me *the/that* bucket, please.

(58) *Anaphoric use: the/that*

- a. Fred bought *a* bucket, but *the/that* bucket had a hole in it.

(59) *Larger situation use: the/#that*

- a. *The/#that* Prime Minister has just resigned

(60) *Associative anaphoric use: the/#that*

- a. Mary stopped to look at a house. The door was open.

(Hawkins, 1978: 101, 110-111, 116)

As pointed out by Hawkins (1978), when a demonstrative is used the hearer is supposed to identify the referent either through it being visible in a given situation or through previous mention of the

referent in discourse. Uniqueness, on the other hand, is not expressed by demonstratives, hence their infelicity in contexts that require the presupposition of uniqueness, as in the larger situation and associative anaphoric uses.

Although, as shown above, both demonstratives and the definite article can be used in the visible situation and anaphoric uses, they express the definiteness status of the referent through different means (Wolter, 2006). Wolter (2006) compares the use of the definite article and demonstratives in the visible situation use, exemplified in (61):

(61) *Visible situation use*

- a. The cat is purring.
- b. That/This cat is purring.

(Wolter, 2006: 26, 39)

Wolter suggests that for the use of the definite article in (61a) to be felicitous, one salient referent for *the cat* must be present in the visible situation. The use of demonstratives in (61b), on the other hand, is licensed by either an accompanying speaker demonstration (i.e., pointing gesture) or by salience of the referent in the visible discourse situation. Salience here refers to being perceptually salient for both the speaker and the hearer. Thus, (61b) can be uttered in a context with one salient cat. In this case, its use will be similar to the use of the definite article. (61b) can be also uttered in a context with more than one cat, if the speaker accompanies this utterance with a pointing gesture, or if the speaker's and hearer's attention is directed to the same cat in the visible situation that contains a number of cats, which makes one referent more salient than the others. However, Wolter (2004) points out that (61a) can be also felicitously used in a situation with more than one cat if *the cat* refers to the referent that is more salient than other cats, thus identifiable to the hearer, or because *the cat* refers to the speaker's cat (see Hawkins, 1991 and von Heusinger, 1997 on the same view).

In the anaphoric use, exemplified in (62), the use of the definite article and demonstratives is licensed by the presence of a linguistic antecedent in the discourse context. Thus, both *the* and *that* can be felicitously used with the second mention of *woman* as this referent has been previously introduced in the first sentence through a linguistic antecedent *a woman*.

(62)Anaphoric use

A woman entered from stage left. The/that woman was carrying flowers.

Although demonstratives and the definite article overlap in anaphoric uses, such factors as activation-state (Gundel et al., 1993) affect whether a demonstrative or a definite article will be preferred with an intended referent. In addition, while the definite article requires that this antecedent is unambiguous, demonstratives are able to pick out the immediately salient antecedent. This is shown in (63) below in which the felicity of the definite article in (63b) is challenged by the presence of two antecedents in the context, two women, while a demonstrative that picks out the most recently mentioned antecedent (the second mentioned woman) is perfectly felicitous.

(63)Anaphoric use with two equally salient antecedents

A woman_i entered from stage left. Another woman_j entered from stage right.

- a. That/This woman_j was carrying a basket of flowers.
- b. #The woman was carrying a basket of flowers.

(Wolter, 2006: 74-75)

However Wolter (2004) points out that if the context with more than one antecedent is enriched with some information that makes one antecedent more salient than the other(s), a definite article becomes felicitous, as exemplified in (64).

(64)Anaphoric use with two antecedents, one more salient than the other

A woman_i entered from stage left. She_i entered quietly and didn't look at the audience.

Then another woman_j entered from stage right. This was a completely different affair. The woman_j was singing, dancing and tossing flowers to the audience.

(Wolter, 2006: 91)

The context in (64) contains more than one potential antecedent for the definite NP *the woman*, since two women have been mentioned in the context. However, as the discourse develops the

second woman becomes more salient than the first woman, and the definite article refers to the most salient referent in a given situation, that is, the second woman.

Based on the above discussion, Wolter (2004) argues that the descriptive content of the NP (enriched with pragmatic factors) is sufficient to license the use of the definite article. For demonstratives, on the other hand, descriptive content alone is not sufficient to identify a referent. The use of demonstratives requires some sort of accompanying demonstration such as a deictic gesture or contextual salience (salience in the situation of utterance or salience of an antecedent).

to summarise, what the uses of demonstratives and the definite article have in common is that both demonstratives and the definite article are felicitous in visible situation and anaphoric uses of definite NPs. The use of the definite article and demonstratives in the visible situation shows that demonstratives do not require the presupposition of uniqueness, while the uniqueness of the referent in a given visible situation seems to play a role for the felicitous use of the definite article. However, as pointed out by Wolter (2006), the definite article can be felicitously used in a visible situation that contains more than one referent, if reference is made to the most salient entity in the visible context, that is, in a non-unique situation. In addition to expressing the deictic meaning in visible situation contexts, demonstratives, similar to the definite article, can also express familiarity with the referent on behalf of the speaker in anaphoric contexts. However, in contrast to definite articles, demonstratives are not felicitous when a unique referent is presupposed to exist in a given situation as in larger situation and associative anaphoric uses. This suggests that what demonstratives and the definite article have in common is that they can be used in contexts in which definiteness of the intended referent is established based on familiarity while the meaning of uniqueness is not encoded in demonstratives. This distinction will be important when formulating the learning task for the acquisition of definiteness in English and its expression through articles by speakers of languages that have demonstratives but lack articles.

3.3.3 The notion of anaphoricity and its relation to (in)definiteness

The notion that was mentioned in the discussion of the different contexts in which familiarity and uniqueness are expressed is anaphoricity. The notion of anaphoricity is often referred to in the discussions of the concept of definiteness in the semantics as well as in the linguistic literature. Anaphora is a relation between the referent under discussion (i.e., the anaphor) and its

antecedent, the element that assigns interpretation to the anaphor.⁹ Anaphora is typically considered to be endophoric: that is, the anaphora receives its interpretation from the antecedent in the preceding text.

The notion of anaphora has received different definitions in the linguistic theory. Gardelle (2012) points out the distinction between three types of anaphora: syntactic anaphora, textual anaphora and pragmatic anaphora. Syntactic anaphora, which is discussed within the Binding Theory (Reinhart, 1983) refers to the relation between anaphors, such as reflexives or reciprocals, and their antecedents, which must be bound with the anaphor in the local domain. Textual or discourse anaphora refers to the relation between the anaphor and its antecedent within sentences or across sentence boundaries (Gardelle 2012; Huddleston & Pullum, 2002). In addition, under the textual approach to anaphora, the antecedent of the anaphor must be present in the preceding text. With regard to the relationship between the anaphor and its textual antecedent, while, it is typically the case that they stand in the one-to-one relation to each other, i.e., that of coreference, the relationship between the anaphor and its antecedent can also involve association or part-whole anaphora. Under the pragmatic view to anaphora (Cornish 1996, 1999; Carlson 2006), anaphora is not restricted to textual anaphora and the antecedent of the anaphor need not be textual and can exist in the mental representation of the speaker and the hearer. In other words, under the pragmatic view to anaphora, the antecedent of the anaphor can be any salient referent in the mental representation of the speaker and the hearer.

Since, as discussed in the previous sections, the notion of anaphoricity is related to different types of contexts in which familiarity and uniqueness are expressed, it is textual or discourse anaphora that concerns us in this thesis. Clark (1975, 1977) distinguishes between two types of discourse anaphora: direct anaphora and indirect anaphora. In direct anaphora, the intended referent refers back (is anaphoric) to the previously mentioned direct antecedent. As pointed out by Clark, direct anaphora can take three forms: identity, pronominalisation and epithets, as exemplified below:

(65) Direct anaphora

a. Identity

I met a man yesterday. The man told me a story.

b. Pronominalisation

⁹ Etymologically, anaphora means back reference, and as defined in Huddleston and Pullum (2002 : 1453), “anaphora is the relation between an anaphor and an antecedent, where the interpretation of the anaphor is determined via that of the antecedent”.

I met a man yesterday. He told me a story.

c. Epithets

I met a man yesterday. The bastard stole all my money.

(Clark, 1975: 170)

In addition, Clark points out that direct anaphora can apply to one or more members of the previously mentioned set, as in (66).

(66) Direct anaphora to a member of a set

- a. I met two people yesterday. The woman told me a story.

(Clark, 1975: 171)

In other words, the antecedent for 'the woman' in (66a) is found in the set of two people mentioned in the preceding sentence. In addition, it implies that only one of the entities in the set of two people is a woman.

Clark distinguishes between two types of indirect anaphora: indirect anaphora by association and indirect anaphora by characterisation. Indirect anaphora by association implies that the antecedent for the given referent is not directly mentioned in the preceding text but it is closely associated with the intended referent through either being its 'necessary', 'probable' or 'inducible' part, as illustrated in (67).

(67) Indirect anaphora by association

- a. Necessary parts

I looked into the room. The ceiling was very high.

Implicature: The room mentioned has a ceiling; that ceiling is the antecedent of the ceiling.

- b. Probable parts

I walked into the room. The windows looked out to the bay.

Implicature: Not all rooms have windows but the room mentioned has windows; they are the antecedent for the windows.

c. Inducible parts

I walked into the room. The chandeliers sparkled brightly.

Implicature: it is not commonly assumed that all rooms have chandeliers, but the room mentioned had chandeliers; they are the Antecedent for the chandeliers.

(Clark, 1975: 171)

In indirect anaphora by characterisation, the intended antecedent for the referent is not directly mentioned in the previous sentence, but the intended antecedent is characterised as playing a necessary or an optional role in an event mentioned in the previous sentence, as illustrated in (68).

(68) Indirect anaphora by characterisation

a. Necessary role

John was murdered yesterday. The murderer got away.

Implicature: Some one person performed John's murder; that person is the antecedent for the murderer.

b. Optional role

John was murdered yesterday. The knife lay nearby.

Implicature: John was stabbed to death with a knife, the instrument referred to by the knife.

(Clark 1975: 171-2)

To account for the cases of indirect anaphora, Cornish (1996) introduced a distinction between an antecedent and an antecedent trigger. On this distinction, an antecedent is what provides the interpretation of the anaphor via standing in one-to-one relationship to it. An antecedent trigger, on the other hand, stands in indirect, implicit, relationship with the anaphor, and it provides textual or extra-textual means (e.g., gestures) that allow interpreting the indented referent, as in (69):

(69) We came to a village. The church was pure Romanesque.

(Cornish, 1996: 23)

Thus, in (69) the definite NP *the church* lacks an explicit linguistic antecedent in the text, and its interpretation is assigned via inference which is evoked through its apparent antecedent *a village*. In other words, under Cornish's view to anaphora, while the interpretation of the anaphor and its antecedent are identical, the interpretation of the anaphor and the antecedent trigger are not identical.

As mentioned in the beginning of this section, the notion of anaphora is often evoked with regard to the concept of definiteness. Thus, the anaphoric way of establishing definiteness lies in the core of the Familiarity Approach to definiteness (Heim, 1983). In other words, the notion of anaphoricity is related to the notion of definiteness. However, it is important to note that the concept of anaphoricity does not exclusively relate to definiteness. Although definite NPs are usually claimed to be anaphoric (Webber, 1977; Gundel et al., 1993; Krahmer & van Deemter, 1998), while indefinite NPs are argued to introduce new referents (e.g., Heim 1983), the examples from Hawkins (1978), discussed in Section 3.3.1, show that referents for indefinite NPs can be found in a previously introduced set, that is, they can be anaphoric. This was illustrated in Section 3.3.1 and is repeated in (70).

(70)Some students were standing outside the factory gate. Bill kept his eye on them. After a little while *a student* came up to him and asked him his name.

(Hawkins, 1978: 174)

Although Hawkins (1978) does not call indefinite NPs anaphoric, Bott (2008) argues that anaphoricity can also apply to indefiniteness. He illustrates this with the following example:

(71)A: Remember that the doctor recommended you eat apples.

B: But I just ate an apple.

(Bott, 2008: 72)

With regard to example (71) (Ex. (6) in Bott, 2008), Bott (2008: 72) writes: "in terms of discourse referents, 'an apple' in (6b) indeed introduces a novel discourse referent. This discourse referent must, however, be anaphorically related to the discourse referent for the nominal kind 'apples', introduced in (6)".

To summarise, this section has shown that the notion of anaphoricity plays a role in the use of definite noun phrases. However, as the examples from Hawkins and Bott show anaphoricity can also apply to indefinite noun phrases and is not an inherent property of definite descriptions. That is, anaphoricity is not associated with definiteness exclusively. The informal definition of anaphoricity adopted in this thesis is given in (72):

(72) Anaphoricity: informal definition

- a. an NP is anaphoric if it has a direct or an indirect antecedent in the previously mentioned discourse. A direct antecedent stands in an identity or member-set relation to its referent, while an indirect antecedent stands in a part-whole relation to its referent.

As will be suggested in Chapter 6, the notion of anaphoricity seems to affect the use and interpretation of article by L2 English learners. The next section discusses how each approach to definiteness, i.e. uniqueness and familiarity, accounts for the use of the definite article in English.

3.4 The Uniqueness Approach *versus* the Familiarity Approach: how each approach accounts for the uses of the definite article in English

3.4.1 The Uniqueness Approach: felicitous and problematic cases

Recall that on the Uniqueness Approach to definiteness, an NP is definite if it refers to a unique entity in a given situation. In other words, the Uniqueness Approach to definiteness can account for the uses of the definite article with NPs whose descriptive content presupposes the existence of a unique referent in the relevant discourse situation. Therefore, it becomes apparent that of the four major uses of the definite article based on Hawkins (1978), the Uniqueness Approach is able to account for the three uses that involve the presupposition of uniqueness of a referent in a given situation: visible situation use, larger situation use and anaphoric associative use. Example sentences illustrating these uses in English are repeated in (73)-(76).

(73)Visible situation use

- a. Pass me *the bucket*, please.

(74)Immediate situation use

- a. Don't go in there, chum. *The dog* will bite you.

(75)Larger situation use

- a. *The Prime Minister* has just resigned

(76)Associative anaphoric (bridging) use

- a. Mary stopped to look at a house. *The door* was open.

(Hawkins, 1978: 101, 111-112, 116)

In each of the situations in (73)–(76) what allows the felicitous use of the definite article is the fact that only one (unique) referent exists in the relevant visible, immediate, larger or anaphoric associative situation. Anaphoric associative uses are accounted for by the fact that there is only one unique referent in a situation introduced in the preceding text.

However, problematic for the Uniqueness Approach are instances of the definite article use in situations that contain more than one unique referent. Consider the example in (77) from Lewis (1979: 348).

(77)Anaphoric use: two referents present in the situation

- a. (A and B are in a room with a cat named Bruce)
A: *The cat_i* is in the carton. *The cat_i* will never meet our other *cat_j*, because our other *cat_j* lives in New Zealand. Our New Zealand *cat_j* lives with the Cresswells.
And there he'll stay, because Miriam would be sad if the *cat_j* went away.

This is an example of the anaphoric use of the definite article in a situation with two potential antecedents for the definite NP. The situation in (77) contains two cats: the first one, *the cat_i*, introduced into the discourse refers back to Bruce, while *the cat_j* in the last sentence is anaphoric (co-indexed) to *our other cat_j*. In other words, this situation shows that the uniqueness presupposition is violated, as two cats are present in the discourse situation, yet the definite

article can be felicitously used with both of the cats. In other words, uniqueness cannot account for the use of the definite article with 'cat' in (77). Lewis (1979) proposes the notion of salience to account for the use of the definite article with *the cat*. He suggests that definite NPs refer not to unique referents but to the most salient ones. Salience of the referent can be established either through presence of the referent in the immediate discourse situation or through introduction via a linguistic antecedent. To recapitulate, the aforementioned discussion illustrates that while the Uniqueness Approach can account for the use of the definite article in situations where the presupposition of uniqueness holds, there seems to be at least one use of the definite article, namely, the anaphoric use in a situation with more than one potential referent, that this approach has problems accounting for.

3.4.2 The Familiarity Approach: felicitous and problematic cases

Recall that on the Familiarity Approach to definiteness, what makes a referent definite is the fact that the hearer is familiar with the intended referent. However, familiarity with the referent does not imply that the speaker should be personally acquainted with the referent, that is, know their identity or other information. What familiarity implies is the existence of a mental representation of the intended referent in the hearer's mind. One of the most common ways of establishing familiarity with the referent on behalf of the hearer is through previous mention of the relevant antecedent. Therefore, it becomes obvious that out of the four major uses of the definite article, the anaphoric use is the one that the Familiarity Approach can account for. This use was exemplified above and is repeated here in (78).

(78) *Anaphoric use*

- a. Fred was discussing an interesting book_i in his class. I went to discuss *the book_i* with him afterwards.

(Hawkins, 1978: 86)

However, as it was pointed out above, the presence of an antecedent in the preceding text is not always necessary if a mental representation of the intended referent is already present in the hearer's long-term memory. Thus, the sentence in (79) can be uttered in a visible situation in

which the cat is perceptually salient for the speaker and the hearer. Although it seems that both the Uniqueness Approach and the Familiarity Approach can account for the visible and immediate situation uses of the definite article, their accounts are based on different presuppositions, i.e., uniqueness versus familiarity.

(79) *Visible situation use*

The cat is hungry.

(Heim, 1982: 235)

In addition, the Familiarity Approach is able to account for the problematic use of the definite article in (77), illustrated above, that the Uniqueness Approach cannot explain. Thus, Heim (1982), a proponent of the Familiarity Approach to definiteness, points out that contextual salience (referent prominence) rather than uniqueness plays a role if a definite NP is used in a context that contains other potential referents. In other words, it seems that for the Familiarity Approach it is not relevant whether there is only one referent in the discourse context or more than one, as long as the intended referent is unambiguous to the hearer through, for example, contextual salience.

Problematic for the Familiarity Approach are uses of the definite article with novel definite referents, that is, referents that do not have a linguistic antecedent and that do not exist in the hearer's long-term memory. Thus, the sentence in (74) above uttered in an immediate situation cannot be accounted for on the Familiarity Approach if no dog was mentioned in the prior discourse and no dog is salient at the time of utterance. Similarly, the Familiarity Approach is not able to account for the larger situation use of the definite article with *the Prime Minister* in (80a), as, under this approach there should be no reason why the definite article is felicitous in (80a) but is not felicitous while (80b), since both *the prime minister* and *a member of parliament* are novel referents for the hearer.

(80) *Larger situation use*

- a. *The Prime Minister* has just resigned.
- b. #*The member of parliament* has just resigned.

As for the anaphoric associative use of the definite article, exemplified in (76), under the Familiarity Approach, it is accounted for by the principle of accommodation in Lewis's (1979) terms. Accommodation denotes adding some information on behalf of the hearer which will allow

him/her to accommodate the intended definite referent. However, Heim (1982) herself points out that she does not know the rules of accommodation and what exact information should be added by the hearer. In other words, the Familiarity Approach cannot explain what type of an antecedent can yield felicitous use of the definite article, and how the intended referent relates back to its antecedent. In a nutshell, the Familiarity Approach can straightforwardly account for the anaphoric use of the definite article and for some visible/immediate situation uses that involve familiarity on behalf of the hearer. However, it has little to say on the definite article uses that involve uniqueness.

3.4.3 Summary

The discussion in this section shows that neither uniqueness nor familiarity can account for the four major uses of the definite article in English. This line of thought has already been expressed by Birner and Ward (1994) and Poesio and Viera (1998). Birner and Ward (1994) argue that although each of the two approaches to definiteness thrive to account for all the uses of the definite article, neither of the approaches is able to account for all felicitous uses. The main point of their argument is that the definite article can be used with non-familiar definites, that is, novel entities that have not been previously mentioned in the discourse, and with non-unique definite referents. Poesio and Viera's (1998) argument is based on the analysis of the use of the definite article with definite referents in naturally occurring corpora (newspapers) in English. They found that 50% of the definite descriptions in the corpora are discourse-new (vs. 30% anaphoric and 18% associative anaphoric), which suggests that definite NPs do not require previous mention to be definite. Based on these findings Poesio and Viera (1998) argue that each of the approaches to definiteness can account for half of the data suggesting that their finding has consequences for the linguistic theory. To recapitulate the discussion in this section, the Familiarity Approach accounts straightforwardly for the anaphoric use of the definite article, while the Uniqueness Approach offers a plausible explanation for the immediate/larger situation and associative anaphoric uses, all of which involve uniqueness. As follows, both approaches are needed to account for all the uses of the definite article in English. As will be discussed in the next section, recent cross-linguistic evidence (Schwarz 2009, 2013; Jenks 2015, 2017) provides further support for the independent necessity of uniqueness and familiarity in the theory of definiteness.

3.5 Uniqueness and familiarity: two independent notions of definiteness cross-linguistically

Evidence for the proposal that both familiarity and uniqueness are independent parts of definiteness comes from languages that employ two distinct morphological ways to express familiarity and uniqueness: two distinct definite article forms (e.g., Fering, German); a definite article to mark familiarity and a bare NP to express uniqueness (e.g., Akan); and demonstratives for familiar definites and bare NPs for unique definites in languages without articles (e.g., Mandarin Chinese and Russian). This, in turn, shows once again that the meaning of definiteness is comprised of two parts: uniqueness and familiarity and, therefore, both approaches to definiteness are needed. The remainder of this section discusses this cross-linguistic evidence in more details, concluding with a proposal of what consequences this evidence has for languages that lack a morphological contrast between familiarity and uniqueness in their grammatical system, as is the case for English.

3.5.1 Evidence from languages with articles

Evidence for the existence of an explicit contrast between familiarity and uniqueness comes from Standard German and Germanic dialects, the best documented case being Fering. These languages mark the contrast between familiarity and uniqueness through two overt forms, i.e. two distinct definite article forms. Schwarz (2009) offers a detailed study of two semantically distinct types of the definite article in standard German: a contracted form of the definite article that consists of a preposition-article contraction (*zum Haus* 'to-the house'), which he dubs the 'weak' article; and a non-contracted free-standing form, in which a preposition and a definite article stand alone (*zu dem Haus* 'to the house'), which Schwarz calls the 'strong' article. Schwarz (2009) argues that the 'strong' article in German is anaphoric in nature, while the 'weak' article involves uniqueness. Schwarz notes that the use of the contracted 'weak' article in German is possible with certain prepositions only and with certain case-marked forms. However, this phenomenon is present in the grammar of standard German.

In addition, similar contrast between the 'weak' and the 'strong' article is present in some Germanic dialects: the dialect of the Rhineland (Heinrichs, 1954; Hartmann, 1967), the North Frisian dialect Fering (Ebert, 1971a,b), the Mönchen Gladbach dialect (Hartmann, 1982), the Cologne dialect (Himmelmann, 1997), and Bavarian (Scheutz, 1988, Schwager, 2007), among others. The best documented case among these dialects is the North Frisian dialect Fering investigated by Ebert (1971a,b,) and discussed in Schwarz (2009). Fering has two distinct definite

articles: the D-article (the 'strong' article) and the A-article (the 'weak' article), which are conjugated for person, gender and number. As argued by Ebert (1971) the use of the D-article instructs the hearer that the intended definite referent can be identified based on the information in either the visible situation or through previous mention. With the A-article, it is the descriptive content of the NP and its uniqueness that yield a definite reference.

Let us now consider the uses of each of the definite article forms in German and Fering. Schwarz (2009) characterizes these uses following Hawkins's (1978) classification of the four major uses of the definite article: anaphoric, visible/immediate situation, larger situation and associative anaphoric. Schwarz (2009) shows that the 'strong' article in German and Fering is used anaphorically, that is, in previous mention contexts. Recall, that in the anaphoric use the interpretation of the definite NP depends on its antecedent, i.e., an indefinite NP introduced in the preceding discourse. Thus, the second mention of *Freund* ('friend') in the German example in (81a) is preceded with the 'strong' article *dem* ('the'). The same is true for the Fering example in (81b) in which *di hingst*, 'the horse', refers back to the referent introduced in the first sentence, which makes it familiar to the hearer. The 'weak' article is not felicitous in anaphoric uses in Standard German or Fering (this is indicated by a hashtag (#) in the examples below).

(81) Anaphoric use: STRONG article

German

- a. Hans hat heute einen Freund zum Essen mit nach Hause gebracht. Er hat uns
 Hans has today a friend to-the dinner with to home brought. He has us
 vorher ein Foto #vom/ von dem Freund gezeigt.
 beforehand a photo of-the_{weak}/ of the_{strong} friend shown
 'Hans brought a friend home for dinner today. He had shown us a photo of *the friend*
 beforehand.'

(Schwarz, 2009: 30)

Fering

- b. Oki hee an hingst keeft. Di hingst haaltet
 Oki has a horse bought the_{strong} horse limps
 'Oki has bought a horse. *The horse* limps.'

(Ebert, 1971b: 161, cited in Schwarz, 2009: 13)

Schwarz (2009) points that the strong article can be used in German in anaphoric uses in contexts in which more than one potential referent is present or implied, as illustrated in (82).

(82) *Anaphoric use in a context with more than one antecedent: STRONG article*

Bei der Gutshausbesichtigung hat mich eines der Zimmer besonders beeindruckt.

during the mansion-tour has me one the rooms especially impressed

Angeblich hat Goethe im Jahr 1810 eine Nacht #im/ in dem

supposedly has Goethe in-the_{weak} year 1810 a night in-the_{weak} / in the_{strong}

Zimmer verbracht.

room spent

'One of the rooms especially impressed me during the mansion tour. Supposedly Goethe spent a night in *the room* in 1810.'

(Schwarz, 2009: 42)

In (82), although there is no mention of an explicit set, it is evident from the situation of a mansion tour, that a number of rooms are present in the relevant situation. The use of 'one of the rooms' singles out a room from a set of identical rooms, and it serves as the antecedent for 'the room', which is preceded by the 'strong' article in German. This example shows that the uniqueness presupposition is absent in the 'strong' article in German.

The 'strong article' is also used in the visible situation use in German and Fering. This use is accompanied by a pointing gesture and the role of the 'strong' article is to contrast one referent with another. In this use the 'strong' article has a demonstrative use, and it is stressed. This is exemplified in (83a) for German, in which one car is contrasted with another car, and in (83b) for Fering, in which 'the book' refers to one of the books in the situation of utterance. However, with regard to example (83b), Ebert (1971a) points out for Fering that if there is only one referent in a given visible situation that is visible to the hearer and that s/he can pick out without a pointing gesture, than the A-article must be used.

(83)Visible situation use: STRONG article

German

- a. Hans ist *in DEM* Auto [pointing at car 1] gekommen, nicht *in DEM* Auto [pointing at
Hans is in the_{strong} car [pointing at car 1] come not in the_{strong} car [pointing at
car 2]
car 2]
'Hans came in that/#the car, not in that/#the car'.

(Schwarz, 2009: 34)

Fering

- b. *Set of referents* → D-article

Deest dü mi ans dèt bók auer?
give you me PART. the_{strong} book over

'Can you hand me the / that book?' (in a situation with several books)

(Ebert, 1971a: 103, cited in Schwarz, 2009: 35)

The 'weak' article, according to Schwarz (2009) involves uniqueness, and it is used in the immediate situation and larger situation uses that require the presupposition of uniqueness of the intended referent. The use of the 'weak' article in the immediate situation use is exemplified in (84) and in the larger situation is illustrated in (85). What licenses the use of the 'weak' article in these situational uses is the fact that only one unique referent is present in the immediate or larger situation of utterance.

(84)Immediate situation use: WEAK article¹⁰

German

- a. Das Buch, das du suchst, steht im / #in dem Glasschrank.
the book that you look-for stands in-the_{weak} / in the_{strong} glass-cabinet
'The book that you are looking for is in the glass-cabinet'

(Schwarz, 2009: 39)

¹⁰ Schwarz (2009) and Ebert (1971) point out that the 'strong' article is possible in the immediate situation use if the context contains an antecedent for the definite NP.

Fering

- b. A hünj hee tuswark.
the_{weak} dog has toothache.
'The dog has a toothache'

(Ebert, 1971a: 83)

(85) Larger situation use: WEAK article

German

- a. Armstrong flog als erster zum Mond.
Armstrong flew as first to-the_{weak} moon
'Armstrong was the first one to fly to the moon'

(Schwarz, 2009: 40)

Fering

- b. A köning kaam to bischük.
the_{weak} king came to visit
'The king came for a visit'

(Ebert, 1971a: 82-83, cited in Schwarz, 2013: 7)

However, the 'strong' article is also possible in immediate situation uses. Thus, the 'strong' article can be used in the Fering example (84b), repeated here as (86).

(86) Immediate situation use: STRONG article

Fering

- a. Di hünj hee tuswark.
the_{strong} dog has toothache.
'The dog has a toothache'

(Ebert, 1971a: 82-83, cited in Schwarz, 2013: 7)

According to Ebert (1971a), the sentences (84b) and (86) carry different presuppositions. The ‘weak’ article, A-article, is only possible in (84b) if there is one and only one dog present in a given discourse situation, which makes the referent unique in a given situation. The ‘strong’ article, D-article, is felicitous in (86) only if ‘dog’ was mentioned in the preceding speech context, thus making it familiar to the hearer. These examples show that, although the distribution of the D-article and the A-article sometimes overlaps in immediate situation uses, the definite interpretations that they yield are achieved based on different presuppositions (familiarity versus uniqueness). Therefore, the difference between the NPs that are preceded by either the A-article or the D-article is that the former does not require further identification in order to be identified by the hearer, as the semantic/descriptive content of the NP ensures uniqueness of the referent in a given situation, while referents preceded by the D-article require such identification either by a pointing gesture or by linguistic means.

With regard to the associative anaphoric, or bridging, use of definite articles in German, Schwarz (2009) points out that it is important to distinguish between two types of bridging: bridging that involves situational uniqueness and bridging that involves an anaphoric relation. Schwarz (2009) points out that both the weak article and the strong article can occur in bridging uses; however, their uses are based on different presuppositions. Bridging with the weak article involves uniqueness and part-whole relationship between the intended definite referent and its antecedent, as illustrated in (87), in which the crisper in the German example in (87a) refers to a unique part of the fridge. Similarly, ‘tower’ is preceded with the A-article in the Fering example in (87b), as we know based on our general knowledge that a building/church has just one such part.

(87) Bridging with the WEAK article (part-whole bridging)

German

- a. Der Kühlsschrank war so groß, dass der Kürbis problemlos im / #in dem
 the fridge was so big, that the pumpkin without-a-problem in-the_{weak} / in
 the_{strong} Gemüsefach untergebracht werden konnte.
 crisper stowed be could
 ‘The fridge was so big that the pumpkin could easily be stowed in the crisper’.

(Schwarz, 2009: 52)

Fering

- b. Wi foon a sark uun a maden faan't taarep. A *törem* stän wat skiaf.
we found the church in the middle of-the-village the_{weak} tower stood a little crooked
'We found the church in the middle of the village. The tower was a little crooked.'

(Ebert, 1971a: 118, cited in Schwarz, 2009: 62)

Bridging with the strong article involves the product-producer relationship between the target definite noun and its antecedent. Thus, *the author* in the German example in (88a) and *the painter* in the Fering example (88b) are in an anaphoric relation with their antecedents, *the play* and *a painting*, respectively. This anaphoric relation requires that the intended definite NPs are producers of their antecedents (products).

(88) Bridging with the STRONG article (producer-product bridging)

German

- a. Das Theaterstück missfiel dem Kritiker so sehr, dass er in seiner Besprechung kein
the play displeased the critic so much that he in his review no
gutes Haar #am / an dem Autor ließ.
good hair on-the_{weak} / on the_{strong} author left
'The play displeased the critic so much that he tore the author to pieces in his review'.

(Schwarz, 2009: 53)

Fering

- b. Peetji hee uun Hamboreg an bilj keeft. DI mooler hee ham an guden pris
Peter has in Hamburg a painting bought the_{strong} painter has him a good price
maaget.
made
'Peter bought a painting in Hamburg. The painter made him a good deal'

(Karen Ebert, p.c., cited in Schwarz 2009: 62)

Based on the uses of the 'strong' and the 'weak' articles in German and Fering, Schwarz (2009) argues that the fact that the 'strong' article involves familiarity and the 'weak' article is based on

uniqueness can be accounted for by the two main approaches to definiteness: the anaphoric use of the 'strong' definite article fits well with the Familiarity Approach, while the immediate/larger situation uses and the part-whole bridging uses of the 'weak' definite article can be explained by the Uniqueness Approach. In other words, according to Schwarz, languages that morphologically mark the distinction between familiarity and uniqueness through two different forms of the definite article can give us insights into the components of definiteness cross-linguistically.

To recapitulate, the two definite articles in German and Fering and their distinctive uses show that the 'strong' article presupposes familiarity on behalf of the hearer, which is achieved through previous mention of an antecedent, while the 'weak' article presupposes that the hearer is able to identify the intended referent because it is unique in a given situation. The contrast between the two meanings of definiteness is also present in non-Germanic languages, such as Lakhota and Hausa (Lyons, 1999; Schwarz, 2013). These languages have two distinct overt forms of definite articles which in their uses are parallel to definite articles in Germanic languages (German, Fering): an anaphoric article and a (non-anaphoric) uniqueness article. In other words, the contrast between familiarity and uniqueness is present in typologically unrelated languages.

3.5.2 Evidence from languages that mark familiarity via the definite article and uniqueness via bare noun phrases

Recent evidence further shows that the contrast between familiarity and uniqueness is present in languages that have only one definite article. Arkoh and Matthewson (2013) argue that similar to the 'strong' article in German (Schwarz, 2009), the postposed definite article *nɔ* in Akan (Kwa, Niger-Congo) encodes familiarity, and is used with referents that are familiar to both the speaker and the hearer. In contrast, uniqueness is not overtly marked in Akan and bare noun forms are used for unique definite.

One of the most common uses of *nɔ* is anaphoric use, in which the intended referent is assumed to be familiar to the hearer through previous mention, as exemplified in (89):

(89)Anaphoric use: *nɔ*

- a. *Mù-tó-ò èkùtú*
1SG.SUBJ-buy-PAST orange
'I bought an orange.'
- b. *Èkùtú nɔ yè dèw pápá*
orange FAM be nice good
'The orange is/was really tasty.'

(Arkoh & Matthewson, 2013: 6)

In addition, *nɔ* is used in contexts without immediate prior mention of the referent, but when the referent is presupposed to pre-exist in the mental representation of the hearer, i.e. if the hearer has prior knowledge of the referent in question. That is contrary to the 'strong' article in German, *nɔ* does not enforce anaphoric familiarity and is used in non-anaphoric familiar contexts. In other words, *nɔ* is felicitous in contexts without an overt antecedent in the preceding discourse. This is illustrated in (90).

(90)Immediate situation use (based on familiarity): *nɔ*

Mé-kyéré wò m̀fòní nɔ
1.FUT-show you pictures FAM
'I will show you the pictures.'

(Fretheim & Amfo, 2005:109, cited in Arkoh & Matthewson, 2013: 8)

On the contrary, *nɔ* is not felicitous with unique referents and bare NPs must be used instead, as illustrated in the larger situation use in (91):

(91)Larger situation use: bare NP

Ámstròj nyí nyimpá áà ó-dzì-i kán tú-ù kó-ò òsirán dù
Armstrong is person REL 3SG.SUBJ-eat-PAST first fly-PAST go-PAST moon top
'Armstrong was the first person to fly to the moon.'

(Arkoh & Matthewson, 2013: 11)

In addition, Arkoh and Matthewson (2013) show that similar to the ‘strong’ article in German, *nɔ* is used in producer-product bridging contexts (92), while it is not felicitous in part-whole bridging contexts involving unique reference (93), in which the possessive marker must be used with an NP.

(92) *Producer-product bridging: nɔ*

Àsáw nɔ yé-è òhín nɔ fěw árá mà ò-kyé-è àyìrbófú pényín nɔ àdzí
 dance FAM do-PAST chief FAM beautiful just COMP 3SG.SUBJ-give-PAST drummer lead FAM thing
 ‘The dance was so beautiful that the chief gave the lead drummer a gift.’

(Arkoh & Matthewson, 2013: 15)

(93) *Part-whole bridging: possessive marker*

Yè-hú-ù dàn dádáw bí wò èkùrásí hó ní níkyénsìdán é-hódwòw
 1PL.SUBJ-see-PAST building old REF at village there poss roof PFV-WORN-O
 ‘We saw an old building in the village; its roof was worn out.’

(Arkoh, 2011:80, cited in Arkoh and Matthewson, 2013: 14)

Arkoh and Matthewson (2013) point out that there is one type of contexts in which the use of the definite article is different in German and Akan (the ‘weak’ article in German vs. the ‘strong’ article in Akan). This context is exemplified in (94).

(94) Context: You and your spouse own one dog. While your spouse is away, someone breaks into your house and you are telling them about it on the phone. You say:

- a. Der Einbrecher ist zum Glück vom/#von dem Hund verjagt worden
 the burglar is luckily by-the_{weak}/#by the_{strong} dog chased been
 ‘Luckily, the burglar was chased away by the dog.’

(German)

b.

Òwifú nú, bódóm nŭ ká-à nŭ-dú árá má ò-gúán-ìì
thief FAM dog FAM follow-PAST 3SG-OBJ-on just so 3SG-SUBJ-run-PAST
'The thief, the dog chased away.'

(Akan)

(Arkoh & Matthewson, 2013:19)

In the context in (94), German uses the 'weak' article as 'the dog' is assumed to be situationally unique. On the contrary, Akan uses the familiarity article, since 'the dog' is assumed to be familiar to the interlocutors. Accounting for the difference between German and Akan, Arkoh and Matthewson (2013) (following Schwarz, 2009) suggest that German uses a less complex expression, i.e. the 'weak' article, in situations in which both articles are potentially felicitous, that is when a referent can be interpreted as being both familiar and unique. On the contrary, Akan that has only one definite article uses *nɔ*. Arkoh and Matthewson (2013) conclude that the definite article in Akan is a truly familiarity definite article. To recapitulate, the evidence from Akan shows that familiarity is overtly marked with a definite article in this language while uniqueness is expressed covertly through bare NPs. This evidence illustrates once again that languages differentiate between the two notions of definiteness, i.e., familiarity and uniqueness, marking this contrast through overt versus covert means.

3.5.3 Evidence from article-less languages

The previous sections have shown that languages that have articles in their grammatical system express the meaning of definiteness through definite articles. In addition, there are languages with two definite article forms that encode the two notions of definiteness, familiarity and uniqueness, through a dedicated definite article. However, the majority (two thirds) of languages do not happen to have definite articles (Dryer, 1989). Nevertheless, since the meaning of definiteness is universal, all languages are able to express this meaning. (In)definiteness in languages without articles is generally negotiated in the discourse context, that is realised covertly: a bare noun form can be interpreted as either definite or indefinite. However, (in)definiteness can also receive overt realisation: it could be signalled through, for example, demonstratives, word order, aspect, adjectival possessors, case marking, etc. This section discusses the realisations of definiteness in two unrelated article-less languages: Mandarin Chinese and Russian, the languages under investigation in this thesis.

The question that arises with regard to languages without articles is how, if at all, the two meanings of definiteness, namely familiarity and uniqueness, are realised in these languages. While it is usually agreed that the pragmatic notion of identifiability (familiarity) is present in all languages cross-linguistically, there is disagreement to whether the meaning of uniqueness, is expressed in languages without definite articles. For instance, Lyons (1999) argues that while the semantic-pragmatic notion of identifiability (familiarity) is present in article-less languages, the presupposition of uniqueness might be only weakly implicated, if at all.

However, Schwarz (2009) speculates that both meanings can be expressed in languages without articles. He hypothesises that a language that does not have a definite article can express the meaning of familiarity overtly through a demonstrative form, while the meaning of uniqueness is realised covertly, i.e., supplied by context. Evidence for this hypothesis comes from a recent investigation of Mandarin Chinese by Jenks (2017) (see Jenks, 2015 for Thai). This evidence and the realisation of definiteness in Mandarin Chinese are discussed in the next section. This discussion is followed by a section that looks at the expression of definiteness in another article-less language, Russian.

3.5.3.1 Mandarin Chinese

Bare nominals in Mandarin Chinese are neutral with respect to (in)definiteness interpretation (Huang, 1999; Chen 2004). In other words, a bare NP such as, for example, *gou* 'dog' can receive an indefinite ('a dog'), a definite ('the dog') or a generic interpretation. A bare NP can only be disambiguated by discourse context. It is suggested that the sentential position of bare NPs seems to interact with the definiteness and indefiniteness reading of bare NPs (Li, 1971; Li & Thompson, 1976, 1981; Chen, 2003, 2004). Thus, NPs in a preverbal position are usually interpreted as definite, while NPs in a postverbal position receive an indefinite reading (Chen, 2004). The interaction between word order of NPs and their interpretations in Chinese is exemplified in (95a,b).

(95) *Word order and definiteness in Chinese*

- a. Keren lai-le.
guest come-ASP
'The guest has arrived.'

b. Lai keren le.

Come guest ASP

'A guest/guests has/have arrived.'

(Chen, 2004: 1164)

In (95a), the bare NP *keren* 'guest' occupies a preverbal position and, thus, it receives a definite reading, while in (95b) the interpretation of the postverbal bare NP *keren* 'guest' is indefinite.¹¹ However, it should be noted here that there is not a 100% correlation between word order and (in)definiteness in Chinese, and that lexical and morphosyntactic marking of definiteness and indefiniteness override marking by grammatical positions of NPs in sentences. Thus, if an NP is preceded by a demonstrative, it is perfectly felicitous in a postverbal position, as illustrated in (96).

(96) Qing ba zhe/ na zhang yizi ban dao na jian fangjian qu.

please BA this/that CL chair move to that CL room go

'Please move this/that chair to that room.'

(Chen, 2004: 1151)

Although bare nominals in Chinese are also unmarked for indefiniteness, nominals preceded by the numeral *yi* 'one' in Mandarin Chinese receive an indefinite reading. Since Chinese is a classifier languages, when the numeral *yi* is used with an NP a sortal classifier must be inserted between the numeral and the NP. Chen (2004) suggests that *yi* 'one' +classifier in Chinese has uses that are inherent to the uses of indefinite articles. Thus, Chen (2004) illustrates that *yi CL* in Chinese can be used as a presentative marker and a marker of specific/non-specific indefinite reference, as shown in (97).

(97) Unstressed numeral *yi* in Mandarin Chinese

a. *Presentative marker*

Yi zhi xiao qi'e yaoayaobaibai zou le shanglai.

¹¹ Chen (2004: 1168) lists subject, *ba* object, preverbal object, first object of ditransitive sentences as 'definiteness-inclined' positions, while object of the verb *you*, postverbal NPs in presentative and existential sentences and second object in ditransitive sentences are all considered 'indefiniteness-inclined' positions.

one CL little penguin swaying walk ASP up

'A little penguin was waddling up.'

b. *Marker of indefinite specific reference*

Zhe jian shi wo zuotian qing le (yi) ge ren lai.

this CL issue I yesterday invite ASP one CL person come

'For this issue I invited a person here yesterday.'

c. *Marker of indefinite nonspecific reference*

Gangkuan qu zhao (yi) ge ren lai, shenme ren dou xing.

hurriedly go find one CL person come any person all fine

'Hurry up and get somebody; anybody will be just fine.'

(Chen, 2004: 1159-1160)

In addition, Li and Thompson (1975) point out that the NP preceded by a numeral *yi* in the sentence initial position can refer to a member of a previously mentioned set, that is, be anaphoric. Thus, for example, in a situation of a peasant's meeting, one might utter the sentence in (98).

(98) Yi ge nongfu shuo, 'Wo xiang chu yi ge banfa le'.

one CL peasant say I think out one CL way ASP

'One of the peasants said, 'I've thought of a way'.

(Li & Thompson, 1975: 175)

It is often argued that since Mandarin Chinese lacks articles definiteness is not grammaticalised in this language (Chen, 2004). A pragmatic notion of identifiability (familiarity), on the other hand, is argued to be encoded in Chinese. However, a recent analysis of Mandarin Chinese by Jenks (2017) shows that the distinction between the two notions of definiteness, uniqueness and familiarity, is marked in this article-less language. Thus, only bare nouns are allowed in contexts with one unique referent, while demonstratives are used in most previous mention (anaphoric) contexts. Jenks (2017) argues that only definite bare NPs occur in situations licensed by uniqueness such as

immediate situation and larger situation uses (after Hawkins, 1978), illustrated in (99) and (100) below.

(99) *Immediate situation use: bare NP*

Xiaoxin, bie ba haizi chaoxing le.

careful NEG BA baby wake ASP

'Be careful. Don't wake up the baby.'

(Chen, 2004: 1164)

(100) *Larger situation use: bare NP*

Yueliang sheng shang lai le.

moon rise up come ASP

'The moon has risen.'

(Chen, 2004: 1165)

Thus, in the immediate situation use in (99), a bare form *haizi* 'the baby' is used to refer to a unique referent in the immediate situation of utterance, for example, a situation of a family. In the larger situation use in (100), *yueliang* 'the moon' refers to a unique entity in the larger situation, i.e. the world at large.

Jenks (2017) argues that while demonstratives are not felicitous in the aforementioned immediate situation and larger situation uses, demonstratives are used in anaphoric contexts, i.e., context with prior mention of a linguistic antecedent. In addition, Jenks (2017) observes that in anaphoric contexts, demonstratives are required in object positions, while both bare NPs and demonstratives can occur in subject positions (although as pointed out by Jenks a demonstrative is usually preferred in a subject position)¹². This is illustrated in (101).

¹² NPs in subject position are argued to be definite in Chinese (Cheng & Sybesma 1999). In addition, NPs in subject position are often topics (Li & Thompson 1981). Therefore, Jenks (2017) speculates that if a bare NP is used in subject position in anaphoric contexts, it marks a noun phrase as a topic. In other words, Jenks (2017) argues that the use of bare NPs is pragmatically marked. If the subject is non-topical, a demonstrative is preferred in this position.

(101) *Anaphoric use*

Jiaoshi li zuo zhe yi ge nansheng he yi ge nüsheng,
classroom inside sit ASP one CL boy and one CL girl,
'There is a boy and a girl sitting in the classroom . . .

- a. Wo zuotian yudao #(na ge) nansheng
I yesterday meet that CL boy
'I met the boy yesterday.'
- b. (na ge) nansheng kanqilai you er shi sui zuoyou.
that CL boy look have two ten year or so
'The boy looks twenty-years-old or so.'

(Jenks, 2017: 9-10)

Thus, in (101) *yi ge nansheng* 'one CL boy' and *yi ge nüsheng* 'one CL girl' are introduced into the discourse in the first sentence. The subsequent mention of 'the boy' is obligatorily made with the use of a demonstrative if the referent is in object position *na ge nansheng* 'that CL boy' (101a) and can be optionally marked by either a demonstrative or a bare NP in subject position (101b).

Jenks (2017) shows that Mandarin also marks the distinction between two types of bridging: part-whole bridging and producer-product bridging. Thus, while only bare NPs can occur in part-whole bridging, as exemplified in (102), demonstratives are preferred in producer-product bridging (103). It should be noted here, the use of demonstratives in producer-product bridging contexts is not categorical. In other words, this use is based on native speaker preferences rather than on a categorical rule.

(102) *Part-whole bridging*

Chezi bei jingcha lanjie le yinwei mei you tiezhi zai paizhao shang.
car PASS police intercept ASP because NEG have sticker at license-plate on
'The car was intercepted by the police because there wasn't a sticker on the license plate.'

(103) *Producer-product bridging*

Paul renwei na shou shi hen youmei, jishi ta bu renshi #(na wei) shiren.
Paul think that CL poem very beautiful although he NEG know that CL poet
'Paul thinks that poem is very beautiful although he doesn't know of the poet.'

(Jenks, 2017: 8)

Thus, in (102) a bare noun *paizhao* ‘the license plate’ is used to refer to the license plate of the previously mentioned car. In (103), on the other hand, a demonstrative is used with the noun *na wei shiren* ‘that CL poet’ to refer to the poet of the previously mentioned poem. Recall that in languages with two definite articles (German and Fering), it is the strong article (the familiarity article) that is used in producer-product bridging, while the weak article (the uniqueness article) is used in part-whole bridging. Since in Mandarin Chinese bare nouns are used to express uniqueness they are used in part-whole bridging, while demonstratives, which express familiarity, are allowed in producer-product bridging contexts that involve relational anaphora.

However, Chen (2004) points out that demonstratives are sometimes possible in contexts that are licensed by uniqueness such as part-whole bridging and larger situation use, noting that this is a phenomenon of the spoken discourse only. Chen cites the following examples (104-105).

(104) *Part-whole bridging: bare NP but DEM NP also possible?*

Ta mai le yi liang jiu che, na luntai / (luntai) dou mo ping le.
 he buy ASP one CL old car that tire / tire even wear flat ASP
 ‘He bought an old car. *All the tires/(#all those tires)* are worn out.’

(105) *Larger situation use: bare NP but DEM NP also possible?*

Zhe tianqi / (tianqi) zhen guai, shi er yue le, ke yidian bu leng.
 this weather / weather really strange ten two month ASP but bit not cold
 ‘*The/(#that) weather* is really strange. It is December now, but it is not cold at all’

(Chen, 2004: 1153)

It can be seen that in (104) *na luntai* ‘those tyres’ can be used to refer back through bridging relations to the totality of all the tyres of *yi liang jiu che* ‘one CL old car’ introduced in the first sentence. In (105), the demonstrative *zhe* ‘this’ precedes an arguably inherently unique noun *tianqi* ‘weather’. Note that bare NP forms are used in these contexts in the written discourse. This discussion shows that demonstratives in Mandarin Chinese are used in some of the contexts in which a definite article is used in languages with articles. Therefore, it is often suggested that the Chinese demonstratives are the closest equivalents of definite articles and that demonstratives in Mandarin Chinese are in the transitional stage of developing into a definite article (Huang, 1999; Chen, 2004).

To recapitulate this section, the discussion above shows that while only bare NPs can express uniqueness in Mandarin (in addition to expressing other meanings such as indefiniteness and genericity), demonstratives are used to mark familiarity. Therefore, it becomes apparent that Mandarin Chinese contrasts between the two components of definiteness through marking familiarity overtly with a demonstrative and through expressing uniqueness covertly with bare NPs. This evidence shows once again that familiarity and uniqueness are two universal meanings of definiteness and that these notions are not dependent on the existence of articles in a given language.

3.5.3.2 Russian

Russian, similarly to Mandarin Chinese, lacks articles and does not obligatorily mark (in)definiteness on nominals. In other words, bare nominals can have definite, existential (indefinite), generic and kind level readings, as illustrated in (106). The target interpretation is disambiguated through context.

- (106) Devočka čitaet knigu.
 girl read-PRES book
 'A/the girl is reading a/the book.'

Since Russian does not consistently mark nominals for (in)definiteness, bare nominals in Russian are often disambiguated by discourse-pragmatics, that is linguistic and extralinguistic context of the utterance in which a nominal is used. Thus, bare nominals that are introduced into the context for the first time are interpreted as indefinite, while these nominal receive a definite interpretation on subsequent mention, as shown in (107).

- (107) Ha tom stole lezhala kniga i gazeta. Anja vzjala knigu.
 on that table lie-PAST book and newspaper Ann take-PAST book
 'A book and a newspaper were lying on that table. Ann took the book.'

(Geist, 2010: 194)

In (107), the bare NPs *kniga i gazeta* ‘a book and a newspaper’ are novel referents that are introduced into the sentence context and are thus interpreted as indefinite. The bare NP *knigu* ‘the book’ in the second sentence refers back to a previously mentioned referent, thus establishing familiarity with the referent on behalf of the speaker and the hearer, and yielding a definite reading.

Similarly to Mandarin Chinese, definiteness in Russian can be expressed through word order. The default word order in Russian is SVO (subject-verb-object). The information structure interacts with the syntactic realisation of definiteness through word order. Topics (what a sentence is about) in Russian occupy the preverbal position and receive the definite reading, while Foci (what is said about Topics) usually occupy the postverbal position and are neutral to the (in)definiteness interpretation, but are usually indefinite (Chvany, 1973; King 1995, cited in Brun, 2001). This is illustrated in (108).

(108) *Word order and definiteness in Russian*

- a. Na stole stojala lampa.
on desk stand-PAST lamp
‘There was a lamp on the desk.’

- b. Lampa stojala na stole.
lamp stand-PAST on desk
‘The lamp was on a/the desk.’

(Chvany, 1973: 266, cited in Brun, 2001: 47)

Definiteness can be also expressed through morpholexical marking in Russian. Thus, when NPs are preceded with demonstratives they receive a definite reading. Moreover, Nessel (1999) suggests that the morpholexical marking is the strongest marking of (in)definiteness in Russian. The same point is made by Brun (2001) who points out that morpholexical marking of noun phrases through demonstrative determiners overrides the discourse-syntactic marking through word order. This is demonstrated in (109).

(109)

- a. Vyanut cvety.
wither-PRES flowers

'?The/∅ flowers are withering.'

- b. Vyanut eti/ te cvety.
wither-PRES these/those flowers
'These/those flowers are withering.'

(Brun, 2001: 48)

As for morpholexical indefiniteness markers, the Russian quasi-determiner *odin* 'one', which is a reduced (unstressed) form of the nominal *odin* 'one', has some functions of an indefinite article, as illustrated in (110).

- (110) Ivan kupil včera (odnu) interesnuju knigu.
Ivan buy-PAST yesterday one interesting book
'Ivan bought an interesting book yesterday.'

I follow Jenks (2017) in arguing that Russian is similar to Thai and Mandarin Chinese in marking the familiarity notion of definiteness through demonstratives and the uniqueness notion through bare NPs. However, this is a cautious claim at this point, since Russian is a typologically different language from Mandarin Chinese and more research is needed on the issue. Nevertheless, what unites these languages is that they lack articles in their grammatical system; therefore, I hypothesize, following Schwarz (2013) and Jenks (2015, 2017), that article-less languages cross-linguistically mark familiarity through demonstratives and uniqueness through bare NPs.

Let us consider the uses of bare NPs and demonstratives in the four major definite contexts (after Hawkins, 1978), namely the visible/immediate situation, larger situation, anaphoric and associative anaphoric uses. Demonstratives are used in Russian in the visible situation use that contains more than one potential referent. In other words, in this use demonstratives perform their primary deictic function: they single out the intended referent through means of demonstration (a pointing gesture), as exemplified in (111).

(111) *Visible situation use: etot/tot*

- a. Pojaluista, postav etot stul v tu komnatu.

please put-INS this chair to that room
'Please move this chair to that room'

In (111), the NPs *stul* 'chair' and *komnatu* 'room' are pointed at by the use of the demonstrative *etot* 'this' and *tot* 'that', respectively. It should be noted here that Russian demonstratives *etot/eti* 'this/these' and *tot/te* 'that/those' agree with NPs in gender, number and case.

However, demonstratives can also be used in non-deictic anaphoric contexts in Russian, in which demonstrative determiners do not 'point' to a referent but rather indicate that the referent is familiar in a given context through previous mention. This use is exemplified in (112).

(112) *Anaphoric use*

Odnaždy papa privel kakogo-to čeloveka, etot čelovek vse vremja sprašival...
once father bring-PAST some man this man all time ask-PAST
'Once the father brought home a man. The man was asking all the time...'

(Averintseva & Consten, 2006: 3)

In (112), a new referent ('a man') is introduced into the discourse. The second mention of this referent is made with the use of a demonstrative *etot čelovek* 'this man'. In other words, a demonstrative is used to refer to a referent that is familiar to the hearer through previous mention. In fact, demonstratives are preferred to bare NPs in anaphoric contexts to refer non-topical referents, while pronouns are preferred with topical referents (Averintseva & Consten, 2006: 3; Krasavina, 2011).

However, demonstratives are not felicitous in contexts that are licensed by uniqueness such as immediate situation, larger situation and part-whole bridging. These use are exemplified in (113) - (115) below.

(113) *Immediate situation use: bare NP*

- a. Ostorojno. Ne rasbudi rebenka.
careful NEG wake baby
'Be careful. Don't wake up the baby'

(114) *Larger situation use: bare NP*

- a. Solnce vzoshlo.
sun rise-PAST
'The sun rose.'

(Geist, 2010: 195)

(115) *Part-whole bridging use: bare NP*

U obočiny stojala mašina. Motor/*Étot motor byl ešče tēplym no šofëra /
at roadside stand-PAST car engine/ this engine be-PAST still warm but driver /
*étogo šofëra bylo ne vidat'.
this driver be-PAST NEG see
'There was a care at the roadside. The engine was still warm, but the driver was not seen'

(Averintseva & Consten, 2006: 3-4)

In the situational uses above, a bare noun form is used to refer to a unique referent in the given immediate or larger situation. In (115), the bare forms of the nouns *motor* 'the engine' and *šofër* 'the driver' are used to refer to the unique parts of the car mentioned in the first sentence.

To recapitulate, the discussion above shows that while uniqueness is expressed covertly through bare NPs in Russian, familiarity can be marked overtly through demonstratives. In this regard, Russian is similar to Mandarin Chinese in distinguishing between the two notions of definiteness. This shows, once again, that the contrast between uniqueness and familiarity exists in languages without articles. The way article-less languages express the contrast between the familiarity and uniqueness parts of the definiteness meaning is predicted to have implications for the acquisition of definiteness marking in English.

3.6 Morphological distinction between familiarity and uniqueness and implications for languages with one definite article

The data from German (Schwarz, 2009) and Fering (Ebert, 1971) provide cross-linguistic evidence that languages that have an article system can express the meaning of definiteness through two distinct forms of the definite article/two distinct definite articles: the 'strong', familiarity, article and the 'weak', uniqueness, article. The distinct uses of the two definite articles map robustly

onto the two competing accounts of definiteness: the Familiarity Approach can account for the uses of the ‘strong’ article in German and Fering, while the Uniqueness Approach applies to the uses of the ‘weak’ article in German and Fering. In other words, the evidence from German and Fering suggests that the meaning of definiteness consists of two distinct parts: definiteness as familiarity on behalf of the hearer, on the one hand, and definiteness as uniqueness of a referent in a given situation, on the other. The data from languages that employ both the definite article and bare NP forms (Akan), as well as demonstratives and bare NP forms (Mandarin Chinese, Thai, Russian) to express the relevant notions of definiteness offers additional evidence that the distinction between uniqueness and familiarity is universal: it is expressed in languages in one way or another.

English, the language under investigation in this thesis, differs from German and Fering, as it only has one form of the definite article, and the Familiarity and the Uniqueness approaches compete to account for all the uses of the definite article *the* in English. However, although each approach to definiteness attempts to subsume all the uses of the definite article in English under one respective account, the discussion in Section 3.4 has shown that neither approach can account for all felicitous uses of the definite article in English. The evidence that there are languages distinguishing between two definite articles, which, in turn, are restricted to certain types of uses (based on either familiarity or uniqueness), suggests that we should adopt different analyses for different uses of the definite article. For instance, Schwarz (2012) and Jenks (2017) point out in passing that the definite article in English can be considered to be ambiguous between the ‘strong’ and the ‘weak’ article.

This thesis proposes that the morphological distinction between the two notions of definiteness, attested in languages with two definite articles, has implications for languages with one form for the definite article, such as English. In particular, I argue that languages with one definite article, as is the case for English, use that article to express both notions of definiteness, uniqueness and familiarity. In other words, the contrast between familiarity and uniqueness is present in languages with one definite article; however, this contrast is not transparent, i.e., it is concealed in one form, i.e., the definite article, that expresses either familiarity or uniqueness in the relevant contexts. Thus, based on the four major uses of the definite article in English discussed in Section 3.3.1, it can be seen that the definite article in English expresses familiarity in anaphoric uses and some visual situation uses, while uniqueness is expressed in immediate situation, larger situation and associative anaphoric uses. In other words, the concealed contrast between familiarity and uniqueness can be observed if one looks at different uses of the definite article in English.

3.7 Marking of familiarity and uniqueness across languages

The discussion above shows that languages cross-linguistically mark the contrast between the two meanings of definiteness, but languages differ in whether this contrast is transparent, explicitly expressed, or whether it is concealed. I define transparent marking as marking that is observable in the input because a dedicated form is used to mark one meaning and concealed marking as marking that is ambiguous in the input because one dedicated form is used to mark two meanings. In addition, languages differ in whether they use overt or covert forms to express the contrast between familiarity and uniqueness. The overt marking of a meaning is marking that is realised through a dedicated morpheme, for example, a morpheme that expresses familiarity ($\text{morpheme}_{\text{FAM}}$) or a morpheme that expresses uniqueness ($\text{morpheme}_{\text{UNI}}$). The covert marking of a meaning refers to marking familiarity and uniqueness through context ($\text{context}_{\text{FAM}}$ or $\text{context}_{\text{UNI}}$).

Following Jenks (2017), I assume that there are five potential ways in which languages mark the distinction between familiarity and uniqueness. Moreover, I suggest that such factors as transparency and overtness interact with the expressions of familiarity and uniqueness cross-linguistically. The cross-linguistic marking of the two meanings of definiteness is summarised in Table 7 (based on Jenks, 2017: 31).

Table 7. Cross-linguistic marking of familiarity and uniqueness

	Transparent			Concealed	
	Overt	Overt and Covert		Overt	Covert
Familiarity	$\text{morpheme}_{\text{FAM}}$	$\text{morpheme}_{\text{FAM}}$	$\text{context}_{\text{FAM}}$	$\text{morpheme}_{\text{FAM/UNI}}$	$\text{context}_{\text{FAM/UNI}}$
Uniqueness	$\text{morpheme}_{\text{UNI}}$	$\text{context}_{\text{UNI}}$	$\text{morpheme}_{\text{UNI}}$		
Languages	German, Fering	Mandarin Chinese, Thai, Akan, Russian	n/a	English	?

Table 7 shows that the contrast between familiarity and uniqueness is explicitly marked in German and Fering through two overt morphemes: a ‘strong’ definite article that encodes familiarity and a ‘weak’ definite article that encodes uniqueness. In other words, German and Fering are examples of languages that mark the contrast between familiarity and uniqueness in a transparent and overt way. The contrast between familiarity and uniqueness is also marked

transparently in Mandarin Chinese, Thai, Akan and Russian, since these languages can employ two different ways to express definiteness (familiarity is expressed through a dedicated form, while uniqueness is filled in by context). However, only the familiarity meaning is marked overtly through a dedicated morpheme (a demonstrative in Mandarin Chinese, Thai and Russian; a familiarity article in Akan), while the uniqueness meaning is expressed covertly through context. English is a language in which the contrast between familiarity and uniqueness is concealed, that is, not transparent. This language uses one morpheme, a definite article, to express both familiarity and uniqueness.

To recapitulate, Table 7 illustrates that there might be five ways of marking the contrast between the two notions of definiteness cross-linguistically. As discussed above, two of these contrasts, namely the transparent and overt contrast, as is the case for German and Fering, and the transparent and overt (morpheme_{FAM}) versus covert (context_{UNI}) contrast, as is the case for Mandarin Chinese, Thai, Russian and Akan, have been empirically attested. This thesis argues that the third type of contrast, namely, the concealed and overt contrast exists in English, in which one morpheme, the definite article *the*_{FAM/UNI} expresses both familiarity and uniqueness. To the best of my knowledge, the remaining two types of contrasts, the transparent and covert (context_{FAM}) versus overt (morpheme_{UNI}) and the concealed and covert (context_{FAM/UNI}) have not been attested. However, it is possible that no language marks uniqueness overtly and familiarity covertly since definite articles have historically developed from demonstratives, which mark familiarity but not uniqueness. With regard to the fifth possible type of contrast, namely the concealed and covert contrast, Jenks (2017) points out in passing that this type of contrast might be present in Hindi (Dayal, 2004). This contrast awaits empirical investigation.

3.8 Summary of the chapter

This chapter discussed the meaning of definiteness based on the Uniqueness and Familiarity approaches and its realisation in languages with definite articles. Based on the four major uses of the definite article in English that cannot be accounted by either of the approaches to definiteness, it was argued that both approaches to definiteness are needed. This led to the proposal that the meaning of definiteness consists of two independent parts, namely uniqueness and familiarity. Evidence for this proposal came from languages that differ in the ways they realise these notions of the definiteness meaning. German and Fering use the ‘strong’ article for the familiarity meaning and the ‘weak’ article for the uniqueness meaning. Chinese and Russian, languages that lack articles, do not consistently mark the two parts of the definiteness meaning,

leaving them to be negotiated by context. However, the data from Chinese and Russian show that familiarity can receive an overt realisation through demonstratives, while uniqueness is not realised overtly. Based on this cross-linguistic evidence it was suggested that English expresses both parts of the definiteness meaning, i.e. familiarity and uniqueness, through the definite article *the*. This cross-linguistic comparison of the variation in the ways languages mark the two parts of definiteness is argued to have implications for the acquisition of the meaning of definiteness in L2 English, discussed in Chapter 6. The next chapter discusses how familiarity and uniqueness are operationalised in this thesis.

Chapter 4: Semantic features and contexts under investigation

4.1 Terminology

4.1.1 Familiarity, uniqueness and anaphoricity

Based on the semantics analysis of definiteness and the cross-linguistic evidence discussed in Chapter 3, it appears that the notion of definiteness is comprised of two independent meanings, i.e., the meaning of familiarity and the meaning of uniqueness. However, a closer look at different types of definite descriptions shows that the meaning of anaphoricity also constitutes part of the notion of definiteness. More specifically, the distinction appears to exist between anaphoric and non-anaphoric familiarity and between anaphoric and non-anaphoric uniqueness. In other words, while the meanings of familiarity and uniqueness are in complementary distribution, the meaning of anaphoricity may co-vary. The definition of the different meanings of definiteness is presented below:

(116) Different meanings of definiteness:

- a. *Familiarity*: an NP is familiar if the hearer already has the mental representation of the intended referent through the previously mentioned most salient direct antecedent (*anaphoric familiarity*) or through the presence of the perceptually most salient antecedent (*non-anaphoric familiarity*)
- b. *Uniqueness*: an NP is unique if a unique referent for the hearer exists in a given situation based on the unique part-whole relation with the previously mentioned indirect antecedent (*anaphoric uniqueness*) or through general knowledge that a given situation contains only one unique referent (*non-anaphoric uniqueness*)

With regard to indefiniteness, as discussed in Chapter 3, this notion is also comprised of two independent meanings, i.e. the meaning of non-familiarity and the meaning of non-uniqueness. A closer look at different types of indefinite contexts, discussed in Chapter 3,

revealed that it is the meaning of non-anaphoric non-familiarity and anaphoric non-uniqueness which independently yield an indefinite interpretation. The definition of the different meanings of indefiniteness is given below:

(117) Different meanings of indefiniteness:

- a. *Non-familiarity*: a NP is non-familiar if it refers to a new referent for the speaker and the hearer or to a referent that is known to the speaker but unknown to the hearer (*non-anaphoric non-familiarity*)
- b. *Non-uniqueness*: a NP is non-unique if it refers to a non-unique referent through a non-unique member-set/part-whole relation with the previously mentioned direct/indirect antecedent (*anaphoric non-uniqueness*)

In this thesis, I assume that the morphosyntactic feature [definite] is a grammatical encoding of the semantic notion of definiteness which is comprised of two meanings, (non)anaphoric familiarity and (non)anaphoric uniqueness. I operationalise these two conceptual meanings as the semantic features [familiar, anaphoric] and [unique, anaphoric], which I assume to be the features on a D[eterminer] head. More specifically, I assume that the features [familiar, anaphoric] and [unique, anaphoric] are in the semantic makeup of the morphosyntactic feature [definite] rather than part of the semantic makeup of a subclass of determiners. The reason for this assumption is the fact that in article-less languages, for which I assume a null D head (following Longobardi, 1994; Giusti, 1993, 1997, 2002; among others), these semantic features can be expressed even in the absence of dedicated determiners. In these languages, these features are expressed by null morphemes, and their values are fixed by the context.

I suggest the following bundle of features and the possible contributions of values related to definiteness in the terminal node for D:

(118) [D, ±familiar/±unique, ± anaphoric]:

[+familiar, +anaphoric]

[+familiar, –anaphoric]

[+unique, +anaphoric]

[+unique, –anaphoric]

[–familiar, –anaphoric]

[–unique, +anaphoric]

4.2 The expression of the features [familiar, anaphoric] and [unique, anaphoric] in English

I argue that in English, articles express the features [familiar, anaphoric] and [unique, anaphoric], which are expressed independently from each other. In other words, either of the features, i.e. [familiar, anaphoric] and [unique, anaphoric], can yield a definite (or an indefinite) interpretation. Thus, the definite article *the* expresses the semantic features [+familiar, ±anaphoric] and [+unique, ±anaphoric], the indefinite article *a* expresses the semantic features [–familiar, –anaphoric] and [–unique, +anaphoric], as presented in (119).

- (119) [+familiar, +anaphoric] → ‘the’
[+familiar, –anaphoric] → ‘the’
[+unique, +anaphoric] → ‘the’
[+unique, –anaphoric] → ‘the’
[–familiar, –anaphoric] → ‘a’
[–unique, +anaphoric] → ‘a’

Since, as shown in Chapter 3, demonstratives, in particular, the demonstrative *that* in English can be used interchangeably with the definite article in some semantic contexts, namely in contexts that require the presupposition of familiarity on behalf of the hearer, it is suggested that demonstratives can also express the feature [+familiar, ±anaphoric]. However, recall from the discussion in Chapter 3, that anaphoric familiarity expressed by *the* and demonstratives is directed to different antecedents: with *the*, the target NP is anaphoric to the *most* salient antecedent in context, while with *that*, the target NP is anaphoric to the *immediately* salient antecedent in context. Similarly, non-anaphoric familiarity expressed by *the* and

demonstratives is directed to different antecedents: with the target NP refers to the most perceptually salient antecedent, whereas with demonstratives the target NP refers to the immediately perceptually salient antecedent.

The feature [+familiar, +anaphoric] is expressed in three types of contexts, exemplified in (120).

(120) Contexts for the expression of the feature [+familiar, +anaphoric]:

a. *Previous mention with one, both most and immediately salient, antecedent: both the and that felicitous*
There is a cat behind you. *The / that* cat is hungry.

b. *Previous mention with two antecedents, one more salient than the other: both the and that felicitous*
(A and B are in a room with a cat named Bruce)
A: The cat is in the carton. The cat will never meet our other cat, because our other cat lives in New Zealand. Our New Zealand cat lives with the Cresswells. And there he'll stay, because Miriam would be sad if *the / that* cat went away.

c. *Previous mention with two or more equally salient antecedents: that felicitous, the is not good*
A woman entered from stage left. Another woman entered from stage right. *That / #the* woman was carrying a basket of flowers.

The contexts in (120 a-c) differ with regard to whether *the* and demonstratives can be used to express the feature [+familiar, +anaphoric] in these contexts. More specifically, although the contexts in (120a-c) are anaphoric, they differ as to whether one or more than one potential antecedent is present in the discourse situation and whether both *the* and *that* are felicitous. Thus, in (120a), there is one salient antecedent, *a cat*, which, as a result, is the most salient and immediately salient antecedent for the definite NP, *the cat*. Therefore, both *the* and *that* are felicitous in this context. In contrast, the contexts in (120b) and (120c) introduce two referents (two cats in (120b) and two women in (120c)), that is more than one potential

antecedent is present in the discourse context. However, while in (120b) one cat is made more salient than the other as the discourse develops, two women in (120c) are equally salient. *That* can be felicitously used in both of the contexts since it establishes the familiarity of the intended referent relevant to the immediately salient antecedent (most recently mentioned). The definite article can be used in (120b) as it is able to pick out the most salient antecedent, i.e., *our other cat*. In (120c), on the other hand, *the* is not felicitous, as both antecedents are equally salient. This means that both *the* and *that* are felicitous in contexts in which the antecedent for the target NP happens to be both most salient and immediately salient. In contrast, only *that* is felicitous in contexts with two equally likely potential antecedents.

The feature [+familiar, –anaphoric] can be expressed in visible situation contexts, exemplified in (121).

(121) Contexts for the expression of the feature [+familiar, –anaphoric]:

- a. *Visible situation with more than one referent, one of which is more perceptually salient: that preferred, the possible*
The / that cat is hungry.

The context in (121a) is different from (120a-c) as it is a non-anaphoric context since no linguistic antecedent has been previously introduced for the target definite NP. However, the target referent *the cat* is [+familiar, –anaphoric] as it refers to the perceptually salient referent for both the speaker and the hearer in the visible situation of utterance. In this context, a demonstrative is preferred, and its use is usually accompanied with a pointing gesture. However, a definite article can be also used if the referent is most salient in the discourse. For example, *the* can be felicitously used with *cat* if both the speaker and the hearer are in a room with three cats one of which is trying to get inside a cat food bag, while the other two are lying peacefully on their mats.

In contrast to the features [+familiar, +anaphoric] and [+familiar, –anaphoric], which can be expressed by both *the* and demonstratives, the features [+unique, +anaphoric] and [+unique, –anaphoric] can be only expressed by the definite article *the*. The contexts for the expression of the features are given in (122) and (123), respectively.

(122) Contexts for the expression of the feature [+unique, +anaphoric]:

a. *Unique bridging context*

Mary stopped to look at a house. *The door* was open.

(123) Contexts for the expression of the feature [+unique, –anaphoric]:

a. *Out-of-the-blue definite context*

The president has just resigned.

The two contexts above show that both *the door* in (122) and *the president* in (123) refer to unique referents in a given context. However, uniqueness is based on different presuppositions in each of the contexts. In the anaphoric context, (122), the door is unique as it is anaphoric to a unique part of its indirect antecedent, *a house*. In other words, since it is general knowledge that a house usually has one main entrance door, *the door* refers to its unique door. In the non-anaphoric context, exemplified in (123), *the president* is unique as it refers to a unique president in a given situation, e.g., in a situation of a given country. In other words, the definite NP *the president* can be used out-of-the-blue, that is, without an antecedent that it refers to. Therefore, the difference between how uniqueness is computed in anaphoric versus non-anaphoric contexts is that in anaphoric contexts, the target NP is unique relevant to the previously mentioned indirect antecedent in the previous discourse, while in non-anaphoric contexts the target NP does not have an indirect antecedent in the previous discourse but is, nevertheless, unique, as it refers to a unique referent in a given situation based on general or world knowledge.

As for the semantic features of indefiniteness, contexts for the expression of the features of indefiniteness, i.e. [–familiar, –anaphoric] and [–unique, +anaphoric], are given in (124) and (125), respectively.

(124) Context for the expression of the feature [–familiar, –anaphoric]:

a. *Out-of-the-blue indefinite context*

Fred discussed *a book* in his class yesterday.

(125) Context for the expression of the feature [–unique, +anaphoric]:

a. *Partitive*

Some students were standing outside the factory gate. Bill kept his eye on them. After a little while *a student* came up to him and asked him his name.

b. *Non-unique bridging*

Mary stopped to look at a house. *A window* was open.

The example in (124) shows that the feature [–familiar, –anaphoric] is expressed in non-anaphoric contexts in which reference is made to a new and, thus, non-familiar referent for the hearer. Note that the combination of the features [–familiar, +anaphoric] is not possible as it will imply that a referent that has an antecedent in the previous discourse is, nevertheless, unfamiliar to the hearer.

As for the feature [–unique, +anaphoric], recall that as argued in Chapter 3, uniqueness is not encoded in the indefinite article. However, as proposed by Hawkins (1978) it arises in some semantic contexts, namely in anaphoric indefinite contexts such as partitive and non-unique bridging, as illustrated in (125). In (125a), the target NP *a student* is [–unique, +anaphoric] as it refers back to the previously mentioned set of some students in the previous discourse in which the antecedent for *a student* can be found. In other words, *a student* is a non-unique member (part) of a set of *some students*, and the direct antecedent for *a student* is present in that set. In (125b), the target NP *a window* is [–unique, +anaphoric] as it refers back to its indirect antecedent *a house* through being its non-unique part. In other words, *a window* is a non-unique window of a house that contains other windows. The combination of the features [–unique, –anaphoric] is not possible for indefinite contexts, as indefinite NPs do not presuppose non-uniqueness if used non-anaphorically, i.e., out-of-the-blue.

The discussion above shows that the semantic features of definiteness, i.e. [+familiar, ±anaphoric] and [+unique, ±anaphoric,], are expressed through the definite article *the* in English in different types of semantic contexts. Similarly, the features of indefiniteness, i.e. [–

familiar, –anaphoric] and [–unique, +anaphoric], are expressed through the indefinite article *a* in distinct semantic contexts. The following two sections discuss how these semantic features are realised in Mandarin Chinese and Russian, the two other languages under investigation in this thesis.

4.3 The expression of the features [familiar, anaphoric] and [unique, anaphoric] in Mandarin Chinese

As discussed in Chapter 3, Mandarin Chinese (henceforth, Chinese) lacks articles in its grammatical system, and the features [familiar, anaphoric] and [unique, anaphoric] are usually expressed through bare NPs with the relevant interpretation filled in by context. However, as was shown, following Jenks (2017), the feature [+familiar, ±anaphoric] can be expressed through demonstratives *zhe/na* ‘this/that’ in Chinese. Moreover, as argued by Jenks (2017), demonstratives rather than bare NPs are preferred to express the feature [+familiar, +anaphoric], whereas, there is no such preference with regard to the feature [+familiar, –anaphoric]. The contexts for the expression of the feature [+familiar, +anaphoric] and the features [+familiar, –anaphoric] are listed in (126) and (127), respectively.

(126) Expression of the feature [+familiar, +anaphoric] in Chinese:

a. Previous mention context

You yi ge lieren yang zhe yi zhi gou. Zhe zhi gou / gou hen dongshi.

have one CL hunter keep ASP one CL dog this CL dog / dog very

intelligent

‘There was a hunter who had a dog. The (that) dog was very intelligent.’

(127) Expression of the feature [+familiar, –anaphoric] in Chinese:

a. Visible situation context

Na zhi mao / mao e le.

That CL cat / cat hungry ASP

‘The cat is hungry’

In contrast, only bare NP express the feature [+unique, ±anaphoric] and demonstratives are not usually felicitous in these contexts.¹³ These exemplified in below:

(128) Expression of the feature [+unique, +anaphoric] in Chinese:

a. *Unique bridging context*

Ta mai le yi liang jiu che, luntai dou mo ping le.
he buy ASP one CL old car tyre even wear flat ASP
'He bought an old car. All the tyres are worn out.'

(129) Expression of the feature [+unique, –anaphoric] in Chinese:

a. *Out-of-the-blue definite context*

Tianqi zhen guai, shi er yue le, ke yidian bu leng.
weather really strange ten two month ASP but bit NEG cold.
'The weather is really strange. It is December now, but it is not cold at all'

As for the features of indefiniteness, the features [–familiar, –anaphoric] and [–unique, +anaphoric] are usually expressed through bare NPs in Mandarin Chinese. However, as suggested by Chen (2004), *yi* 'one' *CL[assifier]* in Mandarin Chinese has developed the uses of the indefinite article. Thus, *yi CL* can be used to express the feature [–familiar, –anaphoric] and the feature [–unique, +anaphoric] in the relevant contexts, as exemplified below.

(130) Expression of the feature [–familiar, –anaphoric] in Chinese:

a. *Out-of-the-blue indefinite context*

You yi ge lieren yang zhe yi zhi gou.
have one CL hunter keep ASP one CL dog
'There was a hunter who had a dog'

¹³ However, see Chen (2004) who argues that demonstratives can occur in some contexts that require the presupposition of uniqueness, such as unique bridging contexts and out-of-the-blue definite contexts, in spoken Chinese.

(131) Expression of the feature [–unique, +anaphoric] in Chinese:

a. *Partitive context*

San shi ge nongfu canjia le yi ge huiyi. Yi ge nongfu shuo,
three ten CL peasant attend ASP one CL meeting one CL peasant say

‘Wo xiang chu yi ge banfa le’.

I think out one CL way ASP

‘Thirty peasants attended a peasant’s meeting. One of the peasants said:

‘I’ve thought of a way’

As can be seen from the discussion above, although Chinese does not have articles and, therefore, does not consistently mark the features [familiar, anaphoric] and [unique, anaphoric] through overt morphemes, these features can be expressed through other means in this language. Thus, the feature [+familiar, ±anaphoric,] can be expressed through a demonstrative and the feature [+unique, ±anaphoric] is expressed through bare NPs with the relevant interpretation provided by context. As for the features [–familiar, –anaphoric] and [–unique, +anaphoric], they can be expressed through the *yi CL* construction.

4.4 The expression of the features [familiar, anaphoric] and [unique, anaphoric] in Russian

Similar to Chinese, Russian lacks articles and the features [familiar, anaphoric] and [unique, anaphoric] are usually expressed through bare NPs whose interpretation is filled in by context. However, similar to Chinese, the feature [+familiar, ±anaphoric] can be also expressed through demonstratives *etot/tot* ‘this/that’ in Russian. In contrast, demonstratives are not felicitous in contexts containing a unique referent, and only bare NPs express the feature [+unique, ±anaphoric]. Different contexts for the expression of the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] are exemplified below.

(132) Expression of the feature [+familiar, +anaphoric] in Russian:

a. *Previous mention context*

Oднажды папа привел какого-то человека. Этот человек / человек все
once father bring-PAST some man this man / man all

vremja sprašival

time ask-PAST

'Once Father brought home a man. The man was asking all the time...

(133) Expression of the feature [+familiar, –anaphoric] in Russian:

a. *Visible situation context*

Eta koška / koška golodnaja.

This cat / cat hungry

'This cat is hungry'

(134) Expression of the feature [+unique, +anaphoric] in Russian:

a. *Unique bridging context*

U obočiny stojala mašina. Motor /#Etot motor byl ešče teplym.

At roadside stand-PAST car engine / this engine be-PAST still warm

'There was a car at the roadside. The engine was still warm.'

(135) Expression of the feature [+unique, –anaphoric] in Russian:

a. *Out-of-the-blue definite context*

Solnce /#eto solnce vzošlo.

Sun / this sun rise-PAST

'The sun rose.'

As for the features [–familiar, –anaphoric] and [–unique, +anaphoric], similar to Chinese, Russian does not have a dedicated morpheme that expresses these features and they are usually interpreted in context. However, the numeral *odin* 'one' is sometimes used with indefinite NPs. A short survey conducted with six Russian native speakers suggests that bare NPs are preferred to express the feature [–familiar, –anaphoric], whereas *odin* is preferred to express the feature [–unique, +anaphoric].

(136) Expression of the feature [–familiar, –anaphoric] in Russian:

a. *Out-of-the-blue indefinite context*

U obočiny stojala mašina.

at roadside stand-PAST car.

'There was a car at the roadside.'

(137) Expression of the feature [–unique, +anaphoric] in Russian:

a. *Partitive context*

Na ulice bylo neskol'ko studentov. Ivan vnimatel'no nabludal za

on street be-PAST some students Ivan attentively watch-PAST after

nimi. Cerez nekotoroje vremja, odin student podosel k nemu i

them after some time one student come-PAST to him and

sprosil ego imja.

ask-PAST his name

'Some students were standing on the street. Ivan kept his eye on them.

After a while a student came up to him and asked him his name'.

To summarise, while bare NPs are used in Russian to express the features [+unique, ±anaphoric] and [–familiar, –anaphoric], the demonstrative *etot* is preferred to express the feature [+familiar, +anaphoric], while *odin* is preferred to express the feature [–unique, +anaphoric].

4.5 Contrastive analysis of the expressions of the semantic features [familiar, anaphoric] and [unique, anaphoric] in English, Chinese and Russian

This section presents a contrastive analysis of how the features [familiar, anaphoric] and [unique, anaphoric] are expressed in English, Mandarin Chinese and Russian, the three languages under investigation in this thesis. The rationale for including native speakers of Chinese and Russian into this study is as follows. Although neither of these languages expresses the features of definiteness through articles, these languages seem to differ in what forms are preferred to express the features [–familiar, –anaphoric] and [+unique, –anaphoric] (as discussed in details below). Therefore, it will be possible to investigate whether the

properties of the L1, i.e. the way the features of definiteness are expressed in the L1, have an effect on the acquisition of the features of definiteness in English.

A short survey was conducted with 8 Chinese and 6 Russian speakers in order to investigate what forms speakers of these language prefer to use to express the features of definiteness in their L1. The participants were presented with five types of definite contexts in their L1 (exemplified for English in Table 8) and were asked to judge which of the three forms (a) bare NP, (b) demonstrative or (c) both, can be used in a given context¹⁴. The features of definiteness and their expressions in different contexts in English, Chinese and Russian are summarised in Table 8.

Table 8. Contrastive analysis of the expression of the two features of definiteness, [+familiar, ±anaphoric] and [+unique, ±anaphoric], in English, Chinese and Russian

Feature	Context for expression	English	Chinese	Russian
[+familiar, +anaphoric]	(1) <i>Previous mention with one both most and immediately salient antecedent</i> There is a cat behind you. The / that cat is hungry.	<i>the or that</i>	<i>na > ∅</i>	<i>etot > ∅</i>
	(2) <i>Previous mention with two equally salient antecedents</i> A woman entered from stage left. Another woman entered from stage right. That / #the woman was carrying a basket of flowers.	<i>that, #the</i>	<i>na > ∅</i>	<i>etot > ∅</i>
[+familiar, -anaphoric]	(3) <i>Visible situation with more than one referent, one of which is more perceptually salient</i> That / the cat is hungry.	<i>that > the</i>	<i>na or ∅</i>	<i>etot or ∅</i>

¹⁴ Each context in the survey contained two items. All of the items were translations of the test items in the present study. None of the participants who took part in this survey participated in the two tasks in this study.

[+unique, +anaphoric]	(4) <i>Unique bridging</i> Mary stopped to look at a house. The door was open.	<i>the</i>	∅	∅
[+unique, -anaphoric]	(5) <i>Out-of-the-blue definite</i> The president has just resigned.	<i>the</i>	∅	∅

Note: '>' stands for 'preferred to'; ∅ stands for null morpheme; # stands for 'not felicitous'

As can be seen in Table 8, the feature [+familiar, ±anaphoric] can be expressed through the definite article and the demonstrative *that* in English. However, while *the* and *that* can be both used felicitously in previous mention contexts with one most salient antecedent, as in example (1) in Table 8, the definite article is not felicitous in the previous mention context with two or more equally salient antecedents, as in (2), and *that* must be used instead. In addition, although *the* can be used in visible situation contexts that contain more than one potential referent and in which *the* picks out the most perceptually salient referent, *that* is preferred in these contexts. In contrast, only *the* is felicitous in contexts requiring uniqueness, as in (4)-(5) (Table 8).

In Chinese and Russian, both demonstratives and bare NPs can express the feature [+familiar, ±anaphoric] in contexts (1)-(3) (Table 8); however, demonstratives are preferred by native speakers to express the feature [+familiar, +anaphoric] in previous mention contexts (1) and (2), while there is no such preference for demonstratives to express the feature [+familiar, -anaphoric] in visible situation contexts (3). In contrast, only bare NPs are felicitous in uniqueness contexts, (4) and (5) (Table 8), in these languages. Although, as discussed in Chapter 3, there are claims in the literature on Mandarin Chinese that demonstratives can be used in uniqueness contexts, as in (4)-(5) in spoken discourse, none of the 8 Chinese native speakers in the survey that I conducted preferred a demonstrative in these contexts. Therefore, it seems that bare nouns are still the preferred form to express the feature [+unique, ±anaphoric] in Chinese.

Chinese and Russian natives were also presented with three types of indefinite contexts in their L1 (exemplified for English in Table 9) and were asked to judge which of the three forms (a) bare NP, (b) *yi CL/odin* or (b) both, can be used in a given context. The features of indefiniteness and their expressions in English, Chinese and Russian are summarised in Table 9.

Table 9. A contrastive analysis of the expression of the two features of indefiniteness, [–familiar, –anaphoric] and [–unique, +anaphoric], in English, Chinese and Russian

Feature	Context for expression	English	Chinese	Russian
[–familiar, –anaphoric]	(1) <i>Out-of-the-blue indefinite</i> Fred discussed a book in his class yesterday.	<i>a</i>	<i>yi CL > ∅</i>	<i>∅ > odin</i>
[–unique, +anaphoric]	(2) Partitive Some students were standing outside the factory gate. Bill kept his eye on them. After a little while a student came up to him and asked him his name.	<i>a</i>	<i>yi CL > ∅</i>	<i>odin > ∅</i>
	(3) <i>Non-unique bridging</i> Mary stopped to look at a house. A window was open.	<i>a</i>	<i>yi CL or ∅</i>	<i>odin > ∅</i>

Note: '>' stands for 'preferred to'; ∅ stands for a null morpheme

Table 9 shows that the features [–familiar, –anaphoric] and [–unique, +anaphoric] are expressed through the indefinite article *a* in English. In Chinese, *yi CL* NP is preferred over bare NPs to express the feature [–familiar, –anaphoric] and the feature [–unique, +anaphoric] in partitive contexts. In contrast, there is no preference for either a bare NP or *yi CL* NP in expressing the feature [–unique, +anaphoric] in non-unique bridging contexts. In Russian, while bare NPs are preferred over *odin* NP in [–familiar, –anaphoric] contexts¹⁵, *odin* NP is preferred over bare NPs in both types of [–unique, +anaphoric] contexts (see (2) and (3) in Table 9).

¹⁵ Note that *odin* can be used with non-familiar referents if the referent is also [+specific]. Since the out-of-the-blue indefinite conditions under investigation are [–specific], the specificity/non-specificity distinction and its interaction with (in)definiteness does not concern us here.

4.6 Summary

The contrastive analysis of the way the features [familiar, anaphoric] and [unique, anaphoric] are expressed in English and in learners' L1, Mandarin Chinese and Russian, will allow us to formulate a more precise learning task (discussed in Chapter 6) that L1 Chinese and Russian speakers face when they acquire the expressions of these features in L2 English. This learning task and predictions for the acquisition of the features [familiar, anaphoric] and [unique, anaphoric] will be formulated within the Feature Reassembly Hypothesis (Lardiere, 2008, 2009a,b), which is discussed in the next chapter.

Chapter 5: Feature Reassembly Hypothesis: a feature-based contrastive account of learnability problems in L2 acquisition

5.1 Background: early theories of generative L2 acquisition

Within the theory of L2 acquisition, generative L2 acquisition refers to language acquisition which is constrained by Universal Grammar, an innate language faculty that constrains the grammar of all natural languages (Chomsky, 1981, 1986). Research in generative L2 acquisition is concerned with what mental representations L2 learners build and develop when they learn an L2, and how they use these mental representations in L2 production and comprehension. Consequently, on the generative approach, the learning task for L2 learners consists of building mental representations for the target L2 form-meaning mappings based on the exposure to the L2 input. The goal of all theories of L2 acquisition is, therefore, to account for L2 grammatical development and for why some form-meaning mappings are easier to acquire while others pose consistent learning difficulties (Slabakova, 2008). However, in order to account for how a language is acquired, it is important to determine what exactly must be acquired and what mental representations must be constructed.

Early theories of generative L2 acquisition were concerned with the question of how L2 acquisition is different from L1 acquisition, and whether native-like attainment is possible in the L2. These questions were investigated in terms of accessibility to Universal Grammar (UG). Within Chomsky's UG theory what all languages have in common is a set of universal rules of how languages work, i.e., universal principles, and the limited variation among languages lies in language-specific properties, i.e., parameters (Chomsky, 1981, 1986). These principles and parameters constitute Universal Grammar: a generative grammar that generates only grammatically acceptable sentences in a given language.

Within the Principles and Parameters theory, children are born with the knowledge of universal principles and the input (known as primary linguistic data) leads them to set the parameters to the appropriate values for their L1. On this proposal, L1 acquisition is seen as the acquisition of the appropriate setting of the relevant parameter. To illustrate this process, consider the L1 acquisition of the subject-verb order. English is a subject-verb-object (SVO)

language, whereas, for example, Japanese is a subject-object-verb (SOV) language. In other words, English and Japanese differ in whether they place the head V of the Verbal Phrase (VP) phrase initially, as in English, or phrase-finally, as in Japanese. This parametric difference between head-initial and head-final languages is known as the Head Parameter (Flynn, 1987; Clahsen & Muysken, 1989). The task for child L1 learners is then to acquire the appropriate setting of the Head Parameter, either head-initial or head-final.

Although the framework of Principles and Parameters was first advanced for L1 acquisition, it was expanded to L2 acquisition (White, 1989a). Since L2 learners come to L2 acquisition with parameters that are already set to L1 values (White, 1985, 1986, 1989b), the success or failure of L2 acquisition is seen as an ability to reset parameters from the L1 values to those of the L2. Under this view, parametric variation is located in the functional categories which consist of a bundle of formal features. The main research question of the L2 acquisition theory formulated within the Principles and Parameters Framework was whether similar to children L2 learners have access to UG, that is, to universal principles of how languages work, and to language-specific parameters.

Three major views were advanced in the L2 acquisition literature: the No Access view, the Partial Access view and the Full Access view. On the No Access view to UG (Clahsen, 1988, Bley-Vroman, 1989, among others), the fact that L2 learners diverge from target L2 grammars is seen as evidence that their interlanguage grammars are not UG-constrained (see, for example, Clahsen & Muysken, 1986 for the acquisition of verb placement in L2 German). On the Partial Access view (Schachter, 1989, 1990), L2 learners have access to only those principles and parameters that are instantiated in their L1, which they transfer to the L2, and new principles and parameters of the target L2 are not accessible from UG (see, for example, Schachter, 1989, 1990 for the L2 acquisition of subjacency). However, later studies showed that L2 learners are able to acquire the L2 settings that are not instantiated in their L1, arguing for the Full Access view to UG (Flynn & Martohardjono, 1994; Schwartz & Sprouse, 1996) (see, for example, Epstein *et. al.*, 1996, for the acquisition of the Head Parameter in L2 English; Schwartz & Sprouse 1994, 1996 for the acquisition of L2 German word order).

To recapitulate, based on the Principles and Parameters approach, if the L1 and the L2 vary parametrically, the L2 learning task is seen as the re-setting of a relevant parameter from the L1 value to the L2 value. In other words, success in L2 acquisition is seen as an ability to

acquire the appropriate value of the relevant parameter in the L2. However, as more languages were investigated and compared it became obvious that L2 acquisition cannot be accounted by a mere re-setting of a limited number of parameters, and the field needed alternative approaches to L2 acquisition and the L2 learning task.

5.2 Minimalism and feature-based approaches to L2 acquisition

The Minimalist Program (Chomsky, 1995) moved from seeing parameters as being at the heart of cross-linguistic variation, suggesting that cross-linguistic variation lies in differences between formal features of functional heads. Under this view, features contain grammatical information which is encoded in the functional heads as well as in the lexical items of a given language. It is generally accepted within the UG framework that the UG inventory contains all possible features available in languages cross-linguistically. In addition, it is believed that humans have an innate computational mechanism that allows them to assemble and interpret the relevant language-specific features. On the Minimalist Program, the differences between languages manifest in the way language-specific features are bundled on the functional categories Complementiser Phrase (CP), Tense Phrase (TP) and Determiner Phrase (DP). More specifically, variation lies in the values of features of functional heads (e.g., whether a language instantiates the strong or the weak value of a particular feature).

In subsequent versions of the Minimalist Program (Chomsky, 2000, 2001), variation across languages is suggested to be situated in the functional lexicon, which is assembled by a set of syntactic, semantic and phonological features. This view is not new and the idea that parametric variation across languages is located in the lexicon, was first proposed in the Lexical Parametrisation Hypothesis by Borer (1984). Under this view, language variation lies in what features languages choose to realise and on what lexical items they choose to assemble those features. In other words, differences between languages lie in whether they select a particular feature from the UG inventory and/or what combinations of features are assembled on language-specific morpholexical items.

Thus, according to the recent Minimalist framework, the learning task for child L1 learners is to select the features that are relevant to their L1 based on the evidence in the input, disregarding the features that are not selected by their L1, and to assemble the selected features into the relevant L1 lexical items. For L2 learners, who come with an already equipped

set of selected L1 features, the learning task consists in either remapping and reassembling L1 features to L2 forms if the relevant L2 features are selected in the L1, or identifying and selecting new target features from the UG inventory and assembling them into the L2 lexical items. This process is illustrated in Figure 1, based on Gallego (2011: 548) and Shimanskaya (2015: 5).

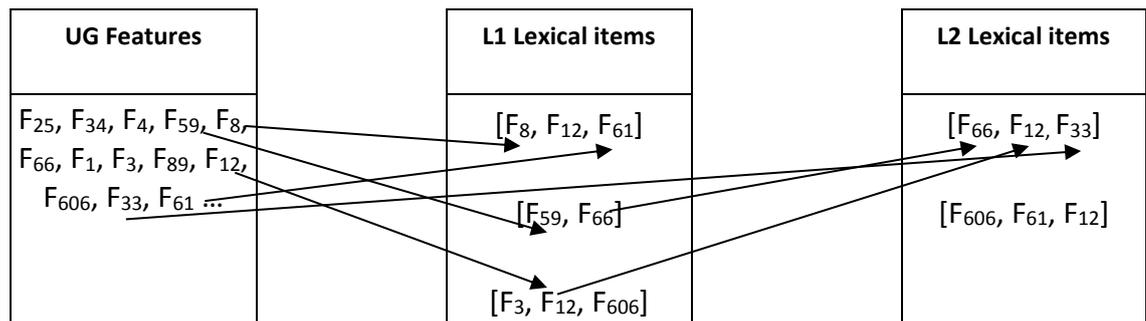


Figure 1. Assembling lexical items from features in the L1 and the L2

Figure 1 shows that a hypothetical L2 contains a lexical item with the feature bundles $[F_{66}, F_{12}, F_{33}]$. Features F_{66} and F_{12} are present in the L1 but they are assembled on different lexical items together with other features. F_{33} is not encoded in the L1 lexical items. The acquisition task consists of reassembling features F_{66} and F_{12} from their previous bundles in the L1 and adding them to the representation of the new lexical item in the L2. F_{33} , which is not selected in the L1, will need to be added from the UG inventory of features.

The focus on features in the recent syntactic theory has influenced the generative L2 acquisition theory and inspired formulation of feature-based approaches to L2 acquisition. Based on the view that cross-linguistic differences lie in differences between formal features, it has become obvious that the acquisition of the target L2 implies the acquisition of its target features and their realisations. Two different views on the acquisition process of the target L2 features were expressed in the generative L2 research, leading to the proposal of two different feature-based accounts: the Interpretability Hypothesis (Hawkins & Hattori, 2006; Tsimpli &

Dimitrakoupoulou, 2007), on the one hand, and the Feature Reassembly Hypothesis (Lardiere, 2007, 2008, 2009), on the other.

5.2.1 The Interpretability Hypothesis

The Interpretability Hypothesis is an extension of the Failed Functional Features Hypothesis (FFFH) advanced by Hawkins and Chan (1997). The FFFH, which was developed within the Principles and Parameters framework, postulated that in the L2 acquisition process parameter values of formal features that have not been selected in the L1 will not be acquired in the L2 after a critical period (i.e., after puberty). This, in turn, will lead to permanent non-target like L2 grammars. The IH, which is formulated within the Minimalist Framework, postulates that the difficulty in learning an L2 lies in the acquisition of L2 uninterpretable features only, while interpretable features, even those not selected in the L1, do not pose an acquisition hurdle. Interpretable features (such as tense, definiteness) have semantic content, i.e. they make a contribution to meaning of a given lexical item, while uninterpretable (syntactic) features (such as agreement, case) are only relevant for the morphosyntax as they trigger syntactic operations, such as Movement and Agree. Under the Interpretability Hypothesis, uninterpretable features not selected in the L1 will be impossible to acquire in the L2 after a critical period, resulting in permanent non-target like L2 performance.

To offer evidence for the IH, Hawkins and Hattori (2006) investigated the L2 acquisition of the uninterpretable *wh*-feature which forces movement of *wh*-words in English interrogatives by native speakers of Japanese, whose L1 lacks such feature. They tested the interpretation of *wh*-interrogatives in a truth-value judgment task which consisted of grammatical and ungrammatical sentences, involving either superiority (138b) or subjacency (138c) violations, as exemplified below:

- (138) a. When did Sophie's brother warn [Sophie would phone who <when>]?
b. * Who did Sophie's brother warn [Sophie would phone <who> when]?
c. * When did Sophie's brother warn [who Sophie would phone <who> <when>]?

(Hawkins & Hattori, 2006:286)

Based on the IH, Hawkins and Hattori predicted that, since the L2 learners' L1 lacks the *wh*-feature that triggers *wh*-movement in interrogatives, L1 Japanese learners of English would lack this feature in their L2 grammatical representations which would manifest in non-target performance on *wh*-interrogatives in English. The findings showed that, contra their predictions, the highly proficient L2 learners in their study were target-like in their judgments on grammatical interrogative constructions (138a), but they also accepted ungrammatical interrogative constructions (138b and 138c), not significantly distinguishing between the grammatical and ungrammatical test items. Based on the fact that L2 learners incorrectly accepted ungrammatical constructions with *wh*-interrogatives, Hawkins and Hattori suggest that the uninterpretable *wh*-feature which triggers *wh*-movement in English is absent in L2 learners' grammatical representations, arguing that the apparent target-like performance on grammatical constructions does not imply the presence of the target grammatical representation in the L2 learners' grammar. Accounting for the L2 learners' target-like performance on the grammatical constructions, they suggest that L1 Japanese L2 English learners interpret English sentences using scrambling, which in Japanese involves obligatory movement of *wh*-words to focus position, which, in turn, manifests in the apparent target-like performance.

However, this account seems rather tentative and does not offer convincing support for the IH. In addition, an array of studies has shown that L2 learners are able to acquire new uninterpretable features in the L2, e.g., verb raising (Myles, 2005; Rule & Marsden, 2006); agreement (Prevost & White, 2000), among others. These findings contradict the predictions of the IH and question its claims. In addition, it has been attested that L2 learners do have problems acquiring interpretable features in the L2, e.g., definiteness (Ionin *et al.*, 2004) and plurality (Lardiere, 2009). Therefore, the claim that the acquisition of interpretable features is easy cannot be maintained. The next section discusses an alternative feature-based approach to L2 acquisition which formulates testable predictions with regard to the acquisition of L2 features regardless of their interpretability.

5.3 The Feature Reassembly Hypothesis

Following the Minimalist framework (Chomsky, 1998, 2001), Lardiere (2007, 2008, 2009a,b) argues that features rather than parameters are able to account for the complexity of the L2 learning task. She puts forth the Feature Reassembly Hypothesis (FRH), and argues that the acquisition task consists of reconfiguring features from the way they are bundled in the L1 onto new morphemes in the L2 rather than a mere feature selection as suggested by the Interpretability Hypothesis. To illustrate, Lardiere (2007) discusses the expression of the feature [+past] in English, Somali and Irish. All of these languages have selected this feature; however, they differ in how this feature is assembled. In English, this feature is marked on verbs and, in addition to encoding past events, also encodes perfective aspects. In Irish it is used as an agreement marker on complementisers that agrees with the past tense of the embedded clause. In Somali it is marked on determiners and adjectives and it also encodes habituality, evidentiality and alienable possession. This cross-linguistic comparison shows that the feature [+past] has been selected in English, Irish and Somali. Therefore, an English speaker learning past tense in Irish or Somali does not have to reset the parameter or select a new feature. What they have to learn is that the feature [+past] is assembled differently in Irish and Somali and that it occurs in different conditioning environments than it does in English.

According to the FRH, the learning task and the difficulty in L2 acquisition lie in mapping the target L2 features onto the relevant L2 lexical items. The FRH assumes the Full Transfer/Full Access (FT/FA) hypothesis of Schwartz and Sprouse (1996). According to the FT/FA hypothesis, L2 learners initially transfer all of the L1 properties, i.e. functional categories (e.g., CP, IP, DP) and relevant features, to the L2. This constitutes the initial state of the L2 grammar. Since the FT/FA hypothesis postulates full access to UG, L2 learners are able to gradually restructure their grammar and acquire the target L2 functional categories and features based on positive evidence in the L2 input. However, the FT/FA hypothesis does not make it clear how much of the input is necessary for restructuring of the L2 grammar to take place and how exactly restructuring happens. In addition, since this hypothesis predicts full access to UG, that is, to the L2 specific categories and features, it predicts that ultimate attainment in the L2 is, in principle, possible. However, it has little to say with regard to the cases of divergence from the target L2 grammar.

The FRH follows the FT/FA hypothesis in suggesting that L2 learners initially transfer the feature values from their L1 to the L2, and the L2 input then leads them to restructure the

features to match those in the L2 grammar. However, the novelty of the FRH is that this account formulates the precise acquisition task involved in the (re)assembly process of L2 features. The FRH considers L2 acquisition as a process of acquisition of L2 features which involves (re)assembling the features that the relevant lexical items in the L1 are comprised of to the way the relevant lexical items are assembled in the L2. Feature reassembly is predicted to involve two processes (Lardiere, 2009): (1) the mapping process, during which initial mapping of the features from the closest equivalent morpholexical item in the L1 to a morpholexical item in the L2 (based on similarity in meaning or grammatical function) takes place; (2) the restructuring process during which the specification of features on the L2 items must be assembled from the available feature specifications anywhere in the L1, if the bundles of features on the L1 and L2 lexical items do not match. In addition, L2 learners need to learn conditioning factors (phonological, morphosyntactic, semantic or discourse-linked) for the expression of the L2 features.

In other words, when learning a new lexical item in the L2, L2 learners look for an equivalent lexical item in their L1 that expresses the same meaning, and they are predicted to map the features of the L1 lexical item to the L2 lexical item. The input is then supposed to help L2 learners to determine whether the lexical item in the L2 is comprised of the same feature bundles as the lexical item in the L1. If the features on the L1 and L2 lexical items match, direct remapping of the features from the L1 lexical item to the L2 lexical item takes place. If the features differ, L2 learners have to, firstly, determine based on the L2 input, the appropriate specification of the features on the L2 lexical item and, then, reassemble the features from the lexical item in the L1 to the target lexical item in the L2. As can be seen, the FRH formulates the acquisition task based on the contrastive analysis between the L1 and the L2 features. Lardiere (2009) argues that as long as the relevant features of the L2 are present anywhere in the L1, it will be possible to assemble them into the relevant lexical items in the L2. Although, the FRH has little to say about the acquisition of features that are absent in the L1, Lardiere (2009: 214) points out that “any feature contrast [difference in meaning] that is detectable is, in principle, ultimately acquirable”.

In addition, Lardiere (2009: 215) points out that “the greater difficulty for the second language acquirer lies in assembling just the right combination of features into the right lexical items for each language, and in determining the appropriate conditioning environments for their expression”. In other words, the acquisition of a particular morpheme in the L2 requires not

only determining what features it is comprised of but also establishing the appropriate contexts (i.e., phonological, syntactic, lexical, semantic/pragmatic, and/or discourse) for the use of the morpheme and for the expression of those features. Therefore, the input is crucial for providing evidence for the appropriate feature specifications of the L2 lexical items. Based on this approach, it follows that if the input L2 learners receive is ambiguous or insufficient, the target reassembly of features might not take place or will be delayed, which, in turn, might lead to the non-target-like specifications of features in initial or even end-state L2 grammars. In other words, the reassembly process is not instantaneous and it is affected by two main factors: the feature composition of the morpholexical items in the L1 and whether there is consistent evidence for each feature in the L2 input.

The above discussion shows that Lardiere's hypothesis allows us to formulate testable predictions for L2 development. Thus, this hypothesis predicts that the knowledge of the target L2 features arises in the mapping process. However, it is the reassembly process that allows to predict whether ultimate attainment is possible. According to Lardiere (2007: 106), "it is the reassembly of features that poses the main difficulty for L2 learners". The FRH predicts that the more reassembly of features is required, the harder the acquisition process will be. In other words, the reassembly task will be more difficult if the features in the L1 and the L2 are assembled differently and/or are realised under different conditioning environments.

Although the FRH seems to make testable predictions with regard to the L2 acquisition of features, it raised some questions among researchers. For example, White (2009) points out that the FRH is not able to make predictions with regard to what type of reassembly might be easy or difficult for L2 learners, i.e., what type of feature configurations are easy or difficult to acquire. Slabakova (2009) addresses this question by putting forth a cline of difficulty in feature acquisition. This proposal and its predictions are discussed in the next section.

5.3.1 The role of overt and covert feature marking in feature reassembly: Slabakova's (2009) cline of difficulty in feature acquisition

Following the FRH (Lardiere 2008, 2009a,b), Slabakova (2009) addresses the question of the complexity of the learning task involved in the L2 acquisition process. Slabakova suggests that the difficulty or the ease of the reassembly process lies in how the relevant features are

realised in the L2 (covertly or overtly) and whether the realisations of the features in the L1 and the L2 are similar or different. Slabakova's (2009) proposal is based on Ramchand and Svenonius's (2008) model which was introduced in Chapter 1. Recall that Ramchand and Svenonius (2008) argue that all languages can express universal meanings, such as definiteness, past, plurality; however, languages differ in whether these meanings are expressed overtly through a morpheme or whether they are negotiated through discourse context.

To illustrate their proposal, Ramchand and Svenonius (2008) discuss the expression of definiteness in English, Norwegian and Russian. They suggest that the meaning of definiteness is comprised of several parts: argumenthood, familiarity, specificity, reference tracking, among others. They suggest that what Norwegian, English and Russian have in common is that the feature [definite] is present in their syntactic representations, as it is necessary for projecting argumenthood. However, Ramchand and Svenonius (2008) suggest that these languages differ with regard to how they express other parts of the definiteness meaning. The realisation of the different parts of definiteness are summarised in Table 10 (based on Ramchand and Svenonius, 2008: 227).

Table 10. Variation in the realisation of definiteness in Norwegian, English and Russian

	Norwegian	English	Russian
Argumenthood	morpheme	morpheme	null morpheme
Familiarity	morpheme	morpheme	context*
Specificity	morpheme	context	context
Reference Tracking	context	context	context

*Note that familiarity can be expressed overtly (syntactically) in Russian, e.g. through demonstratives, aspect, word order, etc.

Table 10 shows that all three languages encode argumenthood through a morpheme (an overt morpheme in Norwegian and English and a null morpheme in Russian). However, while

familiarity is expressed overtly through a morpheme (definite article) in English and Norwegian, it is interpreted covertly through context in Russian. Specificity, on the other hand, is realised overtly through a definite suffix in Norwegian, while the interpretation of specificity is left up to context in English and Russian. As for reference tracking, it is filled in by context in the three languages.

Based on the above observations, Ramchand and Svenonius (2008: 222) note that: “Deciding which features are universally necessary to a well-formed syn[tax]/sem[antics] representation, and which ones can be contextually filled in (and are therefore, on our hypothesis, subject to cross-linguistic variation) is an empirical issue”. Therefore, on this proposal, the feature [argumenthood] is present in syntax cross-linguistically, while languages can vary with regard to whether they express the features [familiar] and [specific] through a morpheme or whether context fills in the relevant interpretations.

Based on the above observations, Ramchand and Svenonius (2008: 230) make the following predictions for the acquisition of overtly versus covertly marked features in the L1: “We hypothesise that early acquisition due to heavy exposure leads to the syntacticisation of certain phenomena, while late acquisition of the analogous phenomenon in other languages, due to ambiguous signals in the speech of adults, results in the phenomenon being treated in the syntax-semantics mapping at the interface with the Conceptual-Intentional component”. As an empirical justification for their proposal, Ramchand and Svenonius (2008) refer to the evidence that Norwegian-speaking children are reported to acquire the definite suffix at the age of 2 (Anderssen, 2007), while English-speaking children have difficulty in using the definite article appropriately up to the age of 4 (Schaeffer & Matthewson, 2005). In other words, it is suggested that the fact that a suffix is more salient in the input than an unstressed free-standing determiner makes it easier for Norwegian children to grammaticalise the features of definiteness and specificity (Anderssen, 2007), while it takes longer for English-speaking children to notice and to map definiteness onto the unstressed definite article and to learn that specificity is expressed through context. L1 Russian learning children, on the other hand, are predicted to lag behind in acquiring the appropriate ways of expressing the meaning of definiteness and specificity as they have to rely mainly on discourse context to provide the value for their feature specification.

To recapitulate, under Ramchand and Svenonius proposal, meanings that are realised overtly will be acquired faster than meanings that are realised covertly as they receive consistent

evidence in the input (i.e., features realised overtly are more salient). However, this does not mean that all the features that are realised overtly are easy to acquire to the same extent: in fact, only those features that receive unambiguous evidence in the L2 input will be acquired early. At this point, this is a speculative prediction for L1 acquisition which requires empirical justification; however, this is a plausible prediction which can be extended to L2 acquisition.

Following Ramchand and Svenonius's (2008) proposal and Lardiere's (2009) predictions, Slabakova (2009) puts forth a cline of difficulty in L2 acquisition of features (Figure 2).

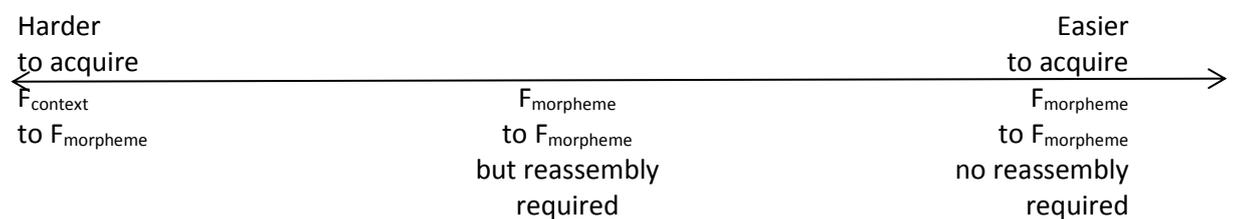


Figure 2. Cline of difficulty in grammatical feature acquisition (Slabakova, 2009: 321)

According to the cline in Figure 2, the feature that is expressed through context (F_{context}) in the L1 but is realised through a morpheme (F_{morpheme}) in the L2 will be the hardest to acquire. In contrast, the feature that is expressed through a morpheme (F_{morpheme}) in both the L1 and the L2 will be less difficult to acquire even if some reassembly is needed and is predicted to be the easiest to acquire if no re-assembly is required.

To illustrate these predictions, let us revisit the way the meaning of definiteness, and thus the feature [+definite], is realised in Norwegian, English and Russian. Table 10 shows that, for example, familiarity on behalf of the hearer, which is a feature of the universal meaning of definiteness, is expressed by a morpheme, i.e., a definite article, in Norwegian and English but through discourse context in Russian. Therefore, based on the cline of difficulty in feature acquisitions in Figure 2, Russian speakers are predicted to have difficulty in reassembling this feature onto articles in English and Norwegian. Therefore, Slabakova's (2009) proposal formulates testable predictions for L2 acquisition of features, taking cross-linguistic differences in the way languages realise those features, i.e. overtly or covertly, into account. The next

section discusses studies that tested the Feature Reassembly Hypothesis and Slabakova's proposal.

5.4 Previous studies testing the Feature Reassembly Hypothesis

The FRH has been tested and supported by a number of studies (Choi & Lardiere, 2006; Dominguez et al., 2011, 2017; Gil & Marsden, 2013; Hwang & Lardiere, 2013; among others). The majority of studies that tested this hypothesis focused on the acquisition of features that are realised overtly through dedicated morpholexical items. These studies are discussed in Section 5.4.1. Recently, the FRH and the insights from Slabakova's proposal have been applied to testing the acquisition of overt versus covert features. The only study to date that focuses on the acquisition of overt versus covert feature expressions, namely, Cho and Slabakova (2014), is summarised in Section 5.4.2.

5.4.1 Mapping and restructuring of overtly realised features

A pool of studies tested the predictions of the FRH applying them to the acquisition of such grammatical properties as *wh*-elements (Choi & Lardiere, 2006; Gil & Marsden, 2013), aspect (Dominguez et al., 2011, 2017), gender (Shimanskaya & Slabakova, 2014, 2015), plural marking (Hwang & Lardiere, 2013), specificity markers (Cho & Slabakova, 2015), and definiteness markers (Cho, 2016).

Choi and Lardiere (2006) investigated the interpretation of *wh*-expressions in L2 Korean by L1 English speakers. Both English and Korean have selected the *wh*-operator feature and the [Q] feature; however, these languages differ in how they assemble these features onto morpholexical items. In English, the two features are assembled onto one lexical item, *wh*-word, yielding *wh*-question readings (interrogative interpretation). In Korean *wh*-elements can have two interpretations. *Wh*-elements receive interrogative interpretation if the particle *-ci* marked with the [+Q] feature is present. If, on the other hand, a declarative particle *-ta*, which encodes the [-Q] feature, is used, *wh*-elements receive existential indefinite interpretation. Choi and Lardiere report that intermediate learners in their study did not assign appropriate interpretation to *wh*-expressions in Korean based on the particle type. Instead, they interpreted *wh*-expressions in Korean as having interrogative interpretation. In other words, they mapped the feature combination from the closest equivalent in the L1, English *wh*-words,

onto *wh*-expressions in Korean. However, the findings show that some L2 learners (4 out of 24 advanced learners) were able to acquire that *wh*-expressions in Korean marked with the particle *-ta* receive existential interpretation. Thus, the study by Lardiere and Choi (2006) shows that L2 learners are affected by L1 transfer in the mapping process which leads to initial transfer of the L1 feature bundles onto the L2 morpholexical items. However, the study also shows that the reassembly of the target L2 features is potentially possible.

Gil and Marsden (2013) also focus on the acquisition of the *wh*-elements and investigate the predictions of the FRH through applying them to a number of prior studies that focused on the acquisition of existential quantifiers in the L1-L2 combinations with four languages, English, Japanese, Korean and Chinese. Gil and Marsden highlight the importance of taking into account L1-L2 differences in formulating the acquisition task within the FRH which allows to make predictions for the development of learners' interlanguage. They proposed a feature-based cross-linguistic analysis of the existential quantifier *any* in English and its equivalents, *wh*-expressions, in Chinese, Korean and Japanese. Based on the contrastive analysis of the L1 and the L2 features, they formulated the learning task. For example, in the L1 English/Japanese to L2 Mandarin Chinese direction, L2 learners need to learn that the *wh*-expression *shei* in L2 Mandarin Chinese can have two interpretations: interrogative and existential. They predicted that this task will be easier for the L1 Japanese speakers than for the L1 English speakers, since in Japanese interrogative and existential forms are morphologically related (*dare* 'who' vs. *dareka* 'anyone/someone'), while in English *wh*-expressions can be only interpreted as interrogatives. Gil and Marsden (2013) report the findings in Yuan (2010) that show that at the mapping stage, low proficiency L1 English/Japanese L2 Chinese learners mapped only the interrogative meaning to L2 *wh*-expressions, as in their L1s, while failing to map the existential meaning. In other words, the predicted facilitative transfer of Japanese features was not attested. This, according to the researchers, suggests that meaning and grammatical function rather than morphological similarity underlie the mapping process (as argued by Lardiere, 2009). At the restructuring process, high proficiency L2 learners (regardless of their L1) were able to reassemble the target feature set of the L2 *wh*-expressions through adding the existential interpretation.

Dominguez et al. (2011, 2017) investigated the mapping and reassembly task involved in the L2 acquisition of Spanish aspect by native English speakers. The distinction between perfective aspect (referring to finished events) and imperfective aspect (referring to unfinished events) is

present in the two languages. In other words, the relevant features are selected in the L1; however, Spanish and English differ in what morphological means are used to express the three meanings of the imperfect (continuous, habitual and progressive). Thus, Spanish uses the same morphological form to express the three meanings of the imperfective aspect. In contrast, English uses the past tense form to express the continuous meaning and periphrases for the habitual and progressive meanings. The learning task for English speakers learning aspect in L2 Spanish is then to learn that the past tense form, which is used to express the finished and the continuous meanings in the L1, cannot be used to express the continuous meaning in the L2. Based on this learning task, Dominguez and colleagues predict that the continuous meaning, which requires feature reassembly, will be problematic for L1 English L2 Spanish learners. The results showed that, in line with the prediction, the L2 learners even at advanced levels had problems with the continuous meaning. Even though they behaved in a native-like manner in accepting the correct sentences with imperfect verbal morphology in a context/sentence matching task, they differed from the native controls in rejecting the incorrect sentences with perfective morphology. The findings provide support for the FRH suggesting that features that are assembled into morphological configurations in a different way in the L1 and the L2 seem to cause persistent problems even for advanced learners.

Shimanskaya and Slabakova (2014, 2015) investigated the acquisition of pronominal object clitics in L2 French by L1 English speakers. French accusative clitics (*le* and *la*) encode grammatical gender. Grammatical gender is absent in the pronominal paradigm of English. However, direct objects in English encode the semantic feature [\pm Human] (*him/her* vs. *it*) (distinction that is absent in L2 French), and the biological gender, that is present in English, is differentiated in [+Human] referents (*him* vs. *her*). *Shimanskaya and Slabakova (2014, 2015)* predicted that the learning task will be difficult both at the mapping stage, as L2 learners have to map the features of L1 object (strong) pronouns to the features of L2 accusative clitics, and at the reassembly stage as L2 learners have to disregard the feature [\pm Human] that is present in the L1 but absent in the L2 and add a new feature of grammatical gender in the L2. Largely in line with the predictions, low proficiency L2 learners were not successful in mapping the features of L1 pronouns to the features of L2 clitics and they were affected by the L1 feature [\pm Human]. Although, they have successfully mapped the feature [-Human] from the L1 pronoun *it* to accusative clitics, they were less successful in mapping the feature [+Human] from the L1 strong pronouns *him/her* (that are distinguished based on biological gender in the L1) onto L2 clitics. The advanced learners who performed target-like in the comprehension were successful in reassembling the L2 morphosyntactic features and adding a new feature

(grammatical gender) to the L2 feature set. However, the performance of the advanced learners in an on-line task showed that they were affected by the L1 transfer of biological gender in processing L2 clitics in [+Human] contexts. Based on this result, Shimanskaya and Slabakova (2015: 15) suggest that being able to employ a representation with successfully assembled features during on-line processing may be “a third stage of interlanguage development that follows the mapping and the reassembly stages”. The study by Shimanskaya and Slabakova (2015) shows that L2 learners are affected by the properties of the L1 when acquiring a new feature specification in the L2. However, although the acquisition of target features is possible, the L1 influence seems to persist in on-line processing.

Hwang and Lardiere (2013) investigated the acquisition of Korean plural marking by English native speakers. Korean does not obligatorily mark nouns for plurality, while English has a plurality marker –s on nouns. However, as argued in Hwang (2013), Korean does have a plural marker which is obligatory in some contexts. This is the so-called intrinsic plural marker –*tul*. However, its distribution is more restrictive than the distribution of –s in English: there is a strong preference for the use of –*tul* with specific plural nouns. Moreover, –*tul* in Korean has other relevant features which are different from the features on –s in English. While –s in English can occur with both numerals and quantifiers, and with [+human] and [-human] nouns, –*tul* in Korean is only allowed with weak quantifiers but not with numerals, and only with [+human] nouns. Based on the contrast of how Korean and English express the feature [plural], Hwang and Lardiere (2013) suggest that the learning task for English speakers learning Korean consist not only in recruiting the relevant features of the plural marker –s in English and mapping them onto –*tul* in Korean, but also acquiring new feature specifications of the plural marker –*tul* in Korean. Moreover, the learning task is complicated by the fact that in addition to the intrinsic plural marker, Korean also has an extrinsic plural marker –*tul* which is optionally affixed to adverbs and direct and indirect objects to yield a distributive reading. Although, a distributive reading can be also expressed in English, it is encoded by a different morpholexical item, namely *each/each of the*, and is encoded in a different functional category (QP). Although the use of the extrinsic plural marker is optional in Korean and does not affect grammaticality, its use is not optional when the distributive meaning of a plural referent is intended. In other words, L1 English speakers need to learn that the extrinsic plural marker –*tul* is obligatory in plural distributive contexts. However, Hwang and Lardiere (2013) predict that this learning task will not be easy as the use of the extrinsic –*tul* is rare in the input.

Largely in line with the predictions, L2 learners were overall more target-like in their performance on the intrinsic plural marker than on the extrinsic plural marker. Hwang and Lardiere (2013) suggest that English speakers were able to recruit the relevant features from the closest morpholexical counterpart in the L1 and map them to the Korean intrinsic *-tul*. The most advanced L2 learners were also able to add new features that co-occur on the intrinsic plural *-tul*. With regard to the extrinsic *-tul*, its use and interpretation were more problematic, since the features relevant to this plural marker must be recruited from a completely different lexical item in the L1 (i.e., *each* and *each of*), and L2 learners need to learn that the extrinsic plural marker can be used on different categories from those in the L1 (e.g., adverbs in Korean). Nevertheless, the results showed that a small number of advanced learners (1 in a truth-value judgment task and 11 in a preference task) were able to achieve a native-like attainment in the use of the extrinsic plural marker. Overall, the finding in Hwang and Lardiere (2013) show that L2 learners are able to reassemble the target feature bundles by adding a new feature specification and that reassembling the L1 features from a completely different morpholexical item than that of the L2 and learning new conditioning environments for the expression of features in the L2 is problematic, but not impossible.

Cho and Slabakova (2015) investigated the reassembly task that L1 English/ L1 Korean L2 Russian learners face when they acquire two functional morphemes in L2 Russian, namely the specificity markers *kakoj-to* (which-to) and *kakoj-nibud'* (which-nibud') and the different values of three semantic features, definiteness, referentiality and scopal specificity, that these items encode. Both *kakoj-to* and *kakoj-nibud'* are indefinite determiners which are used in nonreferential contexts, that is in contexts when no reference is made to a specific referent. These markers differ with regard to scopal specificity, i.e. their scopal relations with intensional verbs (such as *want*, *intend*, etc): *kakoj-to* takes wider scope over the intensional verb, and thus the NP is interpreted as (scopally) specific, while *kakoj-nibud'* takes narrow scope over the verb and gives the NP a nonspecific reading. English and Korean have the exact equivalents of the specificity marker *kakoj-to* with the feature specifications [–definite, –referential, +specific]: English *some* and Korean *eotteon* 'some'. However, neither English nor Korean have an equivalent of the morpheme *kakoj-nibud'* with the features [–definite, –referential, –specific]. Nevertheless, both English and Korean have a morpheme that partially overlaps with the meaning of *kakoj-nibud'* and with its feature specifications, namely a free choice quantifier *any* in English and *amwu* 'any' in Korean, with the feature bundles [–definite, ±referential, ±specific]. Based on the Feature Reassembly Hypothesis and the similarities and differences between Russian, on the one hand. and English and Korean on

the other, Cho and Slabakova (2015) predict that since *kakoj-to* has its equivalent with the same feature bundles in the learners L1s, L1-English and L1-Korean L2 Russian learners will map English *some* and Korean *eotteon* 'some' onto Russian *kakoj-to*. In addition, due to partial similarities, English *any* and Korean *amwu* 'any' will be mapped onto Russian *kakoj-nibud'*. However, L2 learners will have to delete the features [+referential] and [+specific] for the feature bundles of *kakoj-nibud'*. In other words, *kakoj-nibud'* will present a more difficult learning task than *kakoj-to* since it requires feature reassembly. The results showed that L2 learners were overall target-like in their interpretation of specificity markers in Russian. Thus, *kakoi-to* was rated higher than *kakoi-nibud'* in [+specific] contexts and *kakoj-nibud'* was rated higher than *kakoj-to* in [-specific] contexts. However, more learners in each group showed a contrast between *kakoj-to* and *kakoj-nibud'* in [+specific] contexts, than between *kakoj-nibud'* and *kakoj-to* in [-specific] contexts, suggesting that the use of *kakoj-nibud'* in appropriate contexts is more difficult, thus going in line with the predictions. The study by Cho and Slabakova (2015) shows that acquiring grammatical properties in the L2 that require feature reassembly is more problematic (but ultimately possible) than acquiring properties that are comprised of the same feature bundles in the L1 and the L2.

A recent study by Cho (2016) looks at the acquisition of definites in English by L1 Korean speakers. To the best of my knowledge, this is the first study that investigates the acquisition of definites in English within the FRH. Therefore, it is of particular relevance to the present investigation. Cho (2016) proposes that the definite article in English encodes the semantic features [+definite, ±anaphoric]. In other words, definites are divided between anaphoric and non-anaphoric. Anaphoric definites refer to definites that have an antecedent in the preceding discourse (e.g., *I bought a car and a bicycle. The bicycle was more expensive than the car*). Non-anaphoric definites, on the other hand, have no potential antecedent (e.g., *The moon was very bright last night*). Korean lacks articles, but has demonstratives. Following Chang (2009), Cho suggests that Korean distinguishes between the two types of definites, i.e. anaphoric and non-anaphoric, but it only marks anaphoric definites through the demonstrative *ku*. In other words, Cho proposes that *ku* in Korean has the features [+definite, +anaphoric]. Based on the FRH, Cho predicts that the difference in the way English and Korean mark the distinction between anaphoric and non-anaphoric definites (i.e., *the* marks both anaphoric and non-anaphoric definites, while *ku* marks only anaphoric definites) is expected to influence the acquisition of the definite article by L1 Korean speakers. More specifically, Cho predicts that due to

perceived similarities between demonstratives and definite articles, Korean speakers will initially map the features [+definite, +anaphoric] from *ku* onto *the* in English. With increased exposure to input, Korean speakers are predicted to add the feature [-anaphoric] to the featural specification of *the*. The results showed that intermediate L2 learners were more target-like in rating the definite article (vs. the indefinite article) in anaphoric definite contexts than in non-anaphoric contexts. Cho argues that these results show that intermediate L2 learners mapped the features [+definite, +anaphoric] from *ku* to *the*. The advanced L2 learners were also non-target like in rating the definite article in non-anaphoric contexts. However, they were also non-target like in preferring the indefinite article (vs. target definite) in one of the anaphoric definite conditions. Nevertheless, Cho argues that advanced L2 learners have correctly assembled the target [+definite, ±anaphoric] features on *the*, but they seem to accommodate indefinite NPs in some contexts, thus performing non target-like. Although this conclusion is not supported by the findings in the study and requires further investigation, what the study by Cho (2016) shows is that during the initial mapping process L2 learners map the feature bundles from the closest morpholexical item in the L1 onto the L2 morpholexical item.

5.4.2 Mapping and restructuring of covertly realised features

To the best of my knowledge, Cho and Slabakova (2014) is the only study that explicitly tests Slabakova's (2009) proposal within the FRH. Cho and Slabakova examine the acquisition of the feature [definite] in L2 Russian by English and Korean speakers. As discussed earlier, Russian does not have dedicated morphemes (i.e., articles) to express the meaning of (in)definiteness, and this meaning is usually expressed covertly, i.e. in context. Korean is similar to Russian in not obligatorily marking (in)definiteness on noun phrases. In contrast, in English the feature [definite] is marked through articles. However, following Apresjan (1995), Cho and Slabakova point out that the feature [definite] can be morphologically marked in Russian through possessor modifiers. Thus, adjectival possessors get an indefinite reading (139), while nominal possessors can be interpreted as either definite or indefinite depending on context (140):

- (139) Za dverju slyšalsja ženskij golos
 behind door heard woman-ADJ.NOM voice-NOUN.NOM
 'A woman's voice was heard behind the door.'

- (140) Za dverju slyšalsja golos ženščiny
 behind door heard voice-NOUN.NOM woman-NOUN.GEN
 'The voice of a/the woman was heard behind the door.'

(Cho & Slabakova, 2014: 167)

Another way of expressing definiteness in Russian is a covert way through word order which correlates with the Information Structure (i.e., the marking of Topic and Focus). Thus, DPs in the preverbal position are usually interpreted as definite, while the DPs in the postverbal position are interpreted as indefinite, as exemplified in (141).

- (141) Lampa stojala na stole.
 lamp stand-Past on desk
 'The lamp was on a/the desk.'

(Cho & Slabakova, 2014: 169)

Following Ramchand and Svenonius (2008), Cho and Slabakova expand the cline of difficulty of feature acquisition proposed by Slabakova (2009) and argue that the acquisition of features that are expressed through context will be more difficult than the acquisition of features that are expressed through a morpheme in the L2. The extended cline of difficulty in feature acquisition based on Cho and Slabakova (2014: 166) is presented in Figure 3.

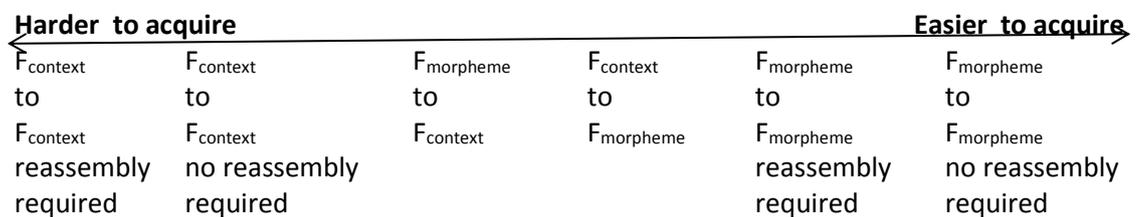


Figure 3. Extended cline of difficulty in grammatical feature acquisition (Cho and Slabakova, 2014: 166)

Although Cho and Slabakova admit that this cline is speculative and that the contrast in feature realisations described in Figure 3 might not exist in natural languages, they test the leftmost predictions of this cline. Thus, they suggest that the hardest acquisition task consists in acquiring features that are expressed through context in the L1 and the L2 but which differ in how they are assembled. Cho and Slabakova predicted that the acquisition of overt realisations of features will be easier than the acquisition of covert feature expressions. Thus, the expression of (in)definiteness through possessor modifiers was predicted to be acquired earlier than the expression of definiteness through word order for both groups. Taking the role of L1 transfer into account, they suggested that L1 Korean L2 Russian learners will be better at acquiring the interpretation of possessor modified DPs in Russian than L1 English L2 Russian learners, since a similar distinction between two types of possessors is present in Korean. However, this distinction is marked by case (unmarked DPs are indefinite, Gen-case marked DPs can be either definite or indefinite), rather than a morphological form (adjectival versus nominal), and, therefore, some reassembly will be needed. In the English-Russian direction, L2 learners need to reassemble the feature [–definite] from the indefinite article onto the adjectival possessor in Russian, suggesting that more reassembly is needed in this direction. The covert marking of (in)definiteness through word order was predicted to be difficult to acquire for both groups.

The findings show that the Korean group was overall better at preferring adjectival possessors in [–definite] contexts and rejecting them in [+definite] contexts than the English group, while both groups showed a contrast between accepting adjectival versus nominal possessors in [+definite] contexts. As for word order, the beginner and advanced English groups showed a difference in their judgments of preverbal objects in [+definite] (target) versus [–definite] (non-target) contexts, while no such distinction was made by the Korean group. Based on the results, Cho and Slabakova suggest that the fact that all DPs are preverbal in Korean and that only object DPs in the OSV order can receive a definite reading was difficult to overcome by Korean learners. This shows that mapping of covert-to-covert features that requires reassembly is difficult for L2 learners. English speakers, on the other hand, seem to associate preverbal DPs in Russian with definiteness, which works in many but not all cases in Russian. However, looking at individual results, Cho and Slabakova report that only one third of advanced learners showed a contrast in their rating of preverbal objects in [+definite] vs. [–definite] contexts, suggesting that the covert marking of definiteness through word order is difficult to acquire even for learners at advanced proficiency level. Overall, their findings provide evidence for Slabakova's (2009) predictions.

5.5 Summary: unanswered questions and the contribution of the present study

This chapter provided an overview of how the views on the L2 learning task in generative L2 acquisition research have changed with the development of the syntactic theory. It was pointed out that recent generative L2 acquisition theories consider L2 acquisition as the acquisition of the L2 features. After the discussion of two feature-based approaches, it was argued that the Feature Reassembly Hypothesis (Lardiere, 2008, 2009a,b) is the only approach that allows us to formulate the exact learning task and developmental predictions for L2 acquisition.

The discussion in the previous section has shown that the predictions of the FRH have been tested in a number of studies and that the findings provide support for the hypothesis. Thus, largely in line with the predictions of the FRH, the previous studies have shown that in the mapping process L2 learners transfer the feature bundles from the closest equivalent morpholexical item in the L1 onto the L2 morpholexical item and that the more reassembly is required the harder the acquisition is. The findings have also shown that at least some L2 learners at advanced proficiency levels are able to successfully reassemble the target L2 features, either through adding a new feature in the L2, deducting a feature in the L1, or even reassembling a feature from a completely different lexical item in the L1. Yet, the findings also show that learning the conditioning factors for the expression of the L2 features as well using the knowledge of the L2 features in online processing can cause persistent problems even for highly proficient learners.

Although, previous studies have shown that the FRH is a testable hypothesis which allows us to formulate the learning task and predictions for L2 acquisition, there still remain some challenges for it. For instance, as was already pointed out by White (2009), the FRH is not able to make predictions with regard to what type of feature configurations are easy or difficult to acquire for L2 learners. Slabakova (2009) addressed this challenge through putting forth the cline of difficulty in feature acquisition and suggesting that the distinction between overt and covert realisation of features plays a role in the re-assembly process. The study by Cho and Slabakova (2014) demonstrates that the distinction between overt versus covert realisations of features proposed by Slabakova (2009) should be taken into account when formulating the reassembly task in the feature-based L2 acquisition research. Taking into account the

differences in how languages encode universal features is important since, this is the locus of cross-linguistic variation. However, to date, Cho and Slabakova (2014) is the only study that explicitly tested the acquisition of overt versus covert expressions of features (but see Slabakova, 2015). Yet, they have not focused on the original cline of difficulty proposed by Slabakova (2009) (see Figure 2), but rather its extended version (see Figure 3). In other words, the covert-to-overt versus overt-to-overt learning direction has not yet received detailed empirical investigation.

The present study aims to examine the covert-to-overt versus overt-to-overt learning direction in the L2 acquisition of features. This will be achieved through testing the FRH and Slabakova's (2009) predictions in a study that focuses on the acquisition of the overt marking of definiteness (articles) in English by native speakers of Mandarin Chinese and Russian, whose L1 lack a dedicated marker of definiteness. In addition, this thesis attempts to address other questions that are yet to be fully answered with regard to the FRH, such as: what factors play a role in the mapping and restructuring processes of feature reassembly? The next chapter formulates the learning task and predictions for the L2 acquisition of the features [familiar, anaphoric] and [unique, anaphoric] in English and discusses the method that was used to test the acquisition of these features by L1 Mandarin Chinese and Russian L2 English learners.

Chapter 6: Experimental study

6.1 Introduction

The discussion in Chapter 2 has shown that the second language acquisition of definiteness in English and its expression through articles has been extensively investigated over the past 30 years. Previous research has shown that the learning task of mapping definiteness onto the definite article is particularly problematic for native speakers of article-less languages. It has been often suggested that the difficulty in the acquisition of definiteness is attributed to the complexity of the concept of definiteness. However, as discussed in Chapter 2, the concept of definiteness was always treated as a unified notion in previous studies (mainly being equated with uniqueness), and what remained unanswered is why mapping this universal concept from an article-less L1 onto L2 English was problematic for L2 learners. The contribution of the present study is that it investigates the complexity of the learning task involved in the second language acquisition of definiteness through reconsidering this concept based on the analysis of definiteness in the semantics literature (see Chapter 3) and through seeing the learning task as restructuring the two notions of definiteness, i.e. familiarity and uniqueness, from the way they are realised in the L1 onto L2 English articles.

This chapter formulates the learning task that L2 English learners from article-less L1s, Mandarin Chinese and Russian speakers in this study, face when they acquire the meaning of definiteness in English and its expression through articles. This learning task is seen as mapping two features [familiar, anaphoric] and [unique, anaphoric] onto English articles and learning the relevant semantic contexts in which each of the features is expressed. The exact learning task is formulated based on the Feature Reassembly Hypothesis (Lardiere, 2008, 2009a,b) and the cline of difficulty in feature acquisition proposed by Slabakova (2009). The discussion of the learning task leads to the formulation of research questions and predictions that are tested in an experimental study with 61 Mandarin Chinese and 48 Russian native speakers. Two tasks were designed to investigate the research questions advanced in this thesis: an acceptability judgement task and a written sentence production task.

6.2 The learning task and theoretical predictions

The learning task and theoretical predictions in this study are positioned within the Feature Reassembly Hypothesis (FRH) (Lardiere, 2008, 2009a,b) and the cline of difficulty in feature acquisition (Slabakova, 2009). As discussed in Chapter 5, under the FRH, the acquisition task for an L2 learner involves two processes: mapping between the L1 and L2 morphemes based on similarities in functional meanings and feature restructuring of the target morphemes based on the L1-L2 differences in feature specification and/or conditioning factors. The FRH predicts that features that are realised differently in the L1 and the L2 will be more difficult to acquire, than features that receive one-to-one mapping in the L1 and the L2. In other words, this hypothesis allows us to formulate the learning task based on the contrastive analysis of the L1 and L2 features.

This study concerns with the acquisition of the meaning of definiteness and its expression in English by L2 learners whose L1 does not obligatorily mark this meaning overtly. As presented earlier in Tables 8 and 9 in Chapter 4, in English the features [familiar, anaphoric] and [unique, anaphoric] are realised overtly through dedicated morpholexical items. Thus, the definite article in English expresses the features [+familiar, ±anaphoric] and [+unique, ±anaphoric], while the indefinite article expresses the features [–familiar, –anaphoric] and [–unique, +anaphoric]. As was seen in Table 8, the feature [+familiar, ±anaphoric] can be also expressed through demonstratives in English.

The other two languages under investigation in this study, i.e. Mandarin Chinese and Russian, do not employ overt and obligatory means to realise the features [familiar, anaphoric] and [unique, anaphoric]. However, as it was discussed in Chapter 4, the feature [+familiar, ±anaphoric] can be realised overtly through demonstratives in these languages. Moreover, demonstratives are preferred in these languages to express the feature [+familiar, +anaphoric]. The feature [+unique ±anaphoric], on the other hand, does not receive overt realisation in Chinese and Russian and its values are set in context. Table 11 summarises how the features [+familiar, ±anaphoric] and [+unique, ±anaphoric], are realised in English, Chinese and Russian.

Table 11. Realisation of the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] in English, Chinese and Russian

Feature	English	Chinese	Russian
[+familiar, +anaphoric]	OVERT (<i>the</i> or <i>that</i>)	OVERT (<i>na</i>) > COVERT (\emptyset)	OVERT (<i>etot</i>) > COVERT (\emptyset)
[+familiar, –anaphoric]	OVERT (<i>that</i> > <i>the</i>)	OVERT (<i>na</i>) or COVERT (\emptyset)	OVERT (<i>etot</i>) or COVERT (\emptyset)
[+unique, +anaphoric]	OVERT (<i>the</i>)	COVERT (\emptyset)	COVERT (\emptyset)
[+unique, –anaphoric]	OVERT (<i>the</i>)	COVERT (\emptyset)	COVERT (\emptyset)

Note: '>' stands for 'preferred over'; ' \emptyset ' stands for a null form

As for the features [–familiar, –anaphoric] and [–unique, +anaphoric], although they are not expressed through a dedicated morpheme in either Chinese or Russian, as discussed in Chapter 4, these features can receive overt realisation through *yi CL* in Chinese and *odin* in Russian. Moreover, *yi CL* is preferred in Chinese to express the feature [–familiar, –anaphoric] in out-of-the-blue contexts and the feature [–unique, +anaphoric] in partitive contexts. In contrast, there is no such preference for either *yi CL* NP (overt way) or bare NPs (covert way) to express the feature [–unique, +anaphoric] in non-unique bridging contexts. In Russian a bare NP is preferred to *odin* NP with [–familiar, –anaphoric] referents, while *odin* is preferred over bare NPs with [–unique, +anaphoric] referents. This is summarised in Table 12 below.

Table 12. Realisation of the features [–familiar, –anaphoric] and [–unique, +anaphoric] in English, Chinese and Russian

Feature	English	Chinese	Russian
[–familiar, –anaphoric]	OVERT (<i>a</i>)	OVERT (<i>yi CL</i>) > COVERT (\emptyset)	COVERT (\emptyset) > OVERT (<i>odin</i>)
[–unique, +anaphoric]		<i>Partitive contexts:</i> OVERT (<i>yi CL</i>) > COVERT (\emptyset) <i>Non-unique bridging context:</i> OVERT (<i>yi CL</i>) or COVERT (\emptyset)	OVERT (<i>odin</i>) > COVERT (\emptyset)

Note: '>' stands for 'preferred over'; ' \emptyset ' stands for a null form

Based on the FRH, the learning task for L2 learners who acquire the meaning of definiteness in English and its expression through articles is to map and reassemble the features [familiar, anaphoric] and [unique, anaphoric] from the way they are realised in the L1 onto *the* and *a* in L2 English. I formulate the exact learning task for L1 Chinese and L1 Russian speakers acquiring articles in L2 English:

(142) *Learning task in the acquisition of the features [familiar, anaphoric] and [unique, anaphoric] in L2 English:*

- a) Notice that the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] are expressed through one form *the* in English
- b) Map the feature [+familiar, ±anaphoric] from L1 demonstratives onto L2 *the* and reassemble this feature through adding a new constrain: that the feature [+familiar, ±anaphoric] is computed relevant to the most salient antecedent/most perceptually salient referent with *the*
- c) Map and reassemble the feature [+unique, ±anaphoric] from L1 bare nouns onto L2 *the*
- d) Map and reassemble the features [-familiar, -anaphoric] and [-unique, +anaphoric] from either bare nouns or unstressed numerals in the L1 onto *a* in English

Two potential hurdles can be predicted in the above learning task: problems in the feature mapping process and problems in the feature restructuring process. Thus, if two features are conflated on the same morpheme in the L2 but are realised through two distinct forms in the L1, learners might have difficulty in the initial mapping process. In contrast, if two features are conflated on the same morpheme both in the L1 and the L2, the mapping process should be less problematic. However, the mapping process will be difficult if the same feature is realised in one way in the L2, for example, through an overt morpheme, but in another way in the L1, for example through context (Slabakova, 2009). As a result, problems in the initial mapping process might cause problems in the consecutive restructuring process.

Applying the above predictions to the acquisition of the features [familiar, anaphoric] and [unique, anaphoric] in L2 English by L1 Chinese and Russian speakers, it is predicted that learners can potentially face problems both in the mapping process and in the restructuring process. Thus, the initial mapping of the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] onto the definite article *the* is predicted to be difficult, since these two features are conflated in one

morpholexical item, i.e., the definite article, in English, while the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] can be differentiated in Chinese and Russian through the different means of their realisation. The feature [+familiar, ±anaphoric] can be expressed through demonstratives in Chinese and Russian, while the feature [+unique, ±anaphoric] is always filled in by context. In other words, while Chinese and Russian show a contrast with regard to how the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] are expressed, such transparent contrast is absent in English. Although English has demonstratives, which express the feature [+familiar, ±anaphoric] and which contrast with the definite article which also expresses the feature [+unique, ±anaphoric], both demonstratives and the definite article can express the feature [+familiar, ±anaphoric]. In other words, the contrast between the two features [+familiar, ±anaphoric] and [+unique, ±anaphoric] is not consistently expressed in the input. Therefore, the initial task for L1 Chinese and Russian L2 English learners is, first and foremost, to notice that one morpholexical item, i.e. *the*, expresses two features in English.

It is highly plausible that this two-meanings-to-one-form mapping situation, that is, mapping the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] onto *the*, will be initially challenging for L2 learners. Therefore, it is possible that L2 learners will initially map only one feature, either [+familiar, ±anaphoric] or [+unique, ±anaphoric] onto *the*.

Under the FRH, the mapping between the L1 and L2 forms happens based on similarities in meaning or grammatical functions. Therefore, it is predicted that since both demonstratives and the definite article are determiners that can express the feature [+familiar, ±anaphoric], it is this feature that will be mapped first from the demonstratives in Chinese and Russian onto the definite article in English, while the feature [+unique, ±anaphoric] might not be initially mapped onto *the*. Since the L1 does not provide any clue that, in addition to familiarity, *the* expresses uniqueness, it is possible that this feature will not be initially mapped onto *the*.

The cline of difficulty in feature acquisition proposed by Slabakova (2009) (discussed in Chapter 5 and repeated here in Figure 4) also predicts that the mapping of the feature [+familiar, ±anaphoric] from the L1 demonstratives onto *the* will be easier as it requires overt-to-overt feature mapping, that is, mapping from an overt L1 morpheme, i.e. a demonstrative, onto an overt L2 morpheme, the definite article.

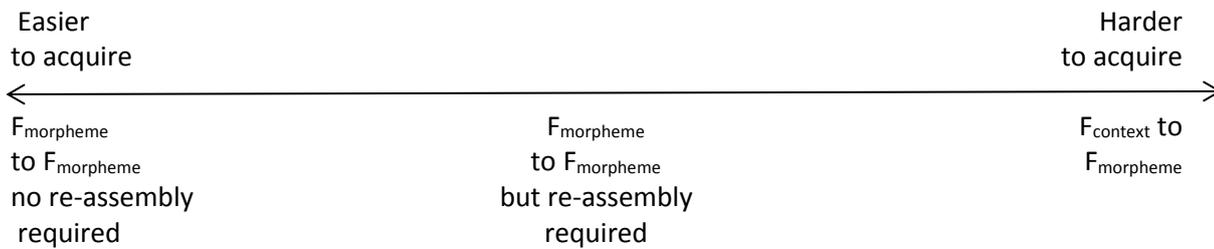


Figure 4. Cline of difficulty in grammatical feature acquisition (based on Slabakova, 2009: 321)

However, this mapping will be complicated by the fact that the feature [+familiar, ±anaphoric] can be expressed through a definite article as well as a demonstrative in English. As discussed in Chapter 4, Section 4.2, although both the definite article and demonstratives can express the feature [+familiar, ±anaphoric], they differ in how this feature is computed. In particular, the degree of salience seems to determine whether a demonstrative or a definite article is felicitous. Thus, a demonstrative is used in contexts, in which familiarity with the intended referent is established based on the immediate salience of its antecedent/immediate perceptual salience of its referent. In contrast, the definite article is only possible, if contexts contain the most salient antecedent/most perceptually salient referent for the target [+familiar, ±anaphoric] NP.

In other words, learners will have to map the feature [+familiar, ±anaphoric] from L1 demonstratives onto both L2 demonstratives and the definite article. Since the feature [+familiar, ±anaphoric] expressed through L1 demonstratives is computed in the same way as the feature [+familiar, ±anaphoric] expressed through L2 demonstratives, mapping this feature from the L1 onto the L2 should not be problematic as it does not require re-assembly. In contrast, mapping the feature [+familiar, ±anaphoric] from L1 demonstratives onto *the* will be more difficult as it will require some re-assembly. More specifically, L2 learners will have to learn that when the definite article expresses the feature [+familiar, ±anaphoric], the context should contain the most salient antecedent/most perceptually salient referent and not merely an immediately salient antecedent/immediately salient referent, as is the case for demonstratives.

As for mapping the feature [+unique, ±anaphoric] onto *the*, this mapping requires covert-to-overt mapping, that is mapping from L1 context to the definite article in L2 English. Based on the cline of difficulty in grammatical feature acquisition, this mapping is predicted to be harder. A prerequisite for the addition of the feature [+unique, ±anaphoric] is noticing that it is this feature (and not the feature [+familiar, ±anaphoric]) that is expressed through *the* in the relevant semantic contexts (such as unique bridging and out-of-the-blue definite contexts). In other words, input is expected to trigger the feature reassembly of the feature [+unique, ±anaphoric].

The cline of difficulty in the acquisition of the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] in English by L1 Chinese and Russian speakers (following Slabakova, 2009) is presented in Figure 5.

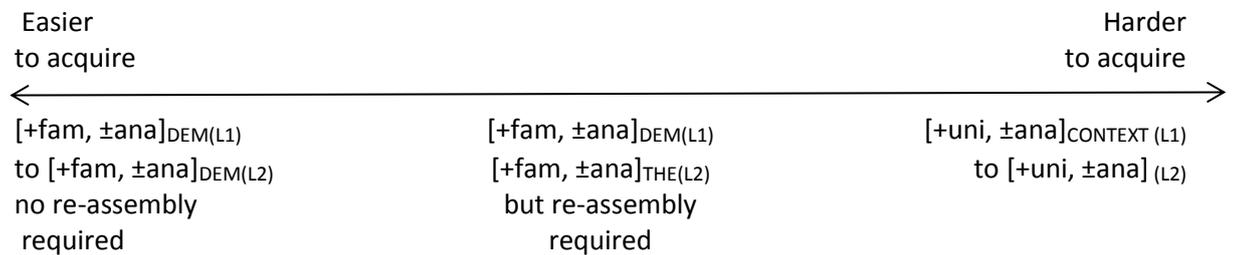


Figure 5. Cline of difficulty in the acquisition of the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] in English by L1 Chinese and Russian speakers (following Slabakova, 2009: 321)

As for the features [–familiar, –anaphoric] and [–unique, +anaphoric], these features are expressed through one overt morpheme, i.e., the indefinite article, in English. As discussed above, although in Chinese and Russian these two features are usually expressed covertly, i.e. through context, the features [–familiar, –anaphoric] and [–unique, +anaphoric] can be also expressed through an overt morpheme, i.e. an unstressed numeral, in Chinese and Russian. In other words, the features [–familiar, –anaphoric] and [–unique, +anaphoric] can be expressed through one way: both of these features can be expressed covertly and they can be also expressed through an unstressed numeral. Therefore, it is predicted that since these features can be conflated in the same morpheme, i.e. in the unstressed numeral *odin* in Russian and in *yi CL* in Chinese, when L2 learners encounter the indefinite article *a* in English, they will assume that both of these features are expressed through the same form *a* in English and will map the features [–familiar, –anaphoric] and [–unique, +anaphoric] onto *a*.

However, the mapping task will be complicated by the fact that, although the features [–familiar, –anaphoric] and [–unique, +anaphoric] can receive overt realisation in Chinese and Russian, they are also expressed covertly through context. As discussed above, speakers of these languages seem to show preferences with regard to what way, context or an unstressed numeral, is used to express these features. Therefore, it is possible that learners will be mapping these features from the most preferred way of expressing them in the L1 onto *a* in the L2. Thus, in Chinese there is a preference for *yi CL* to express the feature [–familiar, –anaphoric]. *Yi CL* is also preferred in expressing the feature [–unique, +anaphoric] in partitive contexts, while there is no such preference for either *yi CL NP* (overt form) or a bare NP (covert form) to express the feature [–

unique, +anaphoric] in non-unique bridging contexts. Therefore, it is predicted that since an overt form is preferred to express both of the features, at least in some semantic contexts, mapping these two features from *yi CL* onto *a* should not be problematic and will not require re-assembly for Chinese speakers. However, it is possible that in non-unique bridging contexts, mapping the feature [-unique, +anaphoric] from both context and *yi CL* onto *a* will take longer to learn since this mapping involves mapping from either context (covert form) or *yi CL* (overt form) onto *a* in English.

In Russian, the feature [-familiar, -anaphoric] is usually expressed through bare NPs, while *odin* is preferred to express the feature [-unique, +anaphoric] (both in partitive and non-unique bridging contexts). Note that *odin* can also express the feature [-familiar, -anaphoric]; therefore, it is not the case that Russian exhibits a contrast with regard to how these two features are expressed. Similar to Chinese, both of these features can be expressed covertly and they can be also expressed through an unstressed numeral, and there is a preference to express the feature [-unique, +anaphoric] through an overt form in Russian. Based on the cline of difficulty in feature acquisition, it is predicted that mapping the feature [-unique, +anaphoric] might be easier than mapping of the feature [-familiar, -anaphoric] for L1 Russian speakers, since the former involves the overt-to-overt mapping (mapping from *odin* to *a*), while the latter requires mapping from both context (covert way) and *odin* (overt way) onto *a*.

Therefore, as can be seen from above, different predictions are made with regard to the acquisition of the features of [-familiar, -anaphoric] and [-unique, +anaphoric] for learners depending on their L1. The cline of difficulty in the acquisition of these features in English is presented in Figure 6 for L1 Chinese speakers and in Figure 7 for L1 Russian speakers (based on Slabakova, 2009).

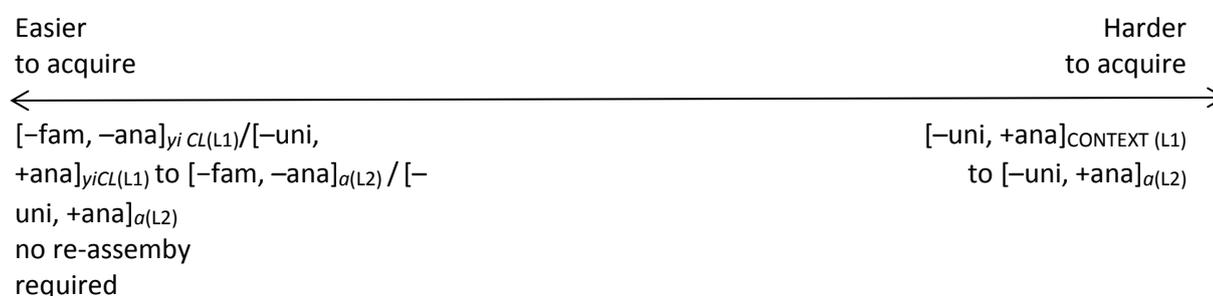


Figure 6. Cline of difficulty in the acquisition of the features [-familiar, -anaphoric] and [-unique, +anaphoric] in English by L1 Chinese speakers (following Slabakova, 2009: 321)



Figure 7. Cline of difficulty in the acquisition of the features [-familiar, -anaphoric] and [-unique, +anaphoric] in English by L1 Russian speakers (following Slabakova, 2009: 321)

To summarise this section, what L2 learners need to acquire when faced with the meaning of definiteness in English is not the semantic meaning of definiteness itself but how it is morphologically expressed in English. In other words, L2 learners do not need to learn the semantic features of definiteness, i.e. the feature bundles [\pm familiar, \pm anaphoric] and [\pm unique, \pm anaphoric], as these features are universal features that are expressed in languages cross-linguistically. The learning task for L2 learners whose L1s lack articles consists of learning that the two features of definiteness, i.e. [+familiar, \pm anaphoric] and [+unique, \pm anaphoric], which can be expressed in two different ways in the L1, are mapped onto one form *the* in English. Consequently, this learning task is predicted to be difficult since L2 learners need to learn to associate two meanings, i.e. familiarity and uniqueness, with one form *the*. In addition, L2 learners need to map the two features of indefiniteness, i.e. [-familiar, -anaphoric] and [-unique, +anaphoric], from the way they are realised in the L1 (either context or unstressed numerals) onto the indefinite article *a*. The next section discusses research questions and predictions for acquisition that are investigated in this thesis.

6.3 Research questions and predictions for acquisition

Based on the discussion of the complex learning task involved in the second language acquisition of definiteness in L2 English by speakers of L1 Chinese and Mandarin and following the predictions of the FRH and the cline of difficulty in feature acquisition, the following three general research questions are addressed in this thesis.

(143) Research Questions

General Research Question 1: What factors play a role in the mapping process of feature reassembly? In particular:

Specific Research Question 1a: Are L2 learners influenced by the differences in the expression of the target features in the L1 and the L2? More specifically, is mapping a feature from an overt L1 morpheme onto an overt L2 morpheme easier than mapping a feature that is realised covertly in the L1 (bare noun) but through a morpheme in the L2?

Specific Research Question 1b: Are L2 learners affected by the transparency of form-feature mappings in the mapping process? That is, is mapping features that are expressed through one form in the L2 and the L1 easier than mapping features that are conflated in one form in the L2 but are distributed on two different forms in the L1?

Specific Research Question 1c: Are L2 learners affected by L1 transfer in the mapping process? In particular, do L2 learners map features from the closest equivalent morpholexical item in the L1 to a morpholexical item in the L2 (based on similarity in meaning or grammatical function)?

General Research Question 2: What factors play a role in the restructuring process of feature reassembly? In particular:

Specific Research Question 2a: Does initial non-target feature mapping affect L2 learners' ability for consecutive feature restructuring?

Specific Research Question 2b: Are L2 learners able to add a new constraint not available in the L1 during feature reassembly?

General Research Question 3: Are L2 learners ultimately able to reassemble the target feature set?

The General Research Questions 1 and 2 concern the acquisition process, whereas the General Research Question 3 is about ultimate attainment. Since, based on the FRH, L2 acquisition involves two processes, i.e. mapping and restructuring, I tease apart mapping and restructuring predictions here.

The General Research Question 1 concerns factors that play a role in the mapping process. In particular, three specific research questions are addressed here. In relation to the Specific Research Question 1a, based on the contrastive analysis of the L1 and the L2 features (Chapter 4, Section 4.5) and the theoretical assumptions discussed in the previous section (Section 6.2), I predict the following:

- (144) Prediction 1 (for RQ 1a): the overt-to-overt mapping of the feature [+familiar, ±anaphoric] from L1 demonstratives onto *the* will be easier, than the covert-to-overt mapping of the feature [+unique, ±anaphoric] from L1 context (bare NPs) onto *the*. As a result, L2 learners will be more accurate at interpreting and using *the* in contexts in which *the* expresses the feature [+familiar, +anaphoric], i.e. previous mention contexts, and the feature [+familiar, –anaphoric], i.e. visible situation contexts, than in contexts in which *the* expresses the feature [+unique, +anaphoric], i.e. unique bridging contexts, and the feature [+unique, –anaphoric], i.e. out-of-the-blue definite contexts.

As for the features [–familiar, –anaphoric] and [–unique, +anaphoric], recall that based on the cline of difficulty in feature acquisition (see Section 6.2), it is predicted that mapping the features [–familiar, –anaphoric] and [–unique, +anaphoric] from L1 unstressed numerals onto *a* is predicted to be easier than mapping the same features from L1 context onto *a*. As discussed in section 6.2, L2 learners L1s differ with regard to what form is preferred to express the features [–familiar, –anaphoric] and [–unique, +anaphoric]; therefore, different predictions for the acquisition of these features in English are made for L2 learners based on the way these features are expressed in the L1.

- (145) Prediction 2a (for RQ 1a): for L1 Chinese speakers, the overt-to-overt mapping of the feature [–familiar, –anaphoric] from *yi CL* to *a* will be easy. As for the feature [–unique, +anaphoric], mapping this feature from *yi CL* to *a* will be easier than mapping the same feature from context onto *a*. As a result, learners will be more accurate at interpreting and using the indefinite article *a* in contexts in which *a* expresses the feature [–familiar, –anaphoric] such as in out-of-the-blue indefinite contexts, and in partitive contexts in which *a* expresses the feature [–unique, +anaphoric] compared to non-unique bridging contexts, in which *a* expresses the feature [–unique, +anaphoric].

(146) Prediction 2b (for RQ 1a): For L1 Russian speakers, the overt-to-overt mapping of the feature [–unique, +anaphoric] from *odin* onto *a* will be easier than the covert-to-overt mapping of the feature [–familiar, –anaphoric] from context onto *a*. As a result, these learners will be more accurate at interpreting and using *a* in contexts in which *a* expresses the feature [–unique, +anaphoric], such as partitive and non-unique bridging contexts, than in contexts in which *a* expresses the feature [–familiar, –anaphoric] such as in out-of-the-blue indefinite contexts.

In relation to the Specific Research Question 1b, I predict that the transparency of form-feature mappings in the L2 will affect the acquisition of the target features. More specifically, I predict the following:

(147) Prediction 3 (for RQ 1b): mapping the features [–familiar, –anaphoric] and [–unique, +anaphoric], which are expressed through one form in the L2 (the indefinite article) and one form in the L1 (either an unstressed numeral or context), will be easier than mapping the features [+familiar, ±anaphoric] and [+unique, ±anaphoric], which are expressed through one form in the L2 (the definite article) but are realised through two different ways in the L1 (i.e., demonstratives can express the feature [+familiar, ±anaphoric] while bare NPs express the feature [+unique, ±anaphoric]). As a result, L2 learners, regardless their L1, will be overall more target-like in using the indefinite article *a* than the definite article *the*.

In relation to the Specific Research Question 1c, I predict, that, since L2 learners will be mapping the feature bundle from the closest equivalent lexical item in the L1, i.e. demonstratives, onto English articles, they will map the feature bundle from L1 demonstratives onto *the*. Since both demonstratives and *the* most commonly express the feature [+familiar, +anaphoric] in anaphoric contexts, such as previous mention, and since demonstratives are preferred in these contexts in L2 learners' L1, I predict that L2 learners will incorrectly associate *the* with anaphoric contexts. As a result, this incorrect association is predicted to affect L2 learners' interpretation and use of articles in English:

(148) Prediction 4a (for RQ 1c): L2 learners will map the feature [+familiar, +anaphoric] from L1 demonstratives onto *the* and will associate *the* with anaphoric contexts. As a

result, in definite contexts, L2 learners will be more accurate at interpreting and using *the* in anaphoric definite contexts, such as previous mention and unique bridging, than in non-anaphoric definite contexts, such as out-of-the-blue definite.

Note that Prediction 4a differs from Prediction 1 discussed above. Although according to both predictions, previous mention contexts should be less problematic than out-of-the-blue indefinite contexts for L2 learners, they make opposing predictions with regard to the interpretation and use of articles in unique bridging contexts. Recall that non-unique bridging contexts are [+unique, +anaphoric]. Thus, if learners have problems with the covert-to-overt mapping of the feature [+unique, +anaphoric] onto *the*, learners will have difficulty interpreting and using the definite article in [+unique, +anaphoric] contexts (Prediction 1). In contrast, if learners associate *the* with anaphoric contexts, L2 learners will interpret and use *the* in a target-like way (Prediction 4a). In other words, even though the feature bundle for the definite article might be non-target like in the L2 grammar, L2 learners will seem target-like in article interpretation and use.

In addition, the incorrect association of the definite article with anaphoric contexts will have consequences for the use of not only the definite article but also the indefinite article. Since the expression of the features [–familiar, –anaphoric] and [–unique, +anaphoric] depends on whether the context is anaphoric or not, I predict that if L2 learners associate *the* with anaphoric contexts, they will incorrectly allow *the* in anaphoric indefinite contexts. As a result, I make the following prediction:

- (149) Prediction 4b (for RQ 1c): L2 learners will map the feature [+familiar, +anaphoric] from L1 demonstratives onto *the* and will associate *the* with anaphoric contexts. As a result, in indefinite contexts, L2 learners, regardless of their L1, will incorrectly interpret and use *the* in anaphoric indefinite contexts such as partitive and non-unique bridging, but not in non-anaphoric indefinite contexts, such as out-of-the-blue indefinite.

In other words, L2 learners will be more accurate in interpreting using *a* in out-of-the-blue indefinite contexts than in partitive and non-unique bridging contexts.

Note that two opposing predictions for indefinite contexts emerge for L1 Chinese speakers and L1 Russian speakers. Thus, although based on Prediction 2a and Prediction 4b, out-of-the-blue indefinite contexts should be least problematic for L1 Chinese speakers, partitive contexts are

predicted to be not problematic on Prediction 2a due to the fact that learners can map the feature [-unique, +anaphoric] from the L1 unstressed numeral *yi* onto *a*. In contrast, on Prediction 4b, partitive contexts, which are anaphoric, will lead to incorrect use of *the* if *the* is incorrectly associated with anaphoricity.

For L1 Russian speakers, two completely opposing predictions are made for indefinite contexts. Thus, based on Prediction 4b, if L1 Russian speakers map the features [-familiar, -anaphoric] and [-unique, +anaphoric] from the L1 unstressed numeral *odin* to *a*, they will be more accurate at using and interpreting *a* in partitive and non-unique bridging conditions than in out-of-the-blue indefinite conditions. In contrast, if they incorrectly associate *the* with anaphoric contexts, they will be more accurate in out-of-the-blue indefinite contexts compared to partitive and non-unique bridging contexts.

The General Research Question 2 concerns the factors that play a role in the restructuring process of feature reassembly. In particular, two specific research questions are addressed here (2a and 2b). In relation to the Specific Research Question 2a, I predict that the initial non-target mapping of anaphoricity onto *the* will be difficult to overcome even for more proficient learners. As a result, this will affect the restructuring of the target features expressed by *the* and *a*. This prediction is summarised below:

(150) Prediction 5 (for RQ 2a): the initial non-target mapping of anaphoricity onto *the* will have a long-lasting effect on L2 learners' interpretation and use of *the* and *a*

In relation to the Specific Research Question 2b, I predict that since the restructuring of the feature [+familiar, ±anaphoric] from L1 demonstratives onto *the* will require adding a new constraint, i.e. learning that the feature [+familiar, ±anaphoric] is computed relevant to the most salient antecedent/most perceptually salient referent and not to the immediately salient antecedent/immediately perceptual referent as with demonstratives, this might be difficult for L2 learners. This is due to the fact that demonstratives and the definite article are often used in contexts in which the antecedent happens to be both most salient and immediately salient, as in previous mention contexts with one antecedent. Therefore, if L2 learners transfer the feature [+familiar, ±anaphoric] and its constraint from L1 demonstratives onto *the*, they will incorrectly allow *the* in contexts in which only demonstratives should be felicitous, as in previous mention contexts with two equally salient referents. This prediction is summarised below:

- (151) Prediction 6 (for RQ 2b): adding a new constraint, i.e. that the feature [+familiar, ±anaphoric] is computed relevant to the most salient antecedent/most perceptually salient referent with *the* will be difficult, although not impossible, for L2 learners. As a result, L2 learners will incorrectly allow *the* in previous mention contexts with two equally salient antecedents.

The General Research Question 3 concerns the question of ultimate attainment in second language acquisition. In relation to this question, I predict that the target reassembly of the features [familiar, anaphoric] and [unique, anaphoric] is, in principle, possible in more proficient learners.

- (152) Prediction 7 (for RQ 3): More proficient learners will be able to reassemble the target features [familiar, anaphoric] and [unique, anaphoric] onto L2 English articles.

Section 6.4 describes the method that was used to test the aforementioned predictions. The aim of the experimental study in this thesis is to investigate whether L2 learners are able to acquire through the process of re-assembly the target feature specifications of the articles in English.

6.4 Method

6.4.1 Ethics procedure

Before conducting the experimental study, an ethics approval was obtained from the University of Southampton Ethics Committee (See Appendix 1). The participants were given information sheets that contained full description of the project in the participants' L1 (although the subject of investigation, i.e. use of articles, was not disclosed to the participants) and were asked to sign consent forms if they were willing to participate.

6.4.2 Tasks

This section discusses the experimental study that was designed to investigate the interpretation and use of articles in English and the knowledge of the relevant features in different semantic

contexts by L1 Chinese and Russian L2 English learners. Two tasks were designed to address the research questions in this study: a comprehension task and a production task. The rationale behind including two tasks is to ascertain that the obtained results are not due to the task effect. The comprehension task took form of an acceptability judgement task (AJT). The goal of the AJT was to test the L2 interpretation of articles in comprehension. The second task, a written sentence production task (WSPT), tested the use of articles in production. The rationale behind including an AJT (interpretation/semantics based task) was to see what interpretations (meanings) L2 learners assign to articles in English. In addition, to the best of my knowledge, none of the previous studies on the L2 acquisition of articles compared the performance of L2 learners in both comprehension and production. However, in order to ascertain that a certain property of the L2 has been acquired by L2 learners, it is important to consider not only whether L2 learners use the correct form in production, but also whether they assign the correct meaning to that form in comprehension (Slabakova, 2016). The two tasks that were used in this study in order to investigate both L2 learners' production and comprehension are discussed in the following sections. The sections that follow describe the design of the tasks, the background information of the participants and the procedure.

6.4.2.1 Acceptability Judgment Task

The acceptability judgment task (AJT) took the form of a series of short stories establishing unambiguous context, which were followed by test sentences containing the target NP. The task involved reading the short stories, consisting of two-three sentences, and deciding whether the sentence that followed each story was an acceptable or not acceptable continuation of that story. In other words, participants were asked to decide whether the test sentence went well with the story, that is, if it made sense in the context of the story. Participants were asked to choose from three answer options: *acceptable*, *not acceptable*, or *I don't know*. The *I don't know* option was included in order to prevent the participants from randomly choosing an answer if they could not decide on one. Participants were expected to reject the test sentence whenever the test sentence supplied an interpretation that did not go well with a story. The participants were not explicitly instructed to pay attention to the form used with the target NP. This was done in order to tap their implicit knowledge of articles rather than their explicit (metalinguistic) knowledge.

The task was presented on a computer screen using an iSurvey online questionnaire, a UK university survey administering service. Participants saw one story and one test sentence at a time. First, the participants saw a story on the screen (Figure 8). After clicking on the 'click' icon,

the test sentence with three answer options appeared on the screen (Figure 9), and the participants had to make their judgment.

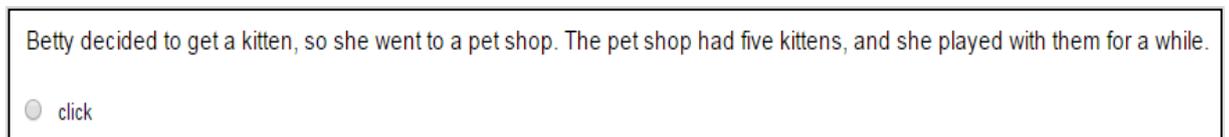


Figure 8. Screenshot of a story in the AJT



Figure 9. Screenshot of a story followed by a test item and three answer options in the AJT (target answer: 'acceptable')

The AJT consisted of two parts. There were 52 stories in 8 conditions: each story was repeated twice in a different part of the test, comprising a total of 104 tokens (See Appendix 2 for the full list of the test items). The only difference between the two presentations of the same story was in the target sentence that followed it: thus, one target sentence was always an acceptable continuation of the story (because, for example, the appropriate article was used), as exemplified in Figure 9, while another target sentence was always a not acceptable continuation of the story (for example, with the inappropriate article used), as exemplified in Figure 10. The same stories were always presented at different parts of the AJT. The decision to not present two test sentences at the same time was made as it was believed that this would encourage participants to pay attention to the differences between the two sentences, and since some of the two sentences only differ in the choice of articles, participants would be encouraged to pay attention to the form of articles (which was not intended in the comprehension task).

Betty decided to get a kitten, so she went to a pet shop. The pet shop had five kittens, and she played with them for a while.

click

Then she chose the kitten.

Acceptable	Not acceptable	I don't know
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 10. Example of a story followed by a test item and three answer options in the AJT (target answer: 'not acceptable')

In addition, as can be seen from Figures 9 and 10, the target test sentences are always grammatical, if taken out of the context (the story)¹⁶ and their acceptability or unacceptability depends on the context that precedes them. Since most of the sentences can be grammatical without context, the nature of the task requires learners to focus on the meaning of the test sentences within the context rather than on the form used. However, L2 learners' judgements tell us what interpretations/meanings they assign to linguistic forms. The format of the stories and test items was similar: the first sentence in each story introduced the main character and the second sentence told what that character did.

There were 3 target definite conditions and 3 target indefinite contexts in the task, containing 12 items each (6 acceptable and 6 unacceptable). The task also tested the use of the definite article versus the demonstrative *that* in two conditions with 8 items each (4 acceptable versus 4 not acceptable). In addition, two filler contexts with 8 items each (4 acceptable versus 4 not acceptable) were included in the task. The fillers targeted the use of possessive pronouns. Due to the large number of test items in each condition the use of articles was tested only with singular NPs. All test items were randomised by the software for each participant.

The three definite conditions tested the use of articles in previous mention, unique bridging and out-of-the-blue definite contexts (Note that the interpretation of articles in visible situation contexts was not tested in the present study). Examples of the three definite conditions with the target interpretations are presented in Table 13.

¹⁶ However, note that in one of the definite conditions in the tasks, i.e. out-of-the-blue definite condition (as discussed below), the sentences with the indefinite article are not grammatical

Table 13. AJT: Definite conditions with example test items and the target answer

Conditions and examples	Target in English
<p>(153) Previous mention:</p> <p>Mary often goes shopping, and last Friday she went to a new shopping mall. She bought a bag there, and she was very happy.</p> <p>She used the/a bag straight away.</p>	<p><i>the</i></p>
<p>(154) Unique bridging:</p> <p>Michael likes going out, so he often goes to parties. Last Saturday he went to a wedding, and he had fun there.</p> <p>He even danced with the/a bride.</p>	<p><i>the</i></p>
<p>(155) Out-of-the-blue definite:</p> <p>Patrick went camping last summer, but one night he could not fall asleep. He got up, and he did not know what to do.</p> <p>So he watched the/a sky for a while.</p>	<p><i>the</i></p>

The story in (153) mentions that Mary bought a bag last Friday, and the continuation with the definite article states that Mary used *the bag* straight away, that is, the same exact bag that she bought in the shopping mall. The continuation with the indefinite article, on the other hand, will not be the appropriate continuation of the story as it is not clear what bag *a bag* refers to. The story in (154) tells us that Michael went to a wedding last Saturday, and we know based on our general knowledge that a wedding usually has one unique bride. Therefore, the expected continuation of the story in (154) should contain the definite article, that is, a situation where Michael danced with the unique bride at the wedding he attended. *A bride*, on the other hand, does not sound appropriate in the context of the story as *a bride* implies that the wedding had more than one bride, and Michael danced with one of the brides. In (155), the test sentence with the NP *the sky* is the only acceptable continuation of the story. Although *the sky* is mentioned for the first time in the context, we know based on general knowledge that *the sky* refers to a unique entity as there is only one unique sky in the world; therefore, *a sky* is not felicitous in this context.

The two definite conditions that tested the acceptability of the definite article *the* versus the demonstrative *that*, are presented in Table 14.

Table 14. AJT: Definite article vs. demonstrative conditions with example test items and the target answer

Conditions and examples	Target
<p>(156) Previous mention with one salient antecedent:</p> <p>Ken went to a small art gallery last weekend, and it had nine paintings. They were very unusual, and he looked at one of the paintings for a long time.</p> <p>Finally, he bought the/that painting for his wife.</p>	<p>both <i>the</i> and <i>that</i></p>
<p>(157) Previous mention with two equally salient antecedents:</p> <p>Simon enjoys cycling, and last year he bought two bicycles. One of the bicycles was heavy and difficult to ride. But the other bicycle was very light and easy to ride.</p> <p>He rode the/that bicycle to work every day.</p>	<p><i>that</i></p>

In (156), nine paintings are mentioned in the context of the story, and one of them is made more salient than the other paintings. Since in this context ‘one of the paintings’ is both the most salient antecedent and the immediately salient antecedent for the target definite NP, both the definite article and the demonstrative *that* are felicitous in this context. In contrast, in (157) two equally salient referents are present in the story. Therefore, the demonstrative, which is able to pick out the immediately salient antecedent, but not the definite article, which requires the most salient antecedent, is felicitous in this context.

The three indefinite contexts targeted the use of articles in three types of indefinite contexts: partitive, non-unique bridging and out-of-the-blue indefinite context. Examples of each context with predicted article choice are presented in Table 15.

Table 15. AJT: Indefinite conditions with example test items and the target answer

Conditions and examples	Target
<p>(158) Partitive:</p> <p>a. Betty decided to get a kitten, so she went to a pet shop. The pet shop had five kittens, and she played with them for a while.</p> <p>Then she chose a/the kitten.</p>	<i>a</i>
<p>(159) Non-unique bridging:</p> <p>a. Alex is a photographer, and last Saturday he worked at a big wedding party. It was a long day, and he got bored being by himself.</p> <p>So he talked to a/the guest for a while.</p>	<i>a</i>
<p>(160) Out-of-the blue indefinite:</p> <p>a. Aaron is a policeman, and last night he was at work. He was tired, and he fell asleep. When he woke up, he was surprised.</p> <p>He saw a/the mouse in his office</p>	<i>a</i>

In (158), the situation contains five kittens; therefore, only the sentence with an indefinite article is an acceptable continuation of the story, as *a kitten* picks out one kitten out of the five kittens. In other words, *a kitten* refers to one member of the previously mentioned set of 5 kittens and an indefinite article should be used with 'kitten'. The definite article is not acceptable in (158), as it is not clear what kitten *the kitten* refers to. The story in (159) mentions the fact that Alex was at a big wedding party. Based on the knowledge of the world, we know that a wedding contains a number of guests; therefore, only the sentence with an indefinite article can be an acceptable continuation of the story, that is, a situation where Alex talked to one of the guests at the wedding. *The guest* will be infelicitous in this context, as no particular guest was mentioned in the context of the story. The story in (160) tells us that something surprised Aaron; however, we do not know what it was. Therefore, the fact that it is was 'mouse' comes out-of-the-blue. In other words, 'mouse' is mentioned for the first time, and, thus, is neither familiar nor unique in the context of the story. Therefore, the only appropriate article in this context is the sentences with an indefinite article.

The fillers containing possessive pronouns were included in order to ascertain that the participants pay attention to the task, that is, interpret the target sentence in the context of the story. The fillers were matched and mismatched in gender between the subject noun and the possessive pronoun. In order to interpret the sentence appropriately it was important to read the story carefully and to pay attention to the subject of that sentence. Examples of each context with predicted possessive choice are presented in Table 16.

Table 16. AJT: Filler conditions with example test items and the target answer

Conditions and examples	Target
<p>(161) Possessive of a female subject noun Beth is a student, and she always leaves her house early. Yesterday she woke up late, and she rushed out of the house.</p> <p>She left her/his mobile phone at home.</p>	<p><i>her</i></p>
<p>(162) Possessive of a male subject pronoun Rob likes eating out, so he often goes to restaurants. Last night he went to a Chinese restaurant.</p> <p>He left his/her umbrella in the restaurant.</p>	<p><i>his</i></p>

In (161), the story is about a female subject, and the only possible possessive pronoun is *her* in the test sentence. *His* is not appropriate in the context of (161), as it is not clear what referent it stands for. In (162), a male subject is introduced in the story; therefore, *his* is the only possessive pronoun which is appropriate in the test sentence.

As can be seen from the examples above, all of the test sentences, with an exception of the six test sentences in the out-of-the-blue definite condition, are grammatical in English. In other words, L2 learners are not asked to judge whether a correct form is used but to consider the meaning of the test sentence, and how this test sentence fits with a story. That is, the advantage of the AJT, compared to other task, such as for example gap filling or multiple choice, is that L2 learners are not invited to pay attention to the form and therefore access their metalinguistic knowledge, but rather use their linguistic competence. Consequently, this shows what interpretations L2 learners map onto linguistic expressions.

6.4.2.2 Written Sentence Production Task: test items and predictions

In the written sentence production task, participants saw the beginning of a story (that consisted of one or two sentences) on the screen (see Figure 11). After clicking on the 'click' icon, some words (lexical but not functional item) in parentheses appeared on the screen. Participants were asked to continue the story by making sentences with the words in parentheses and write their answer in the provided box (see Figure 12). Each story was followed by two sets of words in parentheses. The target NP was always in the second set. The stories were designed to elicit either an indefinite noun phrase (preceded by an indefinite article) or a definite noun phrase (preceded by a definite article). The context of the stories in WSPT was loosely based on the context of the stories in AJT. In addition, all target NPs in WSPT were the same as the target NPs in AJT.



Figure 11. Example of a story in the WSPT

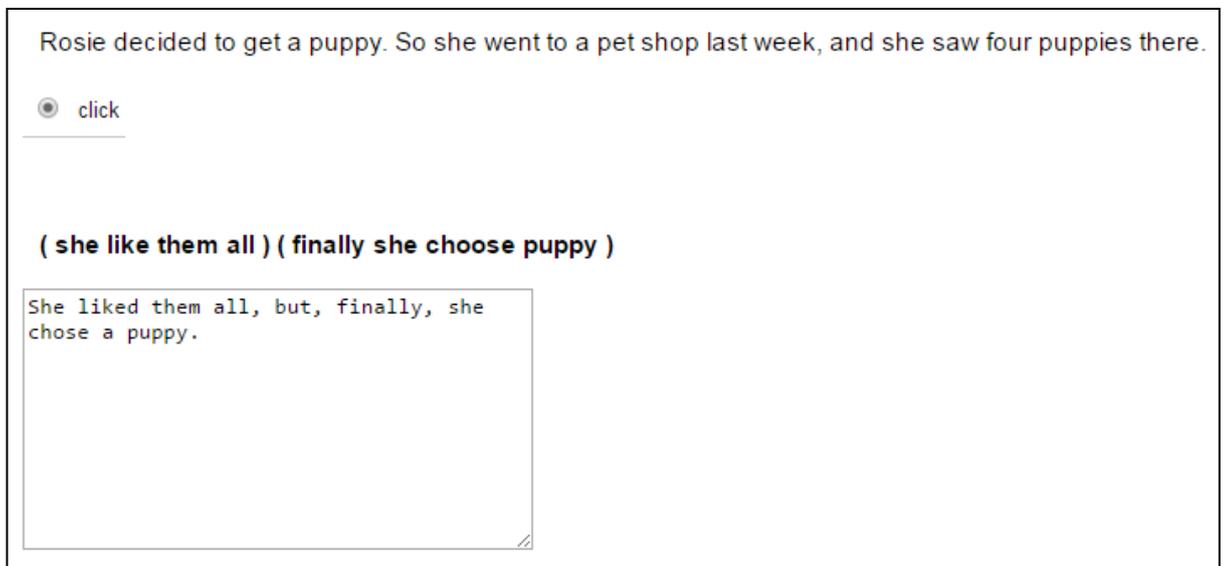


Figure 12. Example of a story followed by a test item in the WSPT with the target answer.

Participants were presented with an explicit set of rules (instructions) of what they could and could not do with the words in parentheses (see Appendix 3 for the full set of instructions). Thus, for example, they were told that they could change the form of a verb, and add prepositions, conjunctions and articles. However, they were instructed that they must not change the order of given words or use demonstratives or possessives. The instructions were printed out so that participants could refer to them while completing the task. Three example stories with possible story continuations were given to the participants in the beginning of the test. The participants were not directly instructed to provide articles in this task. This was done to investigate whether L2 learners knew that a singular NP in English should be preceded with an article, and to check what article they supplied (if at all) when they were not explicitly instructed to supply one.

There were 6 conditions in the WSPT: three definite conditions (previous mention, unique bridging and out-of-the-blue definite) and three indefinite conditions (partitive, non-unique bridging and out-of-the blue indefinite). Note, that similar to the definite conditions in the AJT, visible situation contexts were not operationalised in the WSPT. Each condition contained 4 items, yielding 24 test items altogether. Examples, the predicted article and target answers are presented in Table 17 for the definite conditions and in Table 18 for the indefinite conditions (see Appendix 3 for the full list of the test items).

Table 17. WSPT: Definite conditions with example test items and the target answer

Conditions and examples	Target
<p>(163) Previous mention:</p> <p>Penny had a birthday last week, and her best friend gave her a necklace. (she be very happy) (she wear necklace straight away)</p> <p><i>Target answer:</i> She was very happy, so she wore the necklace straight away.</p>	<p><i>the</i></p>
<p>(164) Unique bridging:</p> <p>Richard likes going out. Last Friday he went to a wedding. (he have fun there) (he even dance with bride)</p> <p><i>Target answer:</i> He had fun there, and he even danced with the bride.</p>	<p><i>the</i></p>
<p>(165) Out-of-the-blue definite:</p> <p>Rob travelled to an island last month, and it was very hot there.</p>	<p><i>the</i></p>

<p>(he have good time) (he enjoy sun every day)</p> <p><i>Target answer:</i> He had a good time, and he enjoyed the sun every day.</p>	
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Table 18. WSPT: Indefinite conditions with example test items and the target answer

Conditions and examples	Target
<p>(166) Partitive:</p> <p>Rosie decided to get a puppy. So she went to a pet shop last week, and she saw four puppies there. (she like them all) (finally she choose puppy)</p> <p><i>Target answer:</i> She liked them all but finally she chose a puppy.</p>	<i>a</i>
<p>(167) Non-unique bridging:</p> <p>Cathy likes classical music, and she went to see a new orchestra perform last night. (she enjoy music) (she even meet musician after performance)</p> <p><i>Target answer:</i> She enjoyed the music, and she even met a musician after the performance.</p>	<i>a</i>
<p>(168) Out-of-the blue indefinite:</p> <p>Megan has a dog, and she walked her dog in the park for two hours yesterday. (when she walk back home) (she buy magazine on way)</p> <p><i>Target answer:</i> When she was walking back home, she bought a magazine on the way.</p>	<i>a</i>

The target NPs in (163)-(165) are all definite, since they refer to either a referent previously introduced into the context, as *the necklace* in (163), or to a referent that refers to a unique referent in the given situation of a wedding as *the bride* in (164) and a referent that is unique based on our world knowledge as *the sun* in (165). In all of the indefinite conditions (166)-(168), the target NP is indefinite and, therefore, must be preceded with an indefinite article. Thus, *a puppy* in (166) is indefinite because it refers to one of the puppies from the previously mentioned set of four puppies; *a musician* in (167) is indefinite as s/he is one of the members of the

previously mentioned orchestra; and *a magazine* in (168) is indefinite as it is mentioned for the first time and its referent is unfamiliar to the hearer.

6.4.2.3 Piloting the tasks

The tasks were piloted with 10 English controls, 11 L1 Chinese and 9 L1 Russian L2 English learners, who were recruited through personal contacts. During the piloting process with English controls, modifications were made to the tasks based on the feedback received from English native speakers. The changes involved modifying the context of some stories and sentences or completely rewriting stories that English controls found unnatural. In addition, the contexts of stories were shortened in order to reduce the overall testing time. The original test items in both tasks contained target NPs in both subject and object position. However, the analysis of the pilot data showed that some English native speakers accepted *the* in some indefinite partitive contexts if the target NP was in subject position. When asked for feedback, they reported that *the* just sounded more natural to them. Since in both Chinese and Russian preverbal NPs, that is, NPs in the subject position, are usually interpreted as definite, the decision was made to always place the target NPs in the object position in both tasks in order to preclude the possibility that the sentence position of the target NP affected the interpretation/use of articles. After the aforementioned modifications, English controls performed on the tasks as expected, that is, they accepted and used the definite article in the definite conditions and the indefinite article in the indefinite conditions.

As for the performance of the Chinese and Russian participants in the pilot study, 6 out of 11 Chinese participants and 5 out of 9 Russian participants made predicted errors in article interpretation and use, such as, for example, they accepted and used the non-target definite article in partitive and non-unique bridging contexts. The performance of the remaining 5 Chinese participants and 4 Russian participants showed that they were either making errors in article interpretation/use in all of the contexts or they performed target-like. Since in order to reduce the testing time a proficiency test was not administered to the L2 participants in the pilot study, the results might be attributed to the difference in proficiency. Nevertheless, the performance of the 11 out of the total of 20 L2 learners shows that the L2 participants were sensitive to the test design of the tasks, thus, ascertaining the viability of the research instruments.

6.4.3 Participants

A control group of 20 English native speakers was tested in the study in order to validate the tasks. In total, 171 L2 learners of English participated in this study: 81 native speakers of Mandarin Chinese (henceforth, Chinese) and 90 native speakers of Russian. Out of the 81 participants in the L1 Chinese group, 40 were tested in China and 41 were recruited in the UK. Among the participants tested in China, one participant turned out to be a native speaker of Uyghur; therefore, this participant was excluded from the analysis. Out of the remaining 39 Chinese participants in China, only 29 completed all the tasks in this study. Therefore, only these participants from China were included into further analysis. Out of the 41 Chinese native speakers recruited in the UK, only 32 completed all the tasks and were included in further analysis. This brought the total number of Chinese participants in the study to 61. Out of the 90 Russian participants, 41 were recruited in the UK and 49 were tested in Russia. 9 out of the 41 Russian participants in the UK did not complete all of the tasks; therefore, they were excluded from further analysis. 33 out of the 49 Russian participants in Russia did not finish all the tasks¹⁷; therefore, only the data from the remaining 16 Russian participants in Russia were analysed further. Therefore, the total number of Russian participants amounted to 48 participants. The background data of the participants in this study is presented in Table 19.

Table 19. Demographic characteristics of the participants

Group	Age: Mean (range)	Age of first exposure to English: Mean (range)	Years of learning English: Mean (range)	Months of staying in an English-speaking country: Mean (range)	Proficiency level and proficiency score (out of 40): Mean (range)
L1 Chinese (n=61)	21.98 (18-61)	9.44 (4-23)	12.02 (6-38*)	7.15 (0-240*)	Intermediate (n=41): 25.46 (17-29) Advanced (n=20): 32.10 (30-35)
L1 Russian (n=48)	24.62 (18-45)	9.27 (5-25)	11.35 (2-23)	18.00 (0-108**)	Beginner (n=7): 12.57 (7-15) Intermediate (n=23): 22.17 (17-29) Advanced (n=18): 33.22 (30-38)
L1 English (n=20)	19.60 (19-20)	n/a	n/a	n/a	n/a

Note: *38 years of learning English and 240 months of staying in an English speaking country were due to one of the Chinese participants being aged 61 and living and working in the UK for 20 years **one Russian participant had lived in the UK for 9 years

¹⁷ The reason 33 Russian participants in Russia did not finish the tasks is due to the fact that the tasks were administered in two sessions to this group of participants; therefore, it was important that the students, who participated in the first session, also participated in the second session. The aforementioned 33 participants completed the task in the first session only; therefore, they were not included in the analysis.

The rationale behind testing L2 learners both in the UK and in Russia and China was to investigate a possible developmental trend in the acquisition of articles. Therefore, it was important to ensure that each L1 group contained L2 learners at different proficiency levels, from beginner to advanced/near native. Since it was known that participants in the UK are usually at intermediate or advanced levels of proficiency, in order to include beginner learners the decision was made to test L2 English learners in China and Russia. However, although both groups of learners were recruited from a similar population (matched on the degree level and the hours of the English exposure in the classroom), as the results of the proficiency test showed (discussed below), there were only 7 beginner learners among the L1 Russian participants recruited in Russia, while no learners were characterised as beginner among the L1 Chinese participants.

The Chinese and Russian participants in the UK were recruited through advertising. They were undergraduate or postgraduate students at a UK university or young professionals. The average stay in the UK was 13.07 months for the Chinese participants and 26.12 months for the Russian participants. The Chinese participants from China and the Russian participants from Russia were undergraduate students at a university in China and Russia, respectively. They were 1st and 2nd year non-English major students, and the exposure to English consisted of 3 hours of classroom instruction and 2 hours of online independent learning per week for the participants in China, while the participants in Russia had English lessons for 4 hours per week. None of the participants in China or Russia had ever stayed in or visited an English-speaking country. The participants were recruited through personal contacts. The English controls were undergraduate students at an introduction to linguistics course at a UK university.

Based on the results of the Cambridge Quick Placement Test consisting of 40 multiple-choice questions (Appendix 4), the participants were assigned to the following three proficiency levels: beginner (score between 0/40-15/40), intermediate (score between 16/40-29/40) and advanced (score between 30/40- 40/40)¹⁸. Thus, the 61 L1 Chinese participants consisted of 41 intermediate and 20 advanced learners, while the 48 Russian participants were comprised of 7 beginner, 23 intermediate, and 18 advanced learners.

Independent t-tests comparing each of the proficiency levels across the L1 Chinese and the L1 Russian groups (in cases where such comparisons were possible) were conducted to ensure that groups were matched for proficiency. While the L1 Chinese and L1 Russian advanced groups were not significantly different from each other ($t = -1.640, p = .112$), the L1 Chinese and the L1 Russian

¹⁸ The full Cambridge placement test (see <http://www.cambridgeenglish.org/find-a-centre/exam-centres/support-for-centres/placing-students-in-the-right-exam/>) consists of 100 questions, and the cut-off point for different levels is 0%-39% of correct responses for the beginner level, 40%-74% for the intermediate level and 75%-100% for the advanced level. These criteria were used to divide the participants into proficiency groups in this study.

intermediate groups were significantly different from each other ($t = 3.831, p < .0001$), with the L1 Chinese intermediate group being more proficient than the L1 Russian intermediate group. In other words, although based on the results of the independent t-tests, the two intermediate groups were statistically different from each, suggesting that the two intermediate groups were not directly comparable, the predicted pattern of article use was expected to be seen for both groups, that is, the two intermediate groups were expected to follow a similar pattern. While the two intermediate groups were treated as comparable in the study, this significant difference was kept in mind while discussing the findings. Therefore, the data from five groups of L2 learners, i.e. L1 Chinese intermediate, L1 Chinese advanced, L1 Russian beginner, L1 Russian intermediate and L1 Russian advanced, were included into further analysis.

6.4.4 Procedure

The tasks in this study were administered using an iSurvey online questionnaire, a UK university survey administering service. The AJT was always administered first. In between the two parts of the AJT, the participants were asked to fill in a short background questionnaire (Appendix 5). After completing the second part of the AJT, the participants proceeded to the WSPT. The Cambridge Quick Placement Test was always administered last. The tasks were untimed; however, the participants were asked not to think too long before providing an answer.

Before each task, the participants read the instructions in their L1, and they were presented with examples (which did not target article use). A printed version of instructions in WSPT was also available to the participants, as the nature of the task necessitated that the participants follow the instructions appropriately. The instructions to the tasks were in the participants' L1s to ensure that they fully understood what was expected of them. Although the vocabulary items used in the tasks were attempted to be simple, the L2 groups were provided with a vocabulary list of the main nouns and predicates with translations used in the test sentences in order to preclude the possibility that an unfamiliar word might have affected the performance of participants. In addition, a simple sentence structure of the type Subject-Verb-Object was used in the test items in order not to impede L1 learners' comprehension of the sentences. Each context and target sentence in the AJT and WSPT appeared once at a time. The context always appeared first and the participants had to click on an icon in order for the target sentence to appear on the screen. Participants could not go back and change their answers.

The Chinese and Russian participants in the UK attended testing sessions at a computer lab. Participants completed the tasks at one sitting. Overall, it took participants 60-90 minutes to complete all the tasks. The participants were monetarily compensated for their time and effort.

The Chinese participants in China and the Russian participants in Russia completed the tasks on computers during their weekly English lessons at their respective universities. The Chinese participants completed all the tasks in one session. Overall, the whole session took 90 minutes. The participants in China were compensated with small gifts for their time and effort, and they were also notified of their English proficiency level.

The tasks were administered in two sessions to the Russian participants in Russia: in the first session the participants completed the two parts of the AJT and a background questionnaire; the WSPT and the proficiency test were administered in the second session. The decision to administer the tasks in two sessions was made after it became evident after a testing session with the first group of students that the participants did not have enough time to complete all the tasks in one session. A minority of the participants completed the two sessions within one week, while for most of participants there was a week gap between the first and the second session. On average, the first session took 60 minutes and the second session lasted 50 minutes. The Russian participants completed the tasks as part of their English practice session, and they were informed of their English proficiency level.

The English controls completed the tasks (except for the Cambridge Quick Placement Test) using the same iSurvey service but on their home or university computers. On average, English native speakers spent 45 minutes on the tasks. Their participation was entirely voluntary and they participated in the study with the benefit of learning how research experiments in language research were conducted. The next chapter presents the results obtained from the two tasks in the experimental study.

Chapter 7: Results

7.1 Introduction

This chapter presents the results that were obtained in the two tasks in the present study, the acceptability judgment task and the written sentence production task. The results in the acceptability judgement task are presented first, followed by the results in the written sentence production task.

First, results will be presented in terms of actual frequencies of article interpretation and use. Since judgments in the AJT as well as article choices in the WSPT are categorical variables, statistical comparisons on the use of *the* and *a* and on the use of *the* and *that* within and across different conditions were conducted using a non-parametric chi-square test (χ^2). Next, in order to investigate for the main effects of the type of semantic contexts on the acceptability and use of articles and on the acceptability of *the* and *that*, repeated measures ANOVAs were conducted for each group of the participants. In order to ascertain that L2 participants were paying attention to the design of the AJT, their performance on fillers was first looked at. Paired samples t-tests revealed that the only group that did not make a significant distinction between the target and the non-target pronoun form in the appropriate contexts was the L1 Russian beginner group (see Appendix 6 Tables 6.1 and 6.2 for the statistical analysis). These results might suggest that either the task was difficult for the beginner learners or that they were not paying attention to it. Therefore, the results of this group of learners will be interpreted with caution.

This study did not set out to compare L2 learners' performance to that of native speakers. What is of interest to the present investigation is whether L2 learners are able to acquire the target grammatical contrasts, rather than whether L2 learners are indistinguishable from native speakers. Therefore, the performance of the English native speakers is used to ascertain the validity of the test instruments and to provide a guideline for the target contrast.

7.2 Results in the acceptability judgment task

7.2.1 Results in the definite conditions

As discussed in Section 6.4.2.1, in the AJT the participants were asked to judge the acceptability of the target sentences within a given context choosing from three answer options: *acceptable*, *not acceptable* or *I don't know*. The acceptability of articles, *the* versus *a*, was investigated in three definite conditions: previous mention, unique bridging and out-of-the-blue definite. In these conditions, the only acceptable, i.e., target, article is the definite article, while the indefinite article should be rejected. The participants' choices in the AJT across the three definite conditions are presented in Figures 13-15 (see Appendix 7 Table 7.1 for the raw frequencies of the participants' choices in the AJT across the three definite contexts)

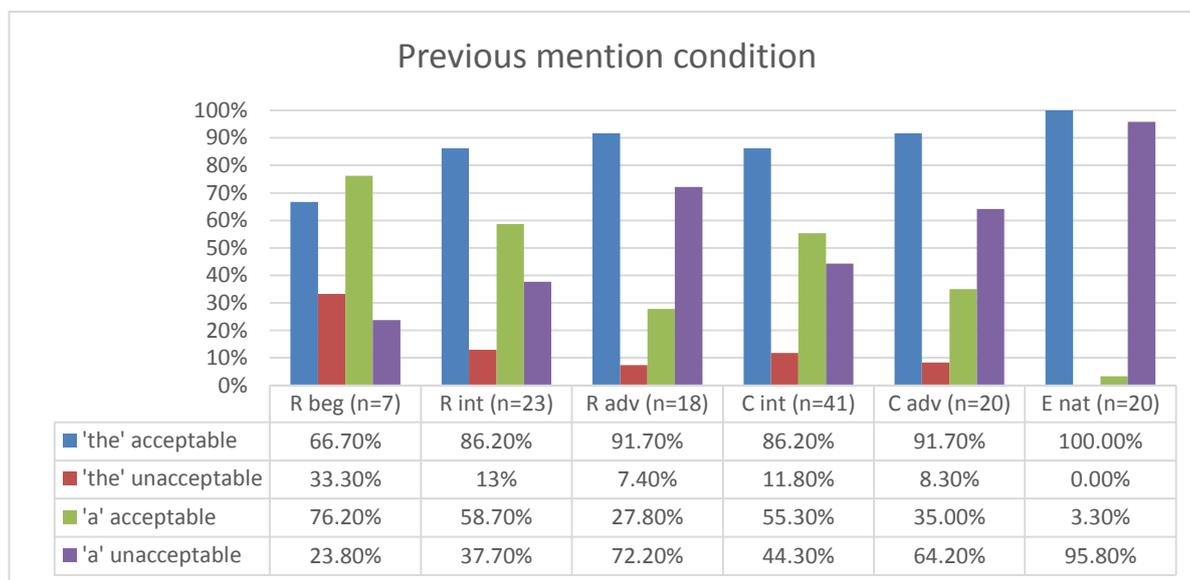


Figure 13. Percentage of responses in the previous mention condition across the groups¹⁹

¹⁹ The percentages in the cells do not add to 100 because *I don't know* responses are excluded

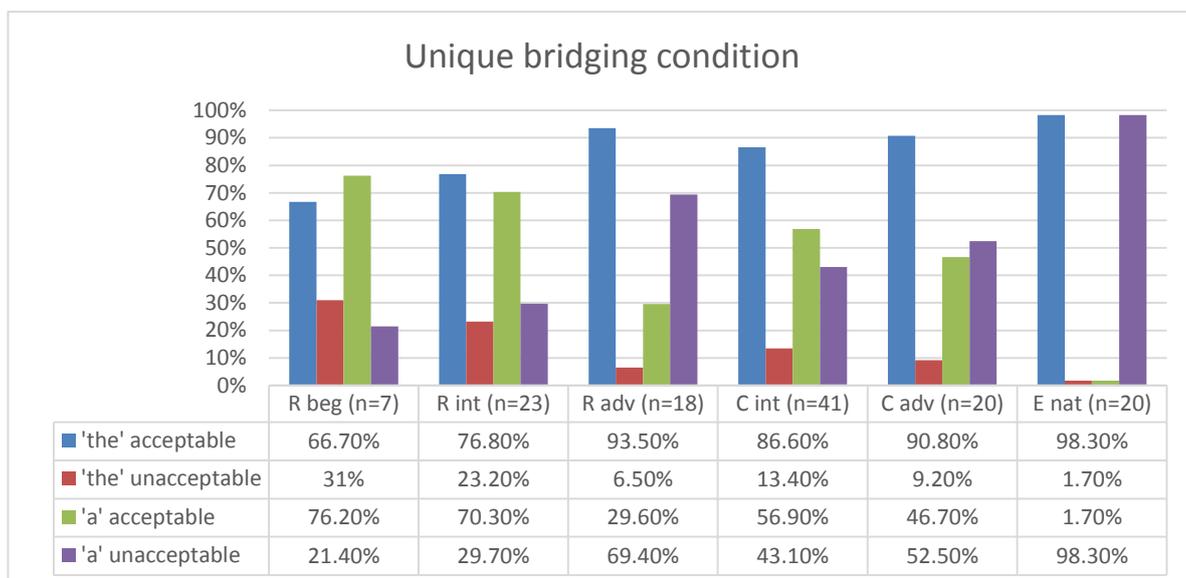


Figure 14. AJT: percentage of responses in the unique bridging condition across the groups

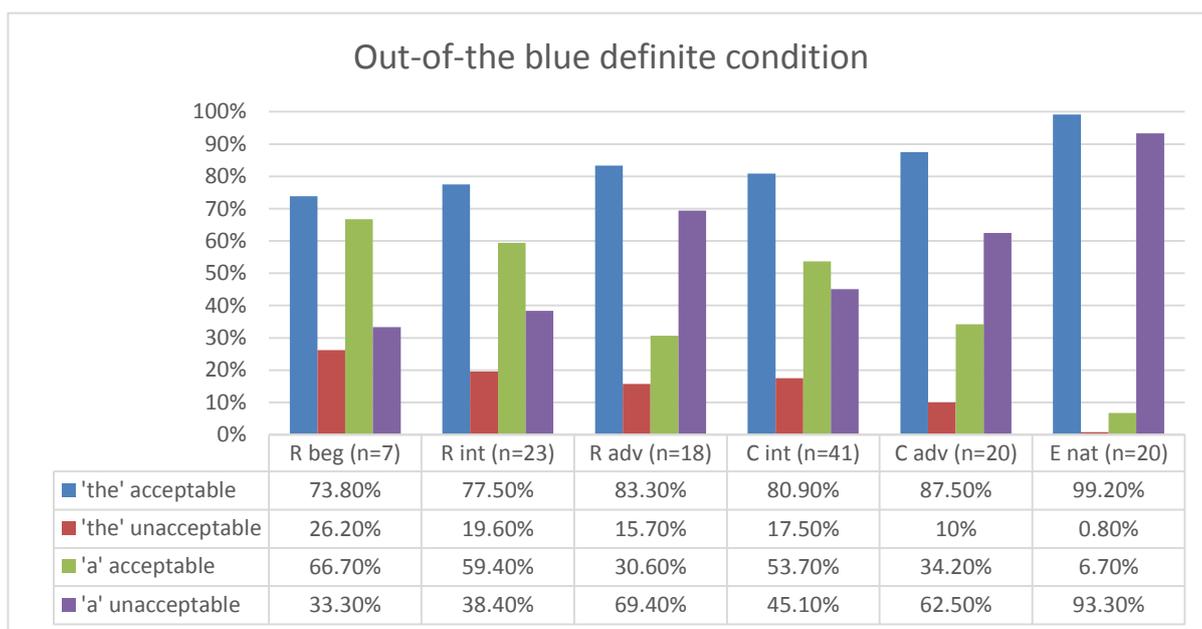


Figure 15. Percentage of responses in the out-of-the-blue definite condition across the groups

The results show that the English native speakers accept the target definite article across the three definite conditions, hardly ever accepting the indefinite article. The L2 learner groups also accept the target definite article. This suggests that the L2 learners know that the definite article is the felicitous article in these conditions. However, in contrast to the English controls, the L2 learners also accept the infelicitous indefinite article in the three definite conditions.

In order to ensure that L2 learners make a distinction between accepting and rejecting the target *the*, on the one hand, and the non-target *a*, on the other, a series of non-parametric chi-square tests were performed to compare the actual frequencies of the L2 learners' choices in accepting and rejecting *the* and *a* across the three definite conditions. If L2 learners know that *the* is the appropriate article in the definite conditions, they should accept *the* significantly more than reject (not accept) it. At the same time, they should reject the inappropriate indefinite article significantly more than accept it. Tables 20 and 21 present the results.

Table 20. AJT: Difference between raw frequencies of acceptance and rejection of *the* across the definite conditions; target *the* acceptable

	Previous mention (n=6)		Unique bridging (n=6)		Out-of-the-blue definite (n=6)	
	<i>the</i> acceptable	<i>the</i> not acceptable	<i>the</i> acceptable	<i>the</i> not acceptable	<i>the</i> acceptable	<i>the</i> not acceptable
Russian beginner (n=7)	28/42 $\chi^2=4.667, p=.031^*$	14/42	28/42 $\chi^2=5.488, p=.019^*$	13/42	31/42 $\chi^2=9.524, p=.002^*$	11/42
Russian intermediate (n=23)	119/138 $\chi^2=74.460, p<.0001^*$	18/138	106/138 $\chi^2=39.681, p<.0001^*$	32/138	107/138 $\chi^2=47.761, p<.0001^*$	27/138
Russian advanced (n=18)	99/108 $\chi^2=77.393, p<.0001^*$	8/108	101/108 $\chi^2=81.815, p<.0001^*$	7/108	90/108 $\chi^2=49.804, p<.0001^*$	17/108
Chinese intermediate (n=41)	212/246 $\chi^2=138.959, p<.0001^*$	29/246	213/246 $\chi^2=131.707, p<.0001^*$	33/246	199/246 $\chi^2=100.562, p<.0001^*$	43/246
Chinese advanced (n=20)	110/120 $\chi^2=83.333, p<.0001^*$	10/120	109/120 $\chi^2=80.033, p<.0001^*$	56/129	105/120 $\chi^2=73.923, p<.0001^*$	12/120
English controls (n=20)	120/120 n/a	0/120	118/120 $\chi^2=112.133, p<.0001^*$	2/120	119/120 $\chi^2=116.033, p<.0001^*$	1/120

Note: *statistically significant at $\alpha=.05$

Table 21. AJT: Difference between raw frequencies of acceptance and rejection of *a* across the definite conditions; target *a* not acceptable

	Previous mention (n=6)		Unique bridging (n=6)		Out-of-the-blue definite (n=6)	
	<i>a</i> acceptable	<i>a</i> not acceptable	<i>a</i> acceptable	<i>a</i> not acceptable	<i>a</i> acceptable	<i>a</i> not acceptable
Russian beginner (n=7)	32/42 $\chi^2=11.524, p=.001^*$	10/42	32/42 $\chi^2=12.902, p<.0001^*$	9/42	28/42 $\chi^2=4.667, p=.031^*$	14/42
Russian intermediate (n=23)	81/138 $\chi^2=6.323, p=.012^*$	52/138	97/138 $\chi^2=22.725, p<.0001^*$	41/138	82/138 $\chi^2=6.230, p=.013^*$	53/138
Russian advanced (n=18)	30/108 $\chi^2=21.333, p<.0001^*$	78/108	32/108 $\chi^2=17.280, p<.0001^*$	75/108	33/108 $\chi^2=16.333, p<.0001^*$	75/108
Chinese intermediate (n=41)	136/246 $\chi^2=2.976, p=.085^{**}$	109/246	140/246 $\chi^2=4.699, p=.030^*$	106/246	132/246 $\chi^2=1.815, p=.178$	111/246
Chinese advanced (n=20)	42/120 $\chi^2=10.294, p=.001^*$	77/120	56/129 $\chi^2=.412, p=.521$	63/120	41/120 $\chi^2=9.966, p=.002^*$	75/120
English controls (n=20)	4/120 $\chi^2=103.538, p<.0001^*$	115/120	2/120 $\chi^2=112.133, p<.0001^*$	118/120	8/120 $\chi^2=90.133, p<.0001^*$	112/120

Note: *statistically significant; ** approaching statistical significance; not significant values in bold; highlighted cells represent statistical significance in the opposite (non-target) direction

As can be seen from Table 20, the English native speakers as well as the L2 learners across all groups accept the target *the* significantly more than they reject it. These results seem to suggest that L2 learners know that the definite article is the appropriate article in the definite conditions. However, in order to ascertain that this is indeed the case it is important to see that L2 learners also reject the non-target *a* significantly more than they accept it in the definite conditions.

Table 21 shows that the L1 Russian advanced group is the only L2 group (in addition to the English native speakers) who are target-like in consistently rejecting *a* significantly more than accepting it across the indefinite conditions. Although the two other L1 Russian groups, beginner and intermediate, also make a significant distinction, this distinction is in the opposite direction. That is, they incorrectly accept *a* significantly more than they reject it in the definite conditions. The performance of the L1 Russian beginner and intermediate learners suggests that they have difficulty deciding which article is appropriate in the definite conditions, thus, accepting both forms, *the* and *a*, and not differentiating between the target form (*the*) and the non-target form (*a*).

As for the L1 Chinese groups, the L1 Chinese advanced group is target-like in rejecting *a* significantly more than accepting it in the previous mention and out-of-the-blue definite conditions. In contrast, they are indecisive as to whether *a* should be accepted or rejected in the unique bridging condition, accepting and rejecting it half of the time. This suggests that the unique bridging condition seems to be difficult for this group of learners. However, the raw frequencies of *a* acceptance and rejection show that there seems to be a developing tendency towards rejecting *a* in this condition. The L1 Chinese intermediate group seem to have difficulty in correctly rejecting *a* across all definite conditions. Thus, they accept *a* significantly more than they reject it in the unique bridging condition. The acceptance versus rejection of *a* is also approaching significance in the previous mention condition. In addition, there is a non-significant tendency to accept rather than reject *a* in the out-of-the-blue definite condition by this group of learners.

However, due to the nature of the AJT in this study, which requires participants to either accept or reject the target sentence, it is possible that L2 learners preferred to accept rather than reject a test sentence. Therefore, in order to ascertain that the target contrast between *the* and *a* is present in the interlanguage grammar, it is important to see whether L2 learners make a distinction between the acceptable and unacceptable article, that is, *the* versus *a*, in each of the definite conditions. A series of non-parametric chi-square tests were performed to compare the actual frequencies of the L2 learners' choices in accepting *the* versus accepting *a* across the three definite conditions. A significant *p* value indicates that L2 learners show a contrast between

accepting the target definite article and accepting the non-target indefinite article. The results are summarised in Table 22.

Table 22. AJT: Difference between raw frequencies of the participants' choices of *the* vs. *a* across the three definite conditions: target *the*

	Previous mention (n=6)		Unique bridging (n=6)		Out-of-the-blue definite (n=6)	
	<i>the</i> acceptable	<i>a</i> acceptable	<i>the</i> acceptable	<i>a</i> acceptable	<i>the</i> acceptable	<i>a</i> acceptable
Russian beginner (n=7)	28/42 $\chi^2=.267$, $p=.606$	32/42	28/42 $\chi^2=.267$, $p=.606$	32/42	31/42 $\chi^2=.153$, $p=.696$	28/42
Russian intermediate (n=23)	119/138 $\chi^2= 7.220$, $p=.007^*$	81/138	106/138 $\chi^2= .399$, $p=.528$	97/138	107/138 $\chi^2= 3.307$, $p=.069^{**}$	82/138
Russian advanced (n=18)	99/108 $\chi^2= 36.907$, $p <.0001^*$	30/108	101/108 $\chi^2= 35.797$, $p <.0001^*$	32/108	90/108 $\chi^2= 26.415$, $p <.0001^*$	33/108
Chinese intermediate (n=41)	212/246 $\chi^2=16.598$, $p <.0001^*$	136/246	213/246 $\chi^2=15.096$, $p <.0001^*$	140/246	199/246 $\chi^2=13.562$, $p <.0001^*$	132/246
Chinese advanced (n=20)	110/120 $\chi^2=30.421$, $p <.0001^*$	42/120	109/120 $\chi^2=17.024$, $p <.0001^*$	56/120	105/120 $\chi^2= 28.055$, $p <.0001^*$	41/120
English controls (n= 20)	120/120 $\chi^2=108.516$, $p <.0001^*$	4/120	118/120 $\chi^2=112.133$, $p <.0001^*$	2/120	119/120 $\chi^2= 97.016$, $p <.0001^*$	8/120

*statistically significant; ** approaching statistical significance; not significant values in bold

Table 22 shows that, as expected, the English control group accepted the target definite article significantly more than the indefinite article across the three definite conditions. The two L1 Chinese groups as well as the L1 Russian advanced group followed a similar pattern: they accepted *the* significantly more than *a*, suggesting that they have established a contrast between the two articles. As for the low proficiency Russian groups, the L1 Russian beginner group did not differ in accepting the target *the* and the non-target *a* in either of the definite conditions (this is shown by the numbers in bold in Table 22). This suggests that they have grammar that allows both forms. The L1 Russian intermediate group showed a significant difference in accepting *the* versus *a* in the previous mention condition. This difference was also approaching significance in the out-of-the-blue definite conditions. In contrast, both *the* and *a* were accepted to the same extent the unique bridging condition, suggesting that this condition is problematic for the intermediate learners.

7.2.1.1 Effect of the type of semantic context on the acceptability of *the* and *a*

In order to investigate the effect of the type of semantic context on the acceptability of articles (*the* versus *a*) across the three definite conditions, the target acceptance of *the* and the non-

target acceptance of *a* across the three indefinite conditions were compared. The target acceptance of *the* across the three definite contexts is visualised in Figure 16.

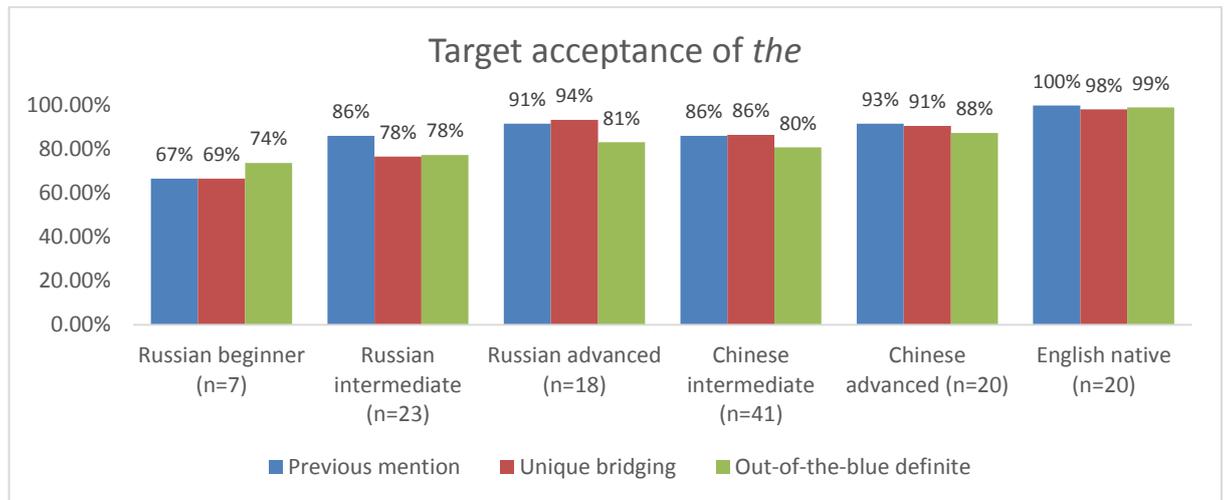


Figure 16. AJT: Acceptance of the target definite article across the definite conditions.

As can be seen from Figure 16, the L1 Russian advanced group and both of the L1 Chinese groups follow a similar trend: they accept *the* numerically more in the two anaphoric conditions (previous mention and unique bridging) than in the non-anaphoric condition (out-of-the-blue indefinite). The L1 Russian intermediate group accept *the* numerically more in one of the anaphoric conditions, previous mention, compared to the other two conditions. The L1 beginner group follows an opposite trend to the other groups: they accept *the* numerically more in the non-anaphoric condition than in the two anaphoric conditions.

In addition, since, as shown in the previous section, L2 learners accepted the non-target indefinite article in the definite conditions, the acceptance of *a* across the definite conditions was compared in order to investigate for the effect of context. The non-target acceptance of *a* across the three definite contexts is visualised in Figures 17.

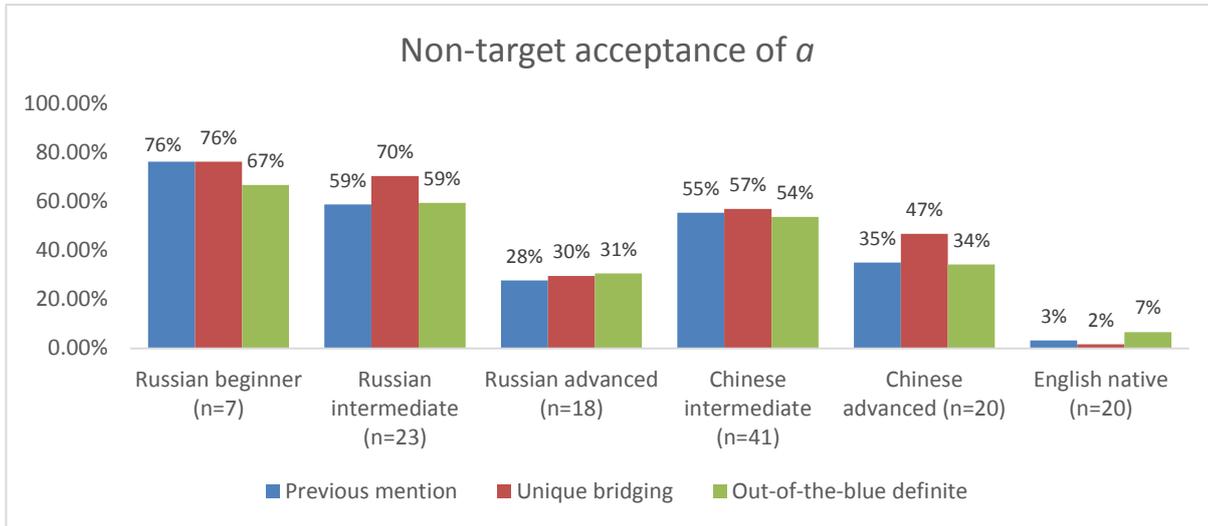


Figure 17. AJT: Acceptance of the non-target indefinite article across the definite conditions

Figure 17 illustrates that, the non-target acceptance of *a* exceeds 50% for the low proficiency groups (L1 Russian beginner and intermediate and L1 Chinese intermediate), but reduces with increasing proficiency. Figure 17 also shows that for some L2 learner groups, the L1 Russian intermediate and the L1 Chinese intermediate and advanced groups, the unique bridging condition yields the highest percentage of the non-target acceptance of *a*. The L1 Russian beginner group accept *a* numerically more in the two anaphoric conditions than in the non-anaphoric condition. The lowest percentage of the non-target acceptance of *a* (around 30%) is attested for the L1 Russian advanced group, who do not seem to differ in their judgments on *a* across the conditions.

To check whether there is a significant effect of the type of semantic context on acceptability of articles, repeated measures ANOVAs with article, acceptability and context as within-subject factors were conducted for each group. The results are presented in Table 23.

Table 23. AJT: the effect of the type of semantic context on acceptability of articles

Group	'the' (correct)	'a' (incorrect)
Russian beginner (n=7)	F(2,12)= .300, p= .746	F(2,12)= .218, p= .807
Russian intermediate (n=23)	F(2,44)= 1.816, p= .175	F(2,44)= 2.440, p= .099**
Russian advanced (n=18)	F(2,34)= 2.900, p= .069**	F(2,34)= .217, p=.806
Chinese intermediate (n=41)	F(2,80)= 2.162, p= .122	F(2,80)= .435, p=.649
Chinese advanced (n=20)	F(2,38)= 1.705, p= .195	F(2,38)= 4.632, p= .016*
English controls (n= 20)	F(2,38)= 1.541, p= .227,	F(2,38)= 2.038, p= .144

Note: significant values in bold; *statistically significant; **approaching significance

The ANOVAs revealed that the effect of the type of semantic context on the target acceptance of *the* is approaching significance for the L1 Russian advanced group, but is not significant for any other group. However, the effect of the type of semantic context on the non-target acceptance of *a* is significant for the L1 Chinese advanced group and is approaching significance for the L1 Russian intermediate group. Planned contrasts were further performed to localise the main effect of the type of semantic context on acceptability of articles in the definite conditions (see Appendix 8, Table 8.1 for the statistical analysis).

The results showed that the L1 Russian advanced group significantly differed in their acceptance rate of *the* in one of the anaphoric conditions compared to the non-anaphoric condition: they accepted the definite article significantly more in the anaphoric (unique bridging) condition than in the non-anaphoric (out-of-the-blue definite) condition. A similar contrast that is approaching significance was attested for the L1 Chinese intermediate group. Two other groups, the L1 Russian intermediate group and the L1 Chinese advanced group, also showed an approaching significance contrast in their acceptance rate in one of the anaphoric conditions, i.e. previous mention, compared to the non-anaphoric condition, accepting *the* more often in the former than the latter.

Although, no other contrasts were significant for these two groups, as seen in Figure 16, three of these L2 learner groups, the L1 Russian advanced, the L1 Chinese intermediate and the L1 Chinese advanced, showed a non-significant tendency of preferring *the* more often in the anaphoric condition (the previous mention condition for the L1 Russian advanced and L1 Chinese intermediate groups and the unique bridging condition for the L1 Chinese advanced group), than in the non-anaphoric out-of-the-blue definite condition. In contrast, the only attested tendency for the L1 Russian intermediate group was to prefer *the* more often in the anaphoric previous mention condition than in the other two conditions. Importantly, none of the groups accepted the definite article significantly more in the non-anaphoric condition compared to the anaphoric condition (which will go contra the predictions).

As for the non-target acceptance of *a*, the results in Table 23 show that the L1 Chinese advanced group are affected by the type of semantic context in their non-target acceptance of *a*. More specifically they accepted the non-target *a* significantly more in the anaphoric unique bridging condition than in the other two conditions. A similar contrast is attested for the L1 Russian intermediate group. These learners incorrectly accepted *a* significantly more often in the unique bridging condition than in the out-of-the-blue definite condition and showed an approaching significance tendency towards accepting *a* more often in the unique bridging condition than in the previous mention condition. The findings suggest that the two groups seem to be affected by the

type of semantic context in the non-target acceptance of *a*, with the unique bridging context resulting in the highest acceptance percentage.

7.2.1.2 Individual results

In order to ensure that the results attested at the group level also hold at the individual level and to investigate whether there are any individual learners who are target-like in accepting *the* and rejecting *a* across the definite conditions, the results of individual learners were analysed. An arbitrary cut-off point was chosen to characterise the individual learners into seven patterns: (a) target-like, (b) optional, (c) L1-based²⁰, (d) not predicted 1 (non-L1-based), (e) anaphoricity-based²¹, (f) not predicted 2, and (g) random (see Appendix 9, (1), for the criteria for the individual analysis). The number and percentage of participants per response are summarised in Table 24.

Table 24. Individual results in the definite conditions; number (percentage)

	Target-like	Optional	L1-based	Not predicted 1	Anaphoricity-based	Not predicted 2	Random
R beg (n=7)	0 (0%)	5 (72%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (28%)
R int (n=23)	2 (9%)	11 (48%)	3 (13%)	0 (0%)	1 (4%)	0 (0%)	6 (26%)
R adv (n=18)	7 (39%)	1 (6%)	0 (0%)	0 (0%)	2 (11%)	0 (0%)	8 (44%)
C int (n=41)	6 (15%)	13 (32%)	2 (5%)	0 (0%)	3 (7%)	0 (0%)	17 (41%)
C adv (n=20)	7 (35%)	6 (30%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (35%)

As can be seen from Table 24, the majority of the L1 Russian beginner learners (72%) and almost half of the L1 Russian intermediate learners fell into the optional response pattern. Thirty percent of the L1 Chinese intermediate and advanced groups also belonged to the optional response pattern. In other words, these learners were optionally accepting both articles across the definite conditions. In contrast, only one individual (6%) in the L1 Russian advanced group fell into this pattern.

The results also show that a big number of individuals in each of the L2 groups fell into the random pattern. That is, they were accepting and rejecting articles in a random way (not following

²⁰ The L1-based pattern is based on the predictions of the cline of difficulty in feature acquisition

²¹ The anaphoricity-based pattern is based on the incorrect association of *the* with anaphoricity

any of the above patterns). It is possible that these learners were choosing answers randomly because they were not paying attention to the task. In order to exclude the possibility of the effect of the task design on participants' performance, it is important to compare the individual results in the acceptability judgement task to the individual results in the written sentence production task.

However, the results also show that L2 learners are able to acquire the target contrast and that the percentage of learners who are becoming target-like increases with proficiency. Thus, 8 L2 learners are target-like in the intermediate groups, i.e. 2(9%) in the L1 Russian group and 6(15%) in the L1 Chinese group, and 14 L2 learners are target-like in the advanced groups, i.e. 7(39%) of the L1 Russian advanced learners and 7(35%) of the L1 Chinese learners are target-like. These findings show that, in total, 22 learners (20%) have acquired the target contrast between the definite and the indefinite article.

The individual results also show that 5 intermediate learners (3 (13%) in the L1 Russian group and 2(5%) in the L1 Russian Chinese group) fell into the L1-based pattern. These learners are more accurate at preferring the definite article in the previous mention condition, in which *the* expresses the feature [+familiar, +anaphoric], than in the unique bridging and out-of-the-blue definite conditions, in which it is the feature [+unique, ±anaphoric] which is expressed by *the*. In addition, none of the individuals fell into the not predicted, non-L1-based pattern. That is none of the learners was accurate in interpreting articles in the two uniqueness conditions than in the previous mention condition.

Six individuals (3(7%) in the L1 Chinese intermediate group, 1(4%) in the L1 Russian intermediate group and 2(11%) in the L1 Russian advanced group) fell into the anaphoricity-based pattern. In other words, these learners consistently preferred the definite article in the anaphoric conditions (previous mention and unique-bridging) more often than in the non-anaphoric condition (out-of-the-blue definite). None of the participants fell into the either of the not predicted patterns.

7.2.2 Results in the definite conditions testing the acceptability of *the* versus *that*

Recall that two definite conditions testing the acceptance of the definite article *the* versus the demonstrative *that* were included in the AJT: the previous mention with one salient antecedent condition and the previous mention with two equally salient antecedents condition. Figures 18 and 19 below present the participants' choices in the AJT across the two definite conditions which tested the interpretation of the definite article *the* versus the demonstrative *that* (see Appendix 7, Table 7.2 for the raw frequencies of the participants' choices)

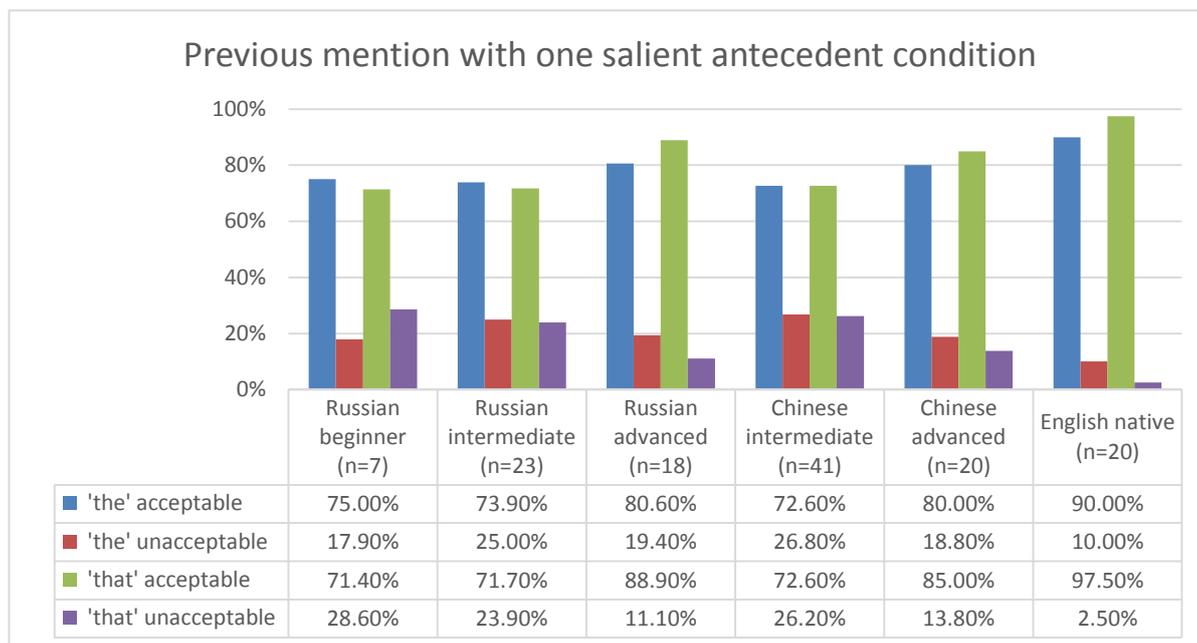


Figure 18. AJT: Acceptance of *the* and *that* in the previous mention with one salient antecedent condition; target: both *the* and *that*

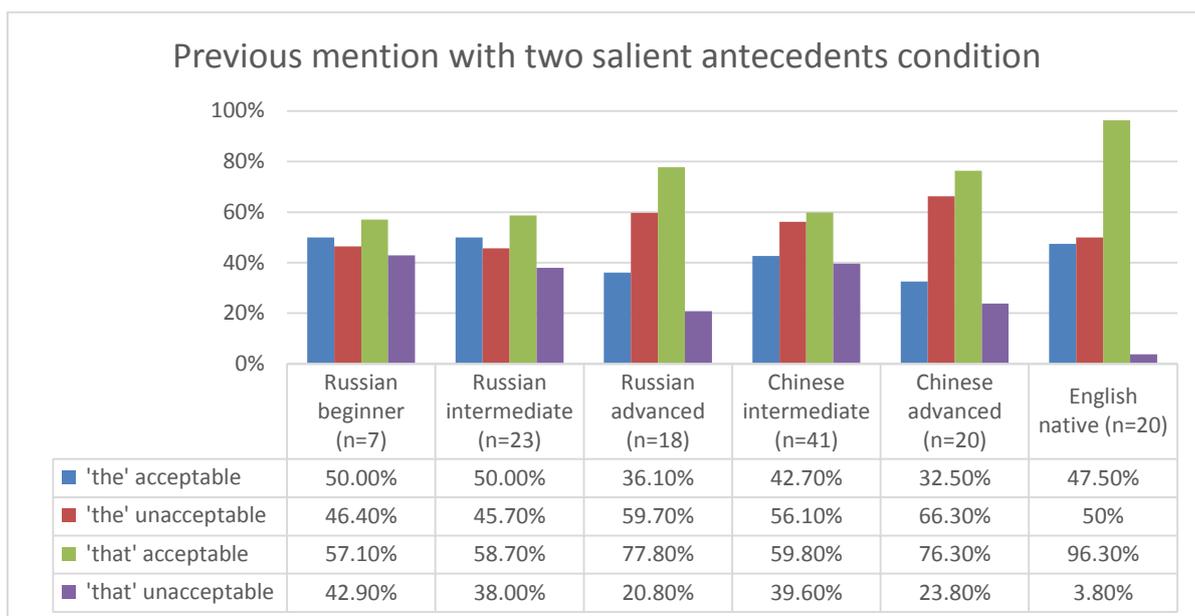


Figure 19. AJT: Acceptance of *the* and *that* in the previous mention with two equally salient antecedents condition; target: *that* but not *the*

Figure 18 shows that the English native speakers as well as the L2 learners across all groups accept both *the* and *that* to a high extent in the previous mention with one salient antecedent. Recall that in this condition both *the* and *that* are acceptable.

In contrast, *that* but not *the* should be preferred in the previous mention with two equally salient antecedents condition. However, diverging from the claims in the semantics literature, while the English native speakers accept *that* in this condition almost 100% of the time, they also accept *the* almost 50% of the time (Figure 19). In other words, they allow *the* to pick out the immediately salient antecedent in a situation with two equally salient antecedents. As predicted, the L2 learners also accept both *the* and *that* in this condition.

In order to ensure that L2 learners make a distinction between accepting and rejecting *the* and *that* a series of non-parametric chi-square tests were performed to compare the actual frequencies of the L2 learners' choices in accepting and rejecting *the* and *that* across the two definite conditions. Tables 25 and 26 present the results.

Table 25. Difference between raw frequencies of the acceptance and rejection of *that* across the definite conditions

	Previous mention with one salient antecedent; target <i>that</i> acceptable		Previous mention with two equally salient antecedents; target <i>that</i> acceptable	
	<i>that</i> acceptable	<i>that</i> not acceptable	<i>that</i> acceptable	<i>that</i> not acceptable
Russian beginner (n=7)	20/28 (71.4%) $\chi^2= 5.143$, p=.023*	8/28 (28.6%)	16/28 (57.1%) $\chi^2= .571$, p= .450	12/28 (42.9%)
Russian intermediate (n=23)	66/92 (71.7%) $\chi^2= 22.000$, p <.0001*	22/92 (23.9%)	54/92 (58.7%) $\chi^2= 4.056$, p=.044*	35/92 (38.0%)
Russian advanced (n=18)	64/72 (88.9%) $\chi^2= 43.556$, p <.0001*	8/72 (11.1%)	56/72 (77.8%) $\chi^2= 23.676$, p <.0001*	15/72 (20.8%)
Chinese intermediate (n=41)	119/164 (72.6%) $\chi^2= 35.654$, p <.0001*	43/164 (26.2%)	98/164 (59.8%) $\chi^2= 6.681$, p= .010*	65/164 (39.6%)
Chinese advanced (n=20)	68/80 (85.0%) $\chi^2= 41.127$, p <.0001*	11/80 (13.8%)	61/80 (76.3%) $\chi^2= 22.050$, p <.0001*	19/80 (23.8%)
English controls (n= 20)	78/80 (97.5%) $\chi^2= 72.200$, p <.0001*	2/80 (2.5%)	77/80 (96.3%) $\chi^2= 68.450$, p <.0001*	3/80 (3.8%)

Note: *statistically significant; not significant values in bold

As can be seen in Table 25, the English native speaker group, the two intermediate groups and the two advanced group accept *that* significantly more than reject it across the two conditions. The performance of these L2 learner groups suggests that they know that *that* is the appropriate form in the two definite conditions. In contrast, the L1 Russian beginner group show the target contrast in the previous mention with one salient antecedent condition, but not in the previous mention with two equally salient antecedents condition.

Table 26. Difference between raw frequencies of the acceptance and rejection of *the* across the definite conditions

	Previous mention with one salient antecedent; target <i>the</i> acceptable		Previous mention with two equally salient antecedents; target <i>the</i> not acceptable	
	<i>the</i> acceptable	<i>the</i> not acceptable	<i>the</i> acceptable	<i>the</i> not acceptable
Russian beginner (n=7)	21/28 (75.0%) $\chi^2= 9.846$, p=.002*	5/28 (17.9%)	14/28 (50.0%) $\chi^2= .037$, p= .847	13/28 (46.4%)
Russian intermediate (n=23)	68/92 (73.9%) $\chi^2= 22.253$, p <.0001*	23/92 (25.0%)	46/92 (50.0%) $\chi^2= .182$, p=.670	42/92 (45.7%)
Russian advanced (n=18)	58/72 (80.6%) $\chi^2= 26.889$, p <.0001*	14/72 (19.4%)	26/72 (36.1%) $\chi^2= 4.188$, p=.041*	43/72 (59.7%)
Chinese intermediate (n=41)	119/164 (72.6%) $\chi^2= 34.509$, p <.0001*	44/164 (26.8%)	70/164 (42.7%) $\chi^2= 2.988$, p=.084**	92/164 (56.1%)
Chinese advanced (n=20)	64/80 (80%) $\chi^2= 30.392$, p <.0001*	15/80 (18.8%)	26/80 (32.5%) $\chi^2= 9.228$, p=.002*	53/80 (66.3%)
English controls (n= 20)	72/80 (90.0%) $\chi^2= 51.200$, p <.0001*	8/80 (10.0%)	38/80 (47.5%) $\chi^2= .051$, p=.821	40/80 (50.0%)

Note: *statistically significant; ** approaching significance; not significant values in bold

Table 26 shows that the English native speakers and all L2 groups accepted *the* significantly more than rejected it in the previous mention with one salient antecedent condition. The performance of these L2 learners groups suggests that they know that *the* is the appropriate form in this condition.

In contrast, *the* should be rejected in the previous mention with two equally salient antecedent condition. However, the results in this condition show that the English native speaker control group accepted and rejected *the* to the same extent in the two equally salient antecedents condition. The lower proficiency L1 Russian groups followed a similar trend. In contrast to the native speakers' results, the two advanced groups showed the target contrast: they rejected *the* significantly more than accepted it in this condition. The contrast was also approaching significance for the L1 Chinese intermediate group.

In order to investigate whether the English native speakers as well as the L2 learners prefer one form over the other across the two conditions, a series of non-parametric chi-square tests were performed to compare the actual frequencies of the participants' choices in accepting *the* versus accepting *that* across the two definite conditions. A significant *p* value indicates that the participants show a contrast between accepting *the* and accepting *that*. The results are summarised in Table 27.

Table 27. Difference between the raw frequencies of the participants' choices of *the* vs. *that* across the two definite conditions

	Previous mention with one salient antecedent		Previous mention with two equally salient antecedents	
	<i>the</i> acceptable	<i>that</i> acceptable	<i>the</i> acceptable	<i>that</i> acceptable
Russian beginner (n=7)	21/28 (75.0%)	20/28 (71.4%)	14/28 (50.0%)	16/28 (57.1%)
	$\chi^2=.024, p=.876$		$\chi^2=.133, p=.715$	
Russian intermediate (n=23)	68/92 (73.9%)	66/92 (71.7%)	46/92 (50.0%)	54/92 (58.7%)
	$\chi^2=.030, p=.863$		$\chi^2=.640, p=.424$	
Russian advanced (n=18)	58/72 (80.6%)	64/72 (88.9%)	26/72 (36.1%)	56/72 (77.8%)
	$\chi^2=.295, p=.587$		$\chi^2= 10.976, p=.001^*$	
Chinese intermediate (n=41)	119/164 (72.6%)	119/164 (72.6%)	70/164 (42.7%)	98/164 (59.8%)
	$\chi^2=n/a, p = 1.000$		$\chi^2=4.667, p = .031^*$	
Chinese advanced (n=20)	64/80 (80.0%)	68/80 (85.0%)	26/80 (32.5%)	61/80 (76.3%)
	$\chi^2=.121, p = .728$		$\chi^2=14.080, p <.0001^*$	
English controls (n= 20)	72/80 (90.0%)	78/80 (97.5%)	38/80 (47.5%)	77/80 (96.3%)
	$\chi^2=.240, p =.624$		$\chi^2=13.226, p <.0001^*$	

*statistically significant; significant values in bold

As can be seen from Table 27, neither the English native speakers nor the L2 learner groups differed significantly in accepting *the* and *that* in the previous mention with one salient antecedent condition, in which both forms are felicitous.

As for the previous mention with two equally salient antecedents condition, although the English native controls unexpectedly allowed *the* in this condition, they, nevertheless, preferred *that* significantly more than *the*. Similar to the native controls, three of the L2 learner groups, i.e. the L1 Russian advanced and the two L1 Chinese groups, demonstrated a significant distinction in preferring *that* over *the* in this condition. In contrast, the L1 Russian beginner and intermediate groups did not show such a distinction, accepting both forms around half of the time. The performance of the less proficient learners suggests that these learners have not yet acquired the target contrast between the two forms.

7.2.2.1 Effect of the type of semantic context on the acceptability of *the* versus *that*

In order to investigate whether the L2 learners make a distinction between the two types of the definite conditions, their judgments of *the* and *that* in the two conditions were compared, as illustrated in Figures 20 and 21 respectively.

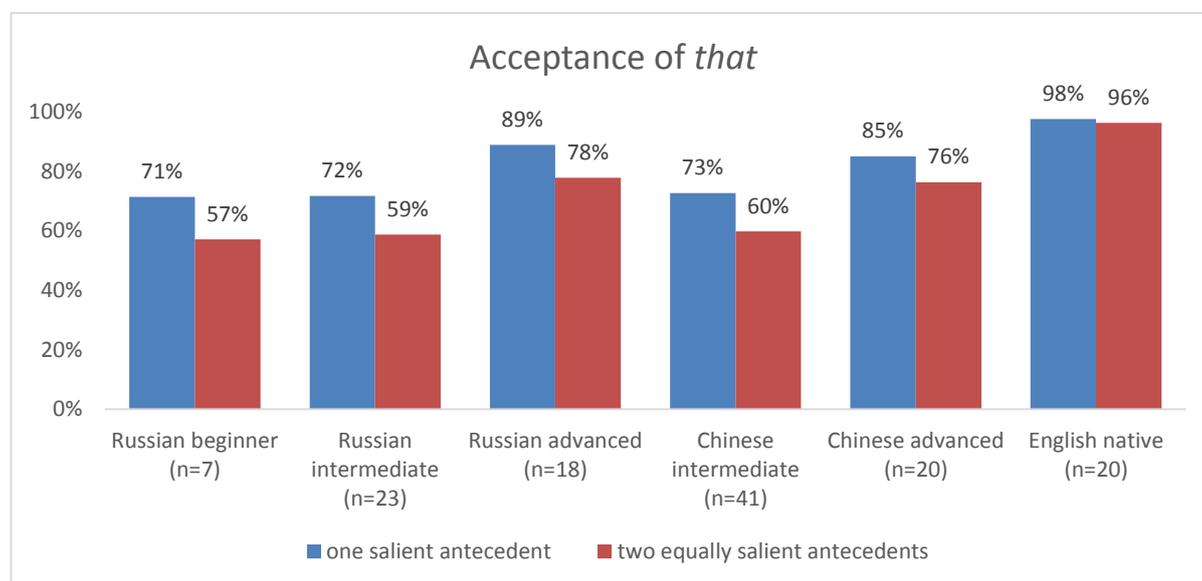


Figure 20. AJT: Acceptance of *that* in the one salient antecedent condition versus the two equally salient antecedents condition

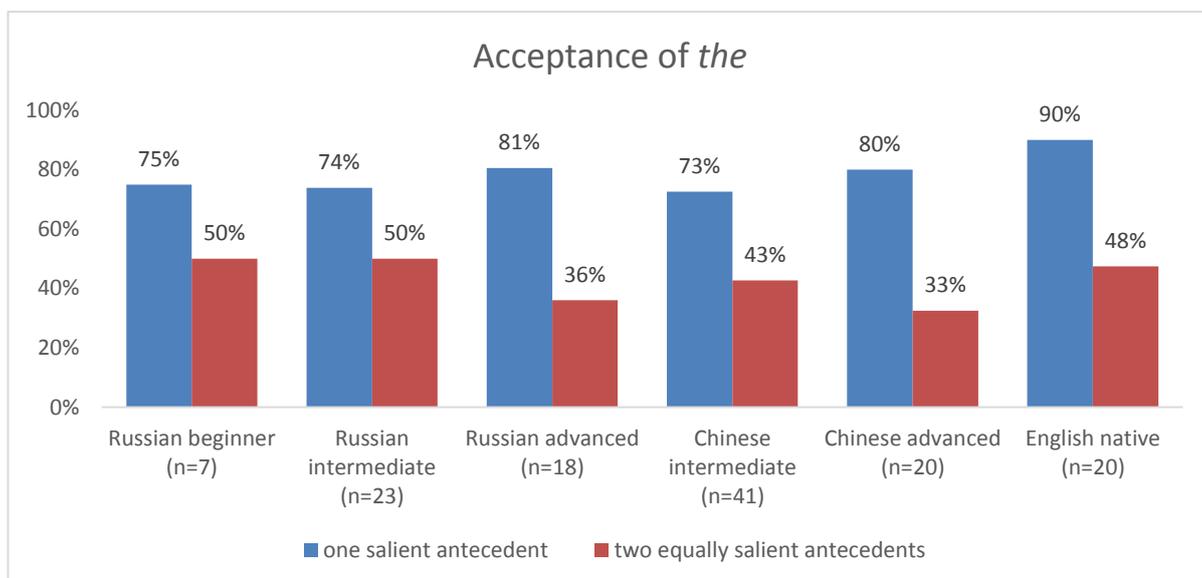


Figure 21. AJT: Acceptance of *the* in the one salient antecedent condition versus the two equally salient antecedents condition

As can be seen from Figure 20, while the English native speakers seem to accept *that* to the same extent in the two definite conditions, all of the L2 learner groups prefer *that* more often in the previous mention with one salient antecedent condition than in the previous mention with two salient antecedents condition. As for the acceptance of *the* (Figure 21), the English native speakers and the L2 learners across all groups follow a similar trend: they prefer *the* in the one salient antecedent condition more often than in the two salient antecedents condition.

To check whether there is a significant effect of the type of semantic context on acceptability of *the* and *that*, repeated measures ANOVAs with the determiner type, acceptability and context as within-subject factors were conducted for each group. The results are presented in Table 28.

Table 28. The effect of the type of semantic context on acceptability of *that* and *the*

Group	One salient referent vs. two salient referents: <i>that</i>	One salient referent vs. two salient referents: <i>the</i>
R beg (n=7)	F(1,6)= 3.692, p= .103	F(1,6)= 4.200, p= .086**
R int (n=23)	F(1,22)= 4.312, p= .050*	F(1,22)= 7.595, p= .012*
R adv (n=18)	F(1,17)= 1.985, p= .177	F(1,17)= 64.000, p >.0001*
C int (n=41)	F(1,40)= 2.823, p= .101	F(1,40)= 29.121, p >.0001*
C adv (n=20)	F(1,19)= 1.896, p= .185	F(1,19)= 28.699, p >.0001*
E nat (n= 20)	F(1,19)= .322, p= .577	F(1,19)= 23.771, p >.0001*

Note: significant values in bold; *statistically significant; **approaching significance

The ANOVAs revealed that the effect of the type of definite contexts on the acceptance of *that* was significant for the L1 Russian intermediate group but not for the other groups. These learners preferred *that* significantly more in the one salient antecedent condition than in the two equally salient antecedents condition. As can be seen from Figure 20, the judgments of the L1 Russian beginner group are numerically very similar to those of the L1 Russian intermediate group. The absence of the significant effect for the beginner group might be attributed to a small sample size (n =7).

As for the acceptance of *the*, the effect of the type of definite contexts on the acceptance of *the* was highly significant for the English native speakers and the more advanced groups. The effect of the type of context was also significant for the less proficient L1 Russian intermediate group and was approaching significance for the L1 Russian beginner group. In other words, the acceptance of *the* differed depending on the context type: higher acceptance in the one salient antecedent condition compared to the two equally salient antecedents condition, suggesting sensitivity to the target contrast.

7.2.2.2 Individual results

In order to ensure that the results attested at the group level also hold at the individual level and to investigate whether the group results in the previous mention with two equally salient antecedents condition are due to the performance of the individual learners, the results of individual learners were analysed. The participants were divided into three patterns: (1) individuals who accepted the target *that* in 3 out of 4 test items and accepted the non-target *the* once or never (no more than 1 out of 4 items) were characterised into the target-like pattern; (2) individuals who accepted the target *that* in 3 out of 4 test items but also accepted *the* in at least 2 (or more) out of 4 items were characterised into the non-target pattern; (3) individuals who did not fit in either of the above patterns were characterised into the ‘other’ pattern. The results are summarised in Table 29.

Table 29. Number of individuals who accepted *the* in the previous mention with two equally salient antecedents condition

	Target-like	Non-target	Other
Russian beginner (n=7)	0/7 (0%)	3/7 (43%)	4/7 (57%)
Russian intermediate (n=23)	1/23 (4%)	11/23 (48%)	11/23 (48%)
Russian advanced (n=18)	9/18 (50%)	6/18 (33%)	3/18 (17%)

Chinese intermediate (n=41)	7/41 (17%)	15/41 (37%)	19/41 (46%)
Chinese advanced (n=20)	10/20 (50%)	5/20 (25%)	5/20 (25%)
English controls (n=20)	9/20* (45%)	10/20 (50%)	1/20 (5%)

*seven of the nine English controls never accepted *the*

The results in Table 29 show that while 9 out of 20 English native speakers accepted *the* only once in the previous mention with two equally salient antecedents condition, 10 (50%) native speakers allowed *the* in this condition half of the time. These results suggest that while some native speakers consistently rejected *the* in a situation with two equally salient antecedents (in line with the claims in the semantics literature), almost half of the native speakers consistently allowed *the* in this condition (contra the claims in the semantics literature).

The results of the L2 individual learners show that almost 50% of the learners in the two lower proficiency groups, the L1 Russian beginner and intermediate groups, accepted *the* in the previous mention with two equally salient antecedents condition half of the time. However, the results also show that the number of individuals who incorrectly accept *the* reduces with increasing proficiency. Thus, only 25% of the L1 Chinese advanced learners and 33% of the L1 Russian advanced learners allow *the* in this condition. In addition, 50% of the L1 Russian advanced and L1 Chinese advanced learners performed in a target-like way, suggesting that the acquisition of the target constraint is possible.

7.2.3 Results in the indefinite conditions

The acceptability of articles, *a* versus *the*, in three indefinite conditions, partitive, non-unique bridging and out-of-the-blue indefinite, was investigated in the AJT. In these conditions, the only acceptable, i.e., target, article is the indefinite article, while the definite article should be rejected. Figures 22, 23 and 24 present the participants' choices in the AJT across the three indefinite conditions (see Appendix 7, Table 7.3 for the raw frequencies of the participants' choices).

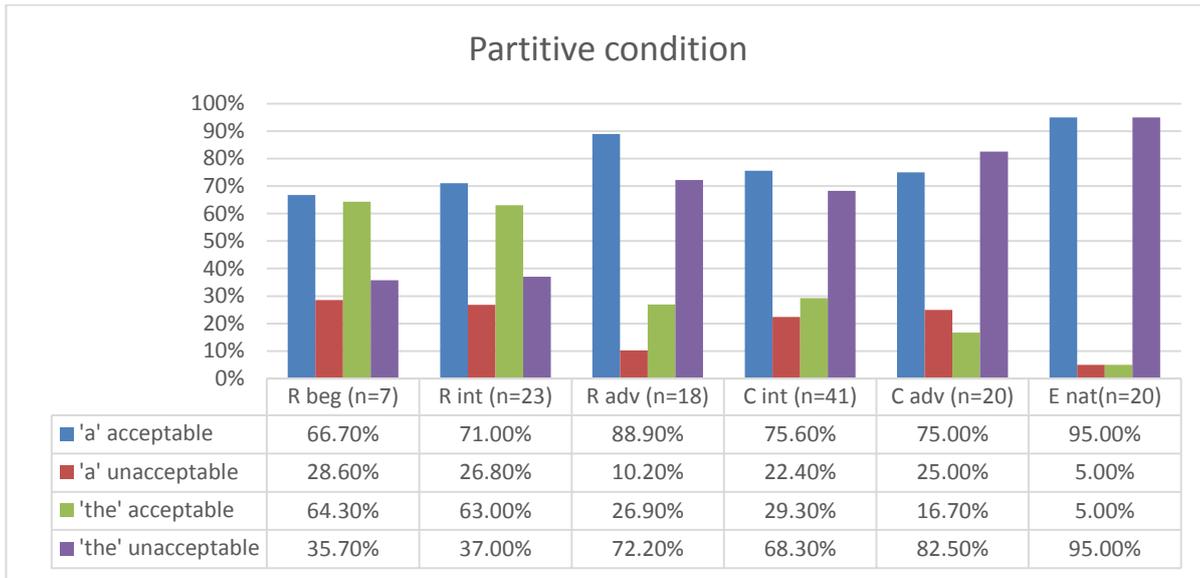


Figure 22. AJT: Percentage of responses in the partitive condition across the groups

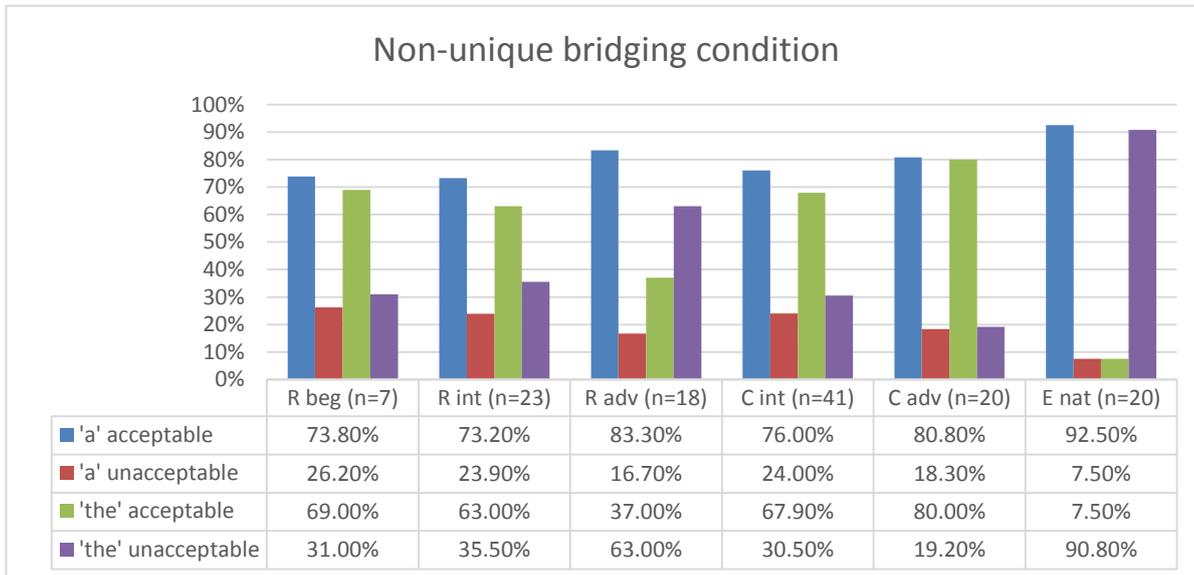


Figure 23. AJT: Percentage of responses in the non-unique bridging condition across the groups

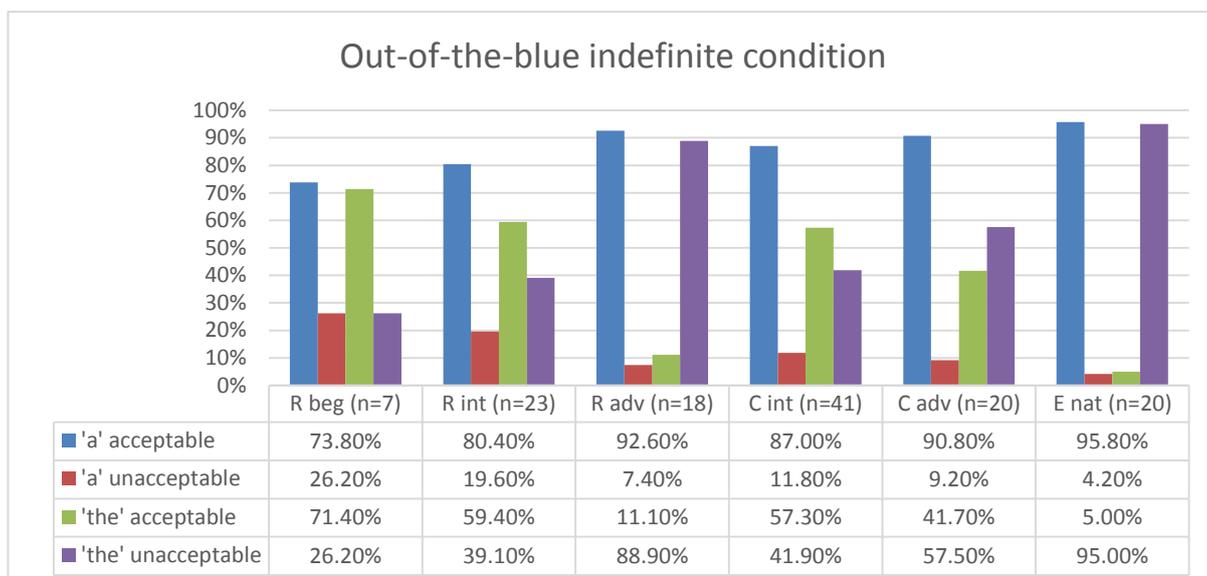


Figure 24. AJT: Percentage of responses in the out-of-the-blue indefinite condition across the groups

The results show that the English native speakers accept the target indefinite article across the three indefinite conditions, hardly ever accepting the non-target definite article. While the L2 learner groups also accept the target indefinite article, they allow the non-target definite article across the indefinite conditions.

In order to ensure that L2 learners make a distinction between accepting and rejecting the target *a*, on the one hand, and the non-target *the*, on the other, a series of non-parametric chi-square tests were performed to compare the actual frequencies of the L2 learners' choices in accepting and rejecting *a* and *the* across the three indefinite conditions. If L2 learners know that *a* is the appropriate article in the indefinite conditions, they should be accepting *a* significantly more than rejecting (not accepting) it. At the same time, they should be rejecting the inappropriate definite article significantly more than accepting it. Tables 30 and 31 present the results.

Table 30. AJT: Difference between the raw frequencies of the acceptance and rejection of *a* across the indefinite conditions; target *a* acceptable

	Partitive		Non-unique bridging		Out-of-the-blue indefinite	
	<i>a</i> acceptable	<i>a</i> not acceptable	<i>a</i> acceptable	<i>a</i> not acceptable	<i>a</i> acceptable	<i>a</i> not acceptable
Russian beginner (n=7)	28/42 $\chi^2= 6.400, p =.011^*$	12/42	31/42 $\chi^2=9.524, p= .002^*$	11/42	31/42 $\chi^2=7.364, p =.007^*$	11/42
Russian intermediate (n=23)	98/138 $\chi^2= 27.563, p <.0001^*$	37/138	101/138 $\chi^2=34.507, p <.0001^*$	33/138	111/138 $\chi^2=24.025, p <.0001^*$	27/138
Russian advanced (n=18)	96/108 $\chi^2=26.173, p <.0001^*$	11/108	90/108 $\chi^2=48.000, p <.0001^*$	18/108	100/108 $\chi^2=78.370, p <.0001^*$	8/108

Chinese intermediate (n=41)	186/246 $\chi^2=99.556, p < .0001^*$	55/246 $\chi^2=66.602, p < .0001^*$	187/246 $\chi^2=140.844, p < .0001^*$	59/246 $\chi^2=80.033, p < .0001^*$	214/246 $\chi^2=97.200, p < .0001^*$	29/246 $\chi^2=86.700, p < .0001^*$
Chinese advanced (n=20)	90/120 $\chi^2=97.200, p < .0001^*$	30/120 $\chi^2=84.746, p < .0001^*$	97/120 $\chi^2=97.200, p < .0001^*$	22/120 $\chi^2=84.746, p < .0001^*$	109/120 $\chi^2=97.200, p < .0001^*$	11/120 $\chi^2=84.746, p < .0001^*$
English controls (n= 20)	114/120 $\chi^2=97.200, p < .0001^*$	6/120 $\chi^2=84.746, p < .0001^*$	111/120 $\chi^2=97.200, p < .0001^*$	9/120 $\chi^2=84.746, p < .0001^*$	115/120 $\chi^2=97.200, p < .0001^*$	5/120 $\chi^2=84.746, p < .0001^*$

*statistically significant at $\alpha = .05$

Table 31. AJT: Difference between the raw frequencies of the acceptance and rejection of *the* across the definite conditions; target *the* not acceptable

	Partitive contexts		Non-unique bridging contexts		Out-of-the-blue indefinite context	
	<i>the</i> acceptable	<i>the</i> not acceptable	<i>the</i> acceptable	<i>the</i> not acceptable	<i>the</i> acceptable	<i>the</i> not acceptable
Russian beginner (n=7)	27/42 $\chi^2=3.429, p = .064^*$	15/42	29/42 $\chi^2=6.095, p = .014^*$	13/42	30/42 $\chi^2=8.805, p = .003^*$	11/42
Russian intermediate (n=23)	87/138 $\chi^2=9.391, p = .002^*$	51/138	87/138 $\chi^2=10.618, p = .001^*$	49/138	82/138 $\chi^2=5.765, p = .016^*$	54/138
Russian advanced (n=18)	29/108 $\chi^2=22.439, p < .0001^*$	78/108	40/108 $\chi^2=7.259, p = .007^*$	68/108	12/108 $\chi^2=65.333, p < .0001^*$	96/108
Chinese intermediate (n=41)	72 /246 $\chi^2=38.400, p < .0001^*$	168/246	167/246 $\chi^2=34.975, p < .0001^*$	75 /246	141/246 $\chi^2=5.918, p = .015^*$	103/246
Chinese advanced (n=20)	20/120 $\chi^2=52.445, p < .0001^*$	99/120	96/120 $\chi^2=44.782, p < .0001^*$	23/120	50/120 $\chi^2=3.034, p = .082^{**}$	69/120
English controls (n= 20)	6/120 $\chi^2=97.200, p < .0001^*$	114/120	9/120 $\chi^2=84.746, p < .0001^*$	109/120	6/120 $\chi^2=97.200, p < .0001^*$	114/120

Note: *statistically significant; ** approaching statistical significance; highlighted cells represent statistical significance in the opposite (non-target) direction

As can be seen from Table 30, the English native speakers as well as the L2 learners across all groups accept the target *a* significantly more than they reject it. These results seem to suggest that L2 learners know that the indefinite article is the appropriate article in the indefinite conditions. However, in order to ascertain that this is indeed the case it is important to see that L2 learners also reject the non-target *the* significantly more than they accept it in the indefinite conditions. Although, as can be seen from Table 31, the comparisons are significant for all groups, the L1 Russian advanced group is the only L2 group (in addition to the English native speakers) who consistently rejected *the* significantly more than accepted it across the indefinite conditions. Although the two other L1 Russian groups, beginner and intermediate, also made a significant contrast, this contrast is in the opposite direction. That is, they accept *the* significantly more than they reject it across the indefinite conditions. The performance of the L1 Russian beginner and intermediate learners across the indefinite conditions suggests that they have difficulty deciding which article is appropriate in these conditions, thus accepting both *a* and *the* significantly more than rejecting them.

As for the L1 Chinese groups, both groups made the target distinction, i.e., rejected *the* more often than accepted it, in the partitive condition. In contrast, they accepted *the* significantly more than rejected it in the non-unique bridging condition. The L1 Chinese intermediate group also accepted *the* significantly more than rejected it in the out-of-the-blue indefinite condition. However, it seems that the target rejection versus acceptance of *the* in the same condition is approaching significance for the L1 Chinese advanced group.

However, due to the nature of the AJT in this study, in which L2 learners might choose to accept rather than reject a given sentence, it is important to see whether learners make a distinction between accepting the appropriate indefinite article and accepting the inappropriate definite article in the indefinite conditions. In other words, if learners prefer *a* over *the* this will suggest that L2 learners distinguish between the two forms. A series of non-parametric chi-square tests were performed to compare the actual frequencies of the L2 participants' choices in accepting *a* versus accepting *the* across the three indefinite conditions. The results are summarised in Table 32.

Table 32. AJT: Difference between the raw frequencies of the participants' choices of *a* vs. *the* across the three indefinite conditions: target *a*

	Partitive		Non-unique bridging		Out-of-the-blue indefinite	
	<i>a</i> acceptable	<i>the</i> acceptable	<i>a</i> acceptable	<i>the</i> acceptable	<i>a</i> acceptable	<i>the</i> acceptable
Russian beginner (n=7)	28/42 $\chi^2 = .018, p = .893$	27/42	31/42 $\chi^2 = .067, p = .796$	29/42	31/42 $\chi^2 = .016, p = .898$	30/42
Russian intermediate (n=23)	98/138 $\chi^2 = .654, p = .419$	87/138	101/138 $\chi^2 = 1.043, p = .307$	87/138	111/138 $\chi^2 = 4.358, p = .037^*$	82/138
Russian advanced (n=18)	96/108 $\chi^2 = 35.912, p < .0001^*$	29/108	90/108 $\chi^2 = 19.231, p < .0001^*$	40/108	100/108 $\chi^2 = 69.143, p < .0001^*$	12/108
Chinese intermediate (n=41)	186/246 $\chi^2 = 50.372, p < .0001^*$	72/246	187/246 $\chi^2 = 1.130, p = .288$	167/246	214/246 $\chi^2 = 15.011, p < .0001^*$	141/246
Chinese advanced (n=20)	90/120 $\chi^2 = 44.545, p < .0001^*$	20/120	97/120 $\chi^2 = .005, p = .943$	96/120	109/120 $\chi^2 = 21.893, p < .0001^*$	50/120
English controls (n= 20)	114/120 $\chi^2 = 97.200, p < .0001^*$	6/120	111/120 $\chi^2 = 86.700, p < .0001^*$	9/120	115/120 $\chi^2 = 98.190, p < .0001^*$	6/120

*statistically significant; significant results in bold

As can be seen from Table 32, the English control group accepted the target indefinite article significantly more than the non-target definite article across the three indefinite conditions. Similar to the English native speakers, the L1 Russian advanced group was target-like in accepting *a* significantly more than *the* in these conditions. In contrast, the L1 Russian beginner group did

not differ in accepting *a* and *the* in either of the indefinite conditions, while the L1 Russian intermediate group made a significant distinction between accepting *a* and accepting *the* in the out-of-the-blue indefinite condition but not in the two anaphoric conditions. The two L1 Chinese groups were target-like in accepting *a* in the partitive and out-of-the-blue indefinite conditions, but they did not differ in accepting *a* and *the* in the non-unique bridging condition.

7.2.3.1 Effect of the type of semantic context on the acceptability of *a* and *the*

In order to investigate the effect of the type of semantic context on acceptability of *a* across the three indefinite conditions, the target acceptance of *a* and the non-target acceptance of *the* across the three indefinite conditions were compared. Figures 25 and 26 visualise the acceptance (mean percentage) of *a* and *the*, respectively, across the groups.

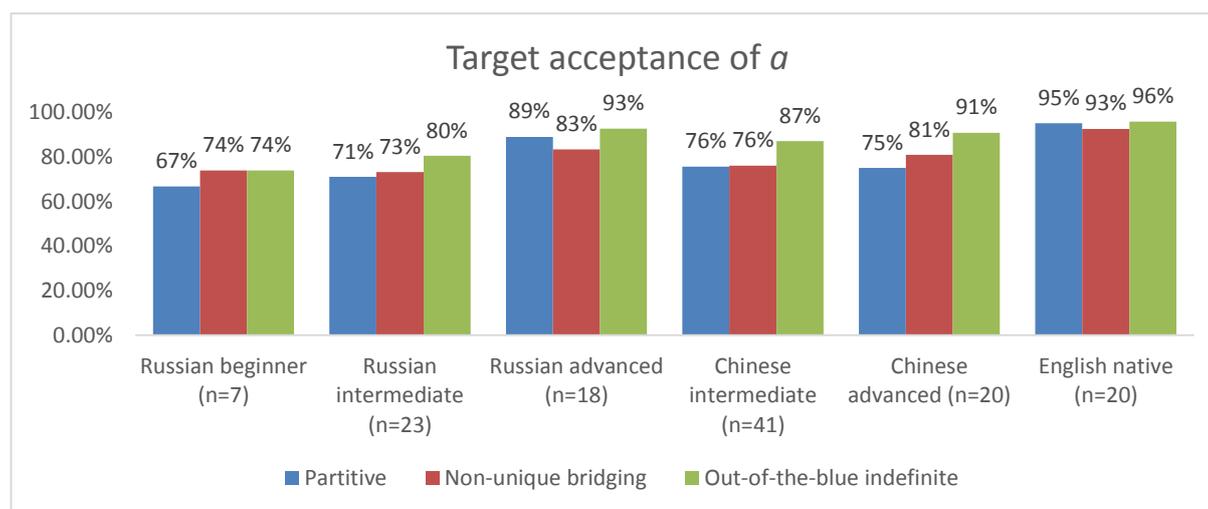


Figure 25. AJT: Acceptance of the target indefinite article across the indefinite conditions

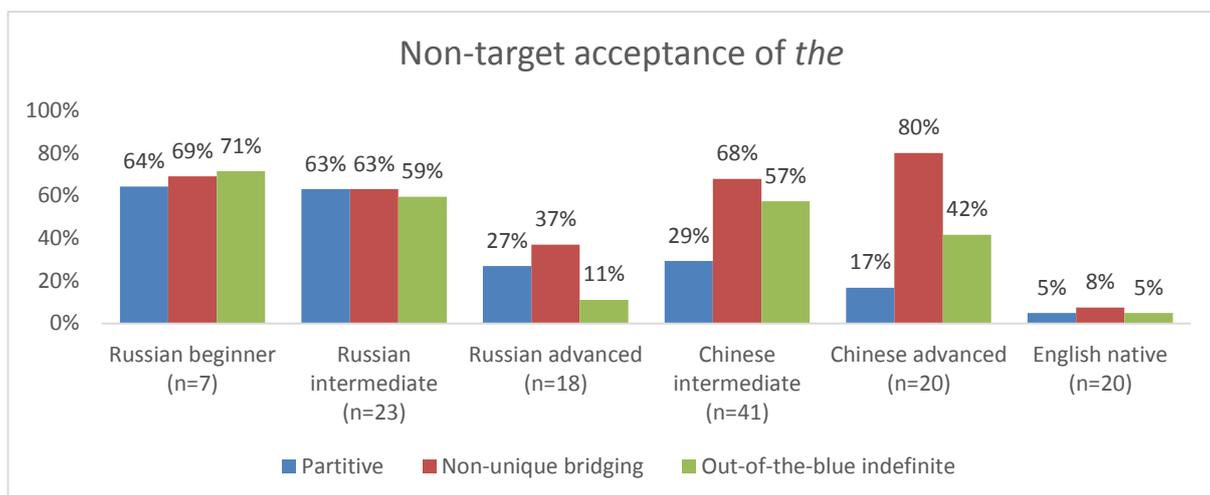


Figure 26. AJT: Acceptance of the non-target definite article across the indefinite conditions

As can be seen from Figure 25, the acceptance rate of the target indefinite article is high across the L2 learner groups. It can also be seen that the two intermediate groups and the two advanced groups follow a similar trend: they accept *a* more often in the non-anaphoric out-of-the-blue indefinite condition, than in the two anaphoric conditions. The L1 Russian beginner group seem more accurate at accepting *a* in the non-unique bridging and out-of-the-blue indefinite conditions than in the partitive condition.

Figure 26 illustrates that, while the English native controls hardly ever allow the infelicitous definite article across the indefinite conditions, the L2 learners across different L1s and proficiency groups tend to allow the non-target *the* with indefinite NPs. Thus, the lower proficiency L1 Russian groups accept the non-target definite article around 60% of the time across the conditions. The acceptance of the non-target *the* decreases for the L1 Russian advanced group almost disappearing in the out-of-the-blue indefinite condition (11%). However, *the* acceptance is still present in the two anaphoric conditions for this group. As for the L1 Chinese groups, the non-unique bridging condition elicits the highest acceptance rate of *the* for these learners, reaching 80% for the advanced group. These L2 learners also accept *the* more often in the out-of-the-blue indefinite condition than in the partitive condition.

In order to investigate whether there is an effect of the type of semantic context on acceptability of articles in the indefinite conditions, repeated measures ANOVAs with article, acceptability and context as within-subject factors were conducted for each group. The results are presented in Table 33.

Table 33. AJT: the effect of the type of semantic context on acceptability of articles

Group	'a' (correct)	'the' (incorrect)
Russian beginner (n=7)	F(2,12)= .478, p= .632	F(2,12)= .101, p= .905
Russian intermediate (n=23)	F(2,44)= 1.569, p= .220	F(2,44)= .220, p= .803
Russian advanced (n=18)	F(2,34)= .452, p= .640	F(2,34)= 11.592, p<.0001*
Chinese intermediate (n=41)	F(2,80)= 1.986, p= .144	F(2,80)= 24.189, p<.0001*
Chinese advanced (n=20)	F(2,38)= 2.959, p= .064**	F(2,38)= 45.100, p<.0001*
English controls (n= 20)	F(2,38)= .712 , p= .497	F(2,38)= .896, p= .417

Note: significant values in bold; *statistically significant; **approaching significance

The ANOVAs revealed the effect of the type of indefinite contexts on the target acceptance of the indefinite article is approaching significance for the L1 Chinese advanced group, but is not significant for the other groups. The effect of the type of indefinite contexts on the non-target acceptance of the definite article is highly significant for the L1 Russian group and the L1 Chinese intermediate and advanced groups. No other significant effects were attested. Planned contrasts were further performed to localise the main effect of the type of indefinite contexts on acceptability of articles (see Appendix 8, Table 8.2 for the statistical analysis).

The results showed that the two lower proficiency L2 learner groups, the L1 Russian beginner and intermediate, do not differ in accepting the target *a* and the non-target *the* across the indefinite conditions, allowing both forms to the same extent. The results also show that the L1 Russian advanced group accept *the* significantly more in the two anaphoric conditions than in the non-anaphoric condition.

As for the L1 Chinese groups, both of these groups prefer the target *a* significantly more in the out-of-the-blue indefinite condition than in the non-unique bridging condition. The L1 Chinese advanced group also show an approaching significance contrast between preferring *a* in the out-of-the-blue condition compared to the partitive condition. A similar non-significant trend is also attested for the L1 Chinese intermediate group. As for the non-target acceptance of *the*, the L1 Chinese groups accept *the* significantly more in the non-unique bridging condition than in the other two conditions. The L1 Chinese groups also accept *the* significantly more in the out-of-the-blue indefinite condition than in the partitive condition.

7.2.3.2 Individual results

In order to ensure that the results attested at the group level also hold at the individual level and to investigate whether there are any individual learners who are target-like in interpreting *a*

across the definite conditions, the results of individual learners were analysed. An arbitrary cutoff point was chosen to characterise the individual learners into seven patterns (the same patterns used in the definite conditions but with different criteria): (a) target-like, (b) optional, (c) L1-based, (d) not predicted 1 (non-L1-based), (e) anaphoricity-based, (f) not predicted 2, and (g) random (see Appendix 9, (2), for the criteria for the individual analysis). The number and percentage of participants per response is summarised in Table 34.

Table 34. AJT: Individual results in the indefinite conditions; number (percentage)

	Target-like	Optional	L1-based*	Not predicted 1	Anaphoricity-based	Not predicted 2	Random
R beg (n=7)	0 (0%)	4 (57%)	0 (0%)	n/a **	0 (0%)	n/a	3 (43%)
R int (n=23)	0 (0%)	9 (39%)	0 (0%)	n/a	0 (0%)	n/a	14 (61%)
R adv (n=18)	7 (39%)	0 (0%)	0 (0%)	n/a	3 (17%)	n/a	8 (44%)
C int (n=41)	3 (7%)	4 (10%)	1 (2%)	0 (0%)	1 (2%)	0 (0%)	32 (78%)
C adv (n=20)	0 (0%)	0 (0%)	1 (5%)	0 (0%)	0 (0%)	0 (0%)	19 (95%)

Note: *the L1-based pattern is different for the L1 Russian groups and the L1 Chinese groups; ** the not predicted patterns are not applicable to the L1 Russian groups since the not predicted pattern for the L1-based pattern is the anaphoricity – based pattern, while the not predicted pattern for the anaphoricity – based pattern is the L1-based pattern.

The individual results show that, similar to the results in the definite conditions a big percentage of the low proficiency L1 Russian speakers fall into the optional response pattern (almost 60% in the beginner group and almost 40% in the intermediate group). However, the optional response pattern disappears in the L1 Russian advanced group, in which 39% of the learners perform in a target-like way. As for the L1 Chinese groups, only a few individuals (10% of intermediate learners) fall into the optional pattern and only 7% of learners in the intermediate group fall into the target-like pattern. Interestingly, none of the advanced learners perform in a target-like way.

The individual results also show that 2 learners in the L1 Chinese groups (1 intermediate and 1 advanced) fall into the L1-based pattern, while no individuals in the L1 Russian groups are attested in this pattern. As for the anaphoricity-based pattern, 4 individuals (3 L1 Russian advanced learners and 1 L1 Chinese intermediate learner) fall into this pattern.

Table 34 shows that a high percentage of learners in each of the groups fall into the random pattern. For example, almost all learners (19 out of 20) in the L1 Chinese advanced group fall into the random pattern. A close look at the participants who performed randomly shows that a number of learners seem to follow a certain pattern: they tend to accept the definite article more often (2 errors or more) in the unique bridging condition than in the other two conditions (performing in a varying way on acceptability of the indefinite article). Thus, 11 (27%) learners in the L1 Chinese intermediate group, 14 (70%) learners in the L1 Chinese advanced group allowed the non-target *the* more often in the non-unique bridging condition than in the other two conditions. In contrast, only 3 (13%) learners in the L1 Russian intermediate groups and 4 (22%) learners in the L1 Russian group followed a similar pattern. The performance of the Chinese groups suggests that the non-unique bridging condition is problematic for individual learners, as attested on a group level.

7.3 Results in the written sentence production task

7.3.1 Results in the definite conditions

As discussed in Section 6.4.2.2, in the WSPT the participants were asked to make sentences with given words and add any functional morphology they deemed necessary. It was expected that participants provide an article in front of the target NP (either the definite article or the indefinite article). However, since L2 learners might also omit articles or use other words instead of an article (such as demonstratives or quantifiers), the answers in the WSPT were coded based on four answer choices: *the*, *a*, article omission or other response. The performance of the six groups of participants across the three definite contexts is visualised in Figures 27, 28 and 29 (see Appendix 7, Table 7.4 for the raw frequencies of the participants' choices across the three definite conditions).

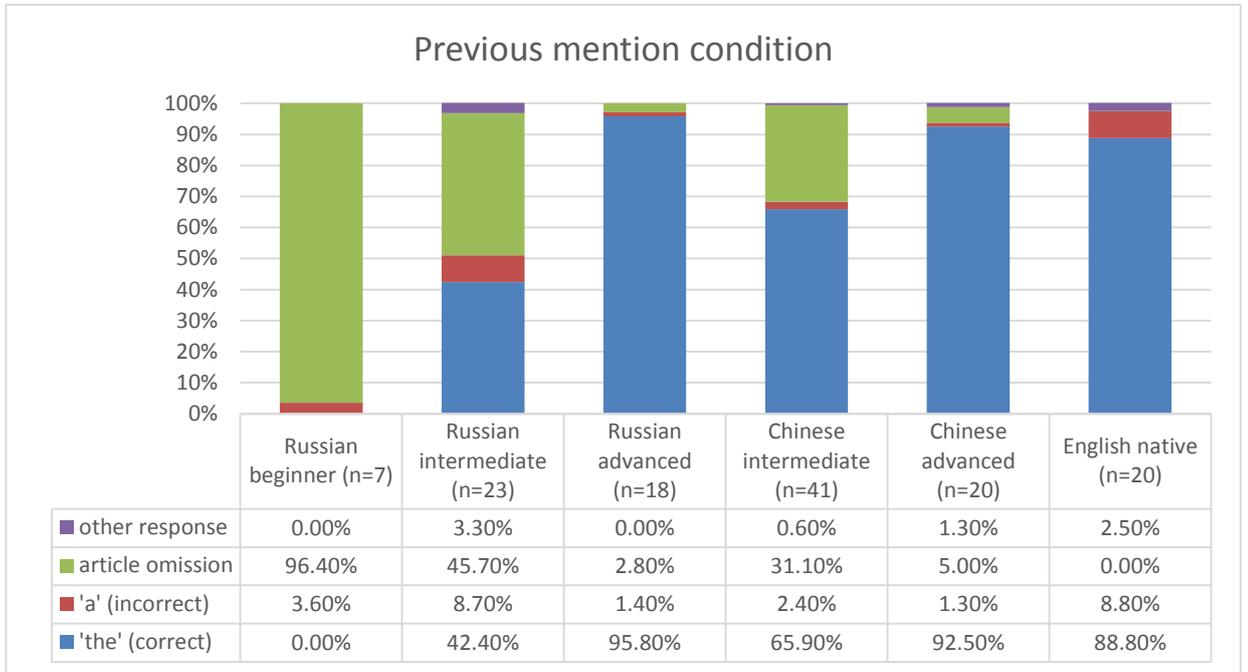


Figure 27. WSPT: Use of articles in the previous mention condition: target *the*

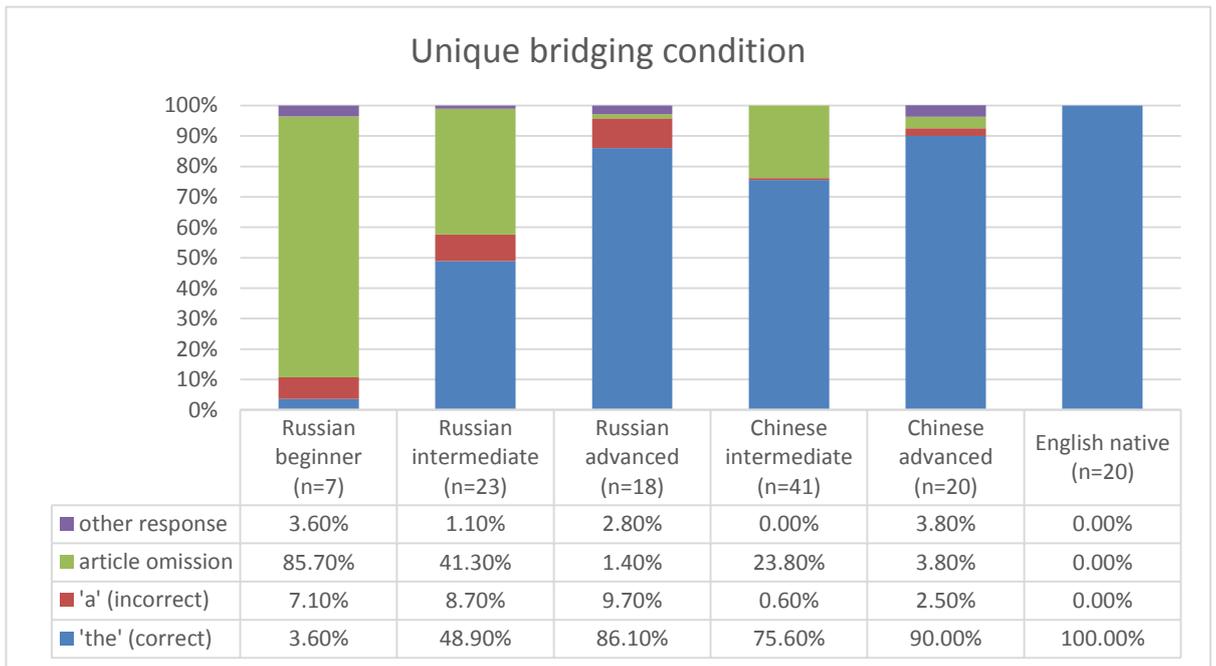


Figure 28. WSPT: Use of articles in the unique bridging condition: target *the*

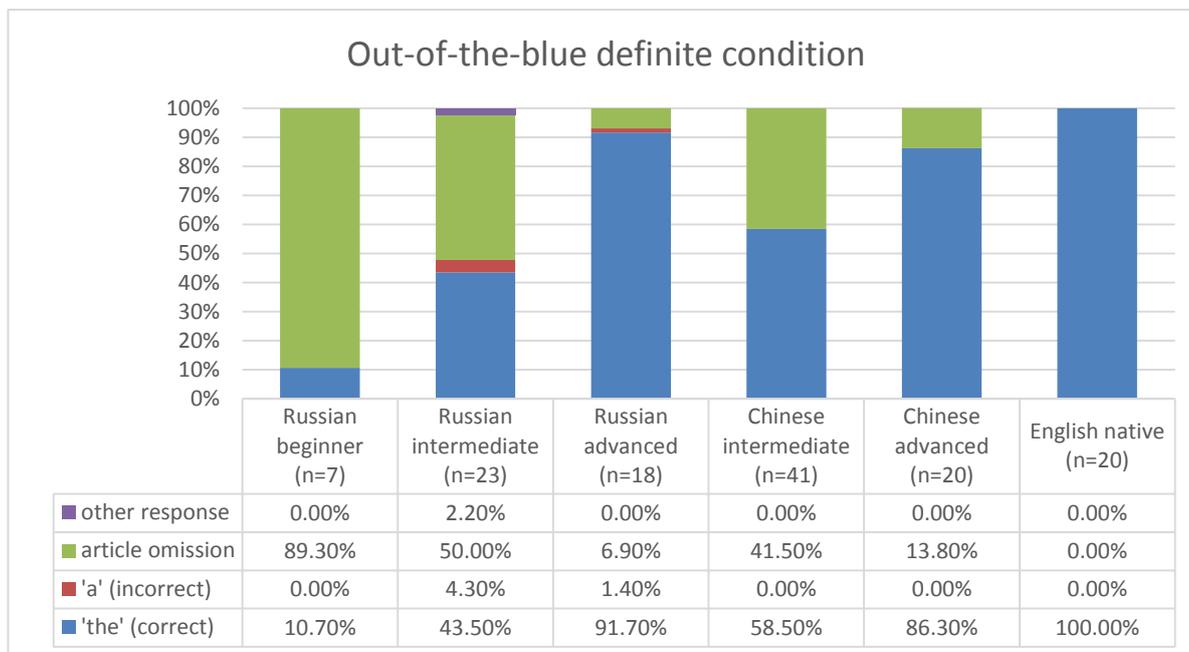


Figure 29. WSPT: Use of articles in the out-of-the-blue definite condition: target *the*

The results show that the English native control group used the target definite article across the three definite conditions; however, they used the incorrect indefinite article in the previous mention condition 8.8% of the time. A closer look at the performance of the individual English natives showed that 7 out of 20 English controls produced the indefinite article in the same test item, which is exemplified in (169). In this item the target NP ‘book’ is anaphoric to the previously mentioned ‘a new book’, and, therefore, a definite article is expected in this condition. However, 7 out of 20 English natives produced the indefinite article. In fact, the indefinite article can be felicitously used in (169) with the second mention of the book, but only if the second book refers to some other book and not to the one mentioned in the previous discourse. In other words, it is possible that the English native speakers allowed ‘a book’ to refer to some other book than the one mentioned in the first sentence. That is, they treated ‘a book’ as essentially non-anaphoric.

- (169) Alex went to a bookstore on Sunday, and he bought a new book.
 (after that he go to park) (he read book there)

As for the L2 learner groups, the L1 Russian beginner learners hardly ever provided an article across the definite conditions, omitting articles almost 90% of the time across the conditions. The omission rate is also high for the two intermediate groups, ranging from 23% to 41% for the L1 Chinese intermediate group and from 41% to 50% for the L1 Russian intermediate group across

the conditions. The two intermediate groups supplied the target definite article, occasionally producing the non-target indefinite article. The two advanced groups, the L1 Russian advanced and the L1 Chinese advanced, are target-like in supplying the definite article across the definite conditions, hardly ever omitting an article or using an inappropriate indefinite article. A series of non-parametric chi-square tests were performed to compare the actual frequencies of L2 participants' uses of *the* versus *a* across the three definite conditions. The results are summarised in Table 35.

Table 35. WSPT: Difference between raw frequencies of the participants' uses of *the* vs. *a* across the three definite conditions: target *the*

	Previous mention (n=4)		Unique bridging (n=4)		Out-of-the-blue definite (n=4)	
	<i>the</i>	<i>a</i>	<i>the</i>	<i>a</i>	<i>the</i>	<i>a</i>
Russian beginner (n=7)	0/28	1/28	1/28	2/28	3/28	0/28
	<i>n/a</i>		$\chi^2 = .333, p = .564$		<i>n/a</i>	
Russian intermediate (n=23)	39/92	8/92	45/92	8/92	40/92	4/92
	$\chi^2 = 20.447, p < .0001^*$		$\chi^2 = 25.830, p < .0001^*$		$\chi^2 = 29.455, p < .0001^*$	
Russian advanced (n=18)	69/72	1/72	62/72	7/72	66/72	1/72
	$\chi^2 = 66.057, p < .0001^*$		$\chi^2 = 43.841, p < .0001^*$		$\chi^2 = 63.060, p < .0001^*$	
Chinese intermediate (n=41)	108/164	4/164	124/164	1/164	96/164	0/164
	$\chi^2 = 96.571, p < .0001^*$		$\chi^2 = 121.032, p < .0001^*$		<i>n/a</i>	
Chinese advanced (n=20)	74/80	1/80	72/80	2/80	69/80	0/80
	$\chi^2 = 71.053, p < .0001^*$		$\chi^2 = 66.216, p < .0001^*$		<i>n/a</i>	
English controls (n= 20)	71/80	7/80	80/80	0/80	80/80	0/80
	$\chi^2 = 52.513, p < .0001^*$		<i>n/a</i>		<i>n/a</i>	

*statistically significant; n/a = not available since one of the values equals zero; not significant values in bold

As can be seen from Table 35, the English control group accepted the target definite article significantly more than the indefinite article across the definite conditions. The same pattern is present for the intermediate and advanced L2 learner group who appear to know that the definite article is the appropriate article in definite contexts.

7.3.1.1 Effect of the type of semantic context on the use of articles

In order to investigate whether there is an effect of the type of semantic context on the use of articles across the three definite conditions, the target use of *the* and the non-target use of *a* across the three definite conditions were compared. Figures 30 and 31 below illustrate the target use of *the* and the non-target use of *a*, respectively, across the three definite conditions.

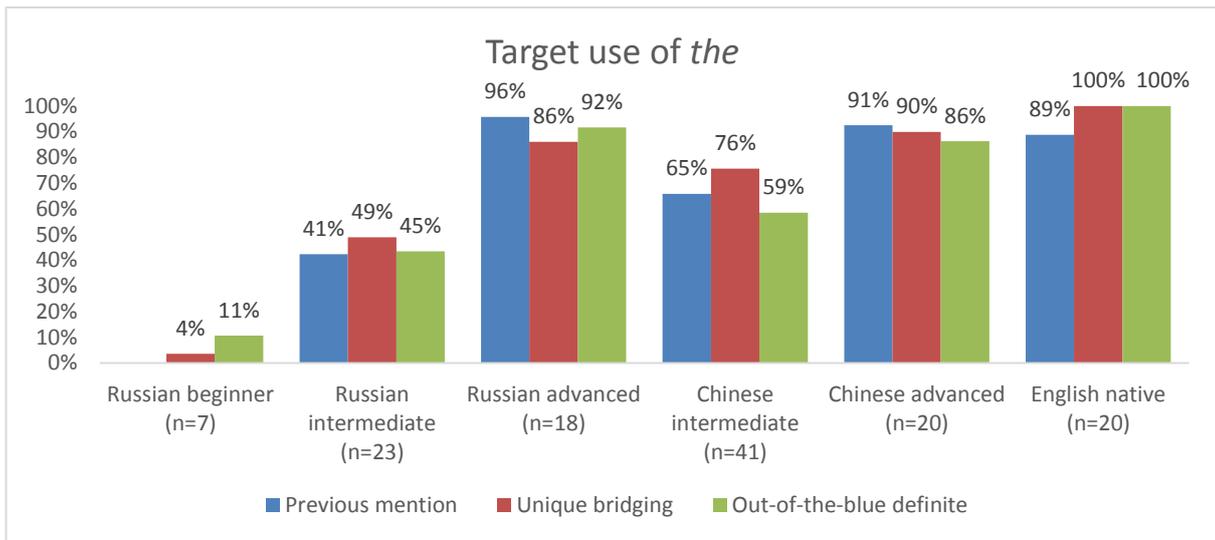


Figure 30. WSPT: Use of the target definite article across the definite conditions

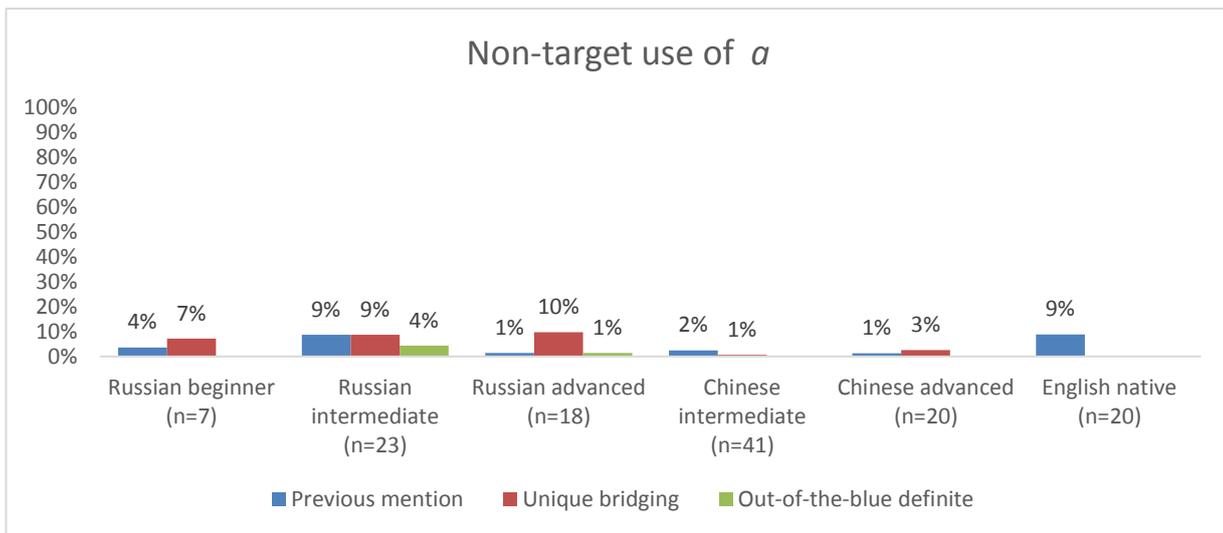


Figure 31. WSPT: Non-target use of the indefinite article across the definite conditions

As can be seen from Figure 30, the L1 Russian beginner group, who omit articles almost 90% of the time, did not supply an article in the previous mention condition. In the other two conditions, they supplied *the* more often in the out-of-the-blue definite condition (11%) than in the unique bridging condition (4%). The L1 Russian intermediate group supply *the* more often in the unique bridging condition than in the other two conditions, while the L1 Russian advanced group use *the* more often in the previous mention condition than in the other two conditions. The two L1 Chinese groups tend to use *the* more often in the two anaphoric conditions than in the non-anaphoric condition.

Figure 31 illustrates that the non-target acceptance of *a* is almost non-existent for the L2 learner groups. The L1 Chinese groups hardly ever use *a*, while the non-target use of *a* does not exceed 10% for the L1 Russian groups. The L1 Russian intermediate learners occasionally (9% of the time) produce non-target *a* in the previous mention condition and unique bridging condition. The L1 Russian advanced group incorrectly use *a* in the unique bridging condition but not in the other two conditions.

Since L2 learners also omitted articles in the WSPT, their omissions across the definite conditions were also investigated in order to investigate for the effect of context. Figure 32 illustrates article omissions across the definite conditions.

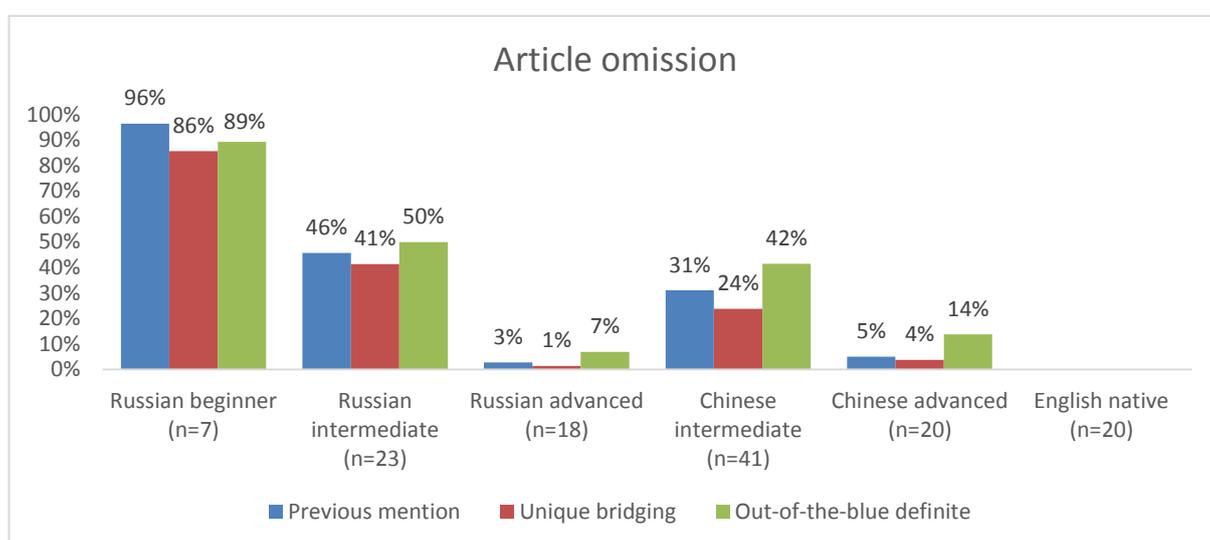


Figure 32. WSPT: Article omissions across the definite conditions

As can be seen in Figure 32, the intermediate and advanced groups across the two L1s omit articles more often in the non-anaphoric out-of-the-blue definite condition than in the two anaphoric conditions. The omission rate for the out-of-the-blue condition reaches 50% for the L1 Russian intermediate group. The L1 Russian beginner group omit articles more often in the previous mention condition than in the other two conditions.

To check whether there is a significant effect of the type of context on the use and omission of articles, repeated measures ANOVAs with article choice and context as within-subject factors were conducted for each group. The results are presented in Table 36.

Table 36. WSPT: effect of the type of semantic context on article use

Group	'the' (correct)	'a' (incorrect)	Article omission
Russian beginner (n=7)	F(2,12)= 1.200, p= .335	F(2,12)= 1.000, p= .397	F(2,12)= .750, p= .493
Russian intermediate (n=23)	F(2,44)= .816, p= .449	F(2,44)= 1.052, p= .358	F(2,44)= 1.211, p= .308
Russian advanced (n=18)	F(2,34)= 1.523, p= .233	F(2,34)= 2.429, p=.103	F(2,34)= 1.956, p=.157
Chinese intermediate (n=41)	F(2,80)= 8.510, p<.0001*	F(2,80)= 2.708, p= .073**	F(2,80)= 10.032, p<.0001*
Chinese advanced (n=20)	F(2,38)= .553, p= .580	F(2,38)= 1.000, p=.377	F(2,38)= 3.827, p=.031*
English controls (n= 20)	F(2,38)= 15.545, p<.0001*	F(2,38)= 10.231, p<.0001*	n/a

Note: significant values in bold; *statistically significant; **approaching significance; #incorrect article

The ANOVAs revealed that the effect of the type of the definite contexts on the target use of the definite article and the non-target-use of the indefinite article was, unexpectedly, significant for the English native speaker group. As discussed above, this is due to the fact that the native speakers supplied *the* less often in the previous mention condition than in the other two conditions and since they produced *a* in the previous mention condition 8.8% of the time.

As for the L2 learner groups, no effects were attested for the L1 Russian groups, suggesting that the type of semantic context did not affect the use and omission of articles in the definite conditions for these learners. In contrast, the effect of the type of definite contexts on article omissions was significant for the L1 Chinese groups. In addition, the effect of the type of semantic context on the target use of *the* was significant and was approaching significance for the non-target-use of *a* for the L1 Chinese intermediate group. Planned contrasts were further performed to localise the main effect of the type of the definite context on the use and omission of articles (see Appendix 10, Table 10.1).

The results showed that the difference between using target *the* and non-target *a* across the three definite conditions is significant for the English control group. More specifically, the English native speakers use *the* significantly more in the unique bridging and the out-of-the-blue indefinite conditions (in which they perform at ceiling) than in the previous mention condition, in which they use *the* only 89% of the time. As discussed above, the lower suppliance of *the* in the previous mention condition is due to the fact that the English native speakers produce the indefinite article in this condition 8.8% of the time, which is reflected in the significant differences as far as the use of *a* is concerned.

As for the L2 learner groups, the L1 Russian intermediate show an approaching significance contrast between omitting articles in the out-of-the-blue definite condition and the unique bridging condition, omitting articles more in the former than in the latter. Table 36 shows that the only significant difference in the use of *the* across the definite conditions was attested for the L1 Chinese intermediate group, who used *the* significantly more often in one of the anaphoric conditions, i.e., unique bridging, than in the non-anaphoric condition. These learners also used *the* significantly more in the unique bridging condition compared to the other anaphoric condition, i.e. previous mention. Although no significant contrast was attested between the anaphoric previous mention condition and the non-anaphoric out-of-the-blue definite condition, these learners tend to use *the* more often in the previous mention condition than in the out-of-the-blue definite condition.

In addition, the L1 Chinese intermediate group differed significantly in using non-target *a* in the previous mention and the out-of-the-blue conditions. However, this significance should be interpreted with caution as this is a difference between 2.4% of *a* misuse in the previous mention condition versus 0% of *a* misuse in the out-of-the-blue definite condition. The results also show that the L1 Chinese intermediate group were affected by the type of context in their omission of articles. Thus, they omitted articles significantly more often in the non-anaphoric condition than in the two anaphoric conditions. The L1 Chinese advanced group were also affected by the type of semantic context in their article omission, omitting significantly more articles in the non-anaphoric condition than in the two anaphoric conditions. Although no significant contrast was attested for this group as far as the use of the definite article is concerned, Figure 32 shows that these learners tend to use *the* more often in the two anaphoric conditions than in the non-anaphoric condition. Overall, the performance of the L1 Chinese groups suggests that these learners are more accurate in supplying the definite article in the anaphoric conditions, previous mention and unique bridging, than in the non-anaphoric out-of-the-blue definite condition.

7.3.1.2 Individual results

In order to ensure that the results attested at the group level also hold at the individual level and to investigate whether there are any individual learners who are target-like in using *the* across the definite conditions, the results of individual learners were analysed. An arbitrary cutoff point was chosen to characterise the individual learners into eight patterns: (a) target-like, (b) optional, (c) omission, (d) L1-based, (e) not predicted 1 (non-L1-based), (f) anaphoricity-based, (g) not

predicted 2, and (h) random (see Appendix 11, (1), for the criteria for the individual analysis). The number and percentage of participants per response are summarised in Table 37.

Table 37. WSPT: individual results in the definite conditions; number (percentage)

	Target-like	Omission	Optional	L1-based	Not predicted 1	Anaphoricity-based	Not predicted 2	Random
R beg (n=7)	0 (0%)	6 (86%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (14%)
R int (n=23)	5 (22%)	8 (35%)	0 (0%)	2 (9%)	0 (0%)	3 (13%)	0 (0%)	5 (22%)
R adv (n=18)	15 (83%)	0 (0%)	0 (0%)	1 (6%)	0 (0%)	1 (6%)	0 (0%)	1 (6%)
C int (n=41)	21 (51%)	11(27%)	0 (0%)	1 (2%)	0 (0%)	6 (15%)	0 (0%)	2 (5%)
C adv (n=20)	15 (75%)	0 (0%)	0 (0%)	1 (5%)	0 (0%)	3 (15%)	0 (0%)	1 (5%)

The individual results show that the majority of individuals in the beginner group (86%) fell into the omission pattern. The number of individuals in the omission pattern decreases with increasing proficiency and some of the intermediate learners, 5 (22%) individuals in the L1 Russian group and 21 (51%) in the L1 Chinese group, perform in a target-like way. The two advanced groups were overall target-like in their performance (83% of learners in the L1 Russian advanced group and 75% of learners in the L1 Chinese group).

As was shown in the group results and is reflected in the individual results, L2 learners are affected by anaphoricity in their article use. Thus, in total, 13 individuals fell into the anaphoricity-based pattern: 3 (13%) individuals in the L1 Russian intermediate group, 1 (6%) individual in the L1 Russian advanced group, 6 (15%) individuals in the L1 Chinese intermediate group and 3 (15%) individuals in the L1 Chinese advanced group. In other words, these learners were more accurate in using *the* in contexts involving anaphoricity, such as previous mention and unique bridging, than in non-anaphoric contexts such as out-of-the-blue definite.

Five learners (3 in the L1 Russian groups and 2 in the L1 Chinese groups) fell into the L1-based pattern. In other words, these learners were more accurate in using *the* in contexts involving the feature [+familiar, +anaphoric] than in contexts involving the feature [+unique, ±anaphoric].

None of the individuals fell into the 'not predicted' patterns. In addition, there were no individuals who fell into the optional response pattern, which was attested for the beginner and intermediate groups in the AJT. Moreover, the number of individuals in the random pattern is very small (in

contrast to the results in the AJT), in particular, in the more proficient groups (L1 Russian advanced and L1 Chinese intermediate and advanced).

7.3.2 Results in the indefinite conditions

Similar to the definite conditions in the WSPT, L2 learners were expected to provide an article in the target NP form across the indefinite conditions. The correct article in this condition is the indefinite article. The performance of the six groups of participants across the three definite contexts is visualised in Figures 33, 34 and 35 (see Appendix 7, Table 7.5 for the raw frequencies of the participants' choices across the indefinite conditions).

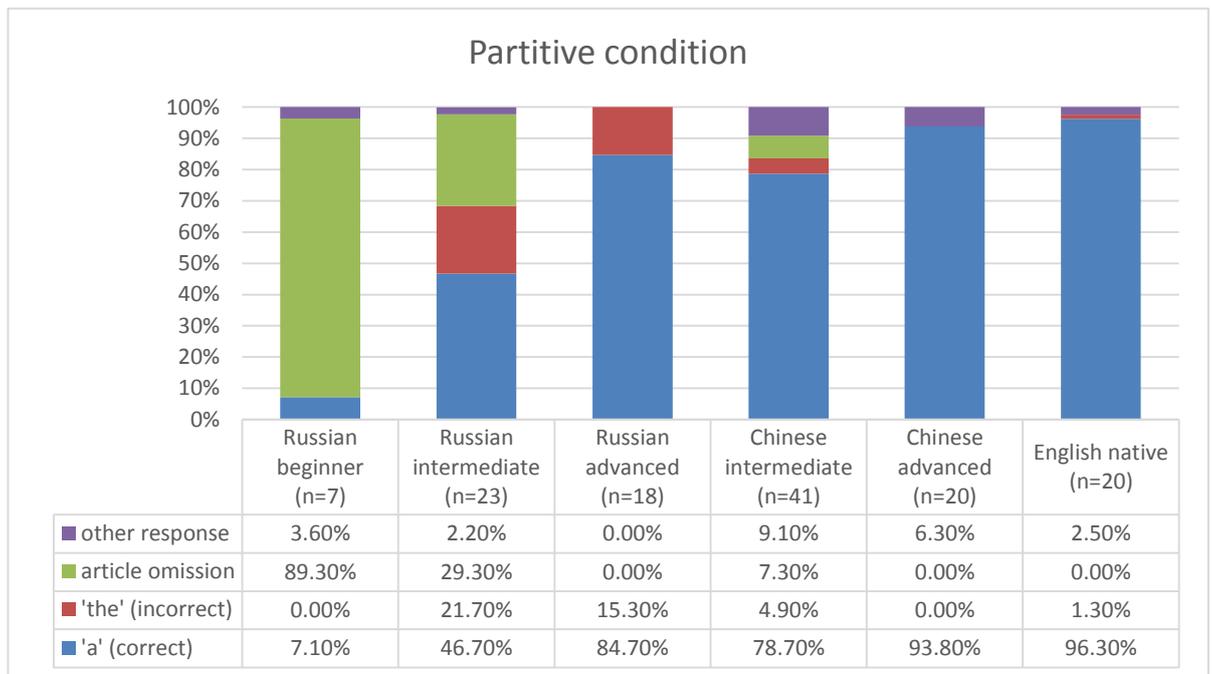


Figure 33. WSPT: Use of articles in the partitive condition; target *a*

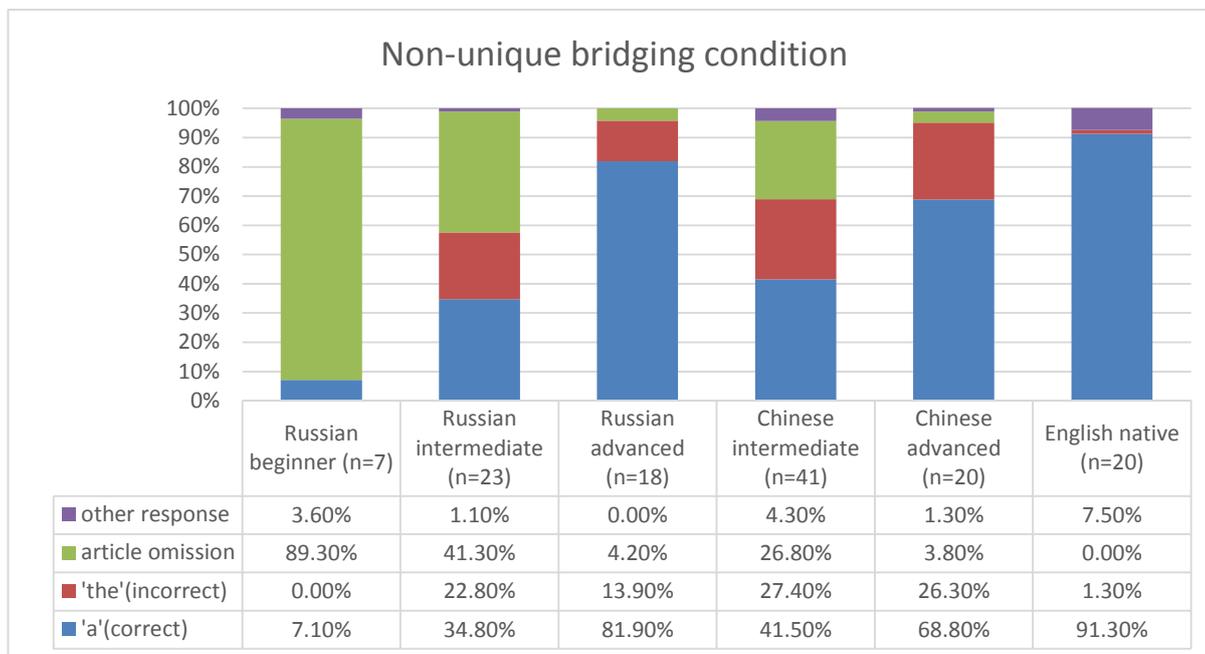


Figure 34. WSPT: Use of articles in the non-unique bridging condition: target α

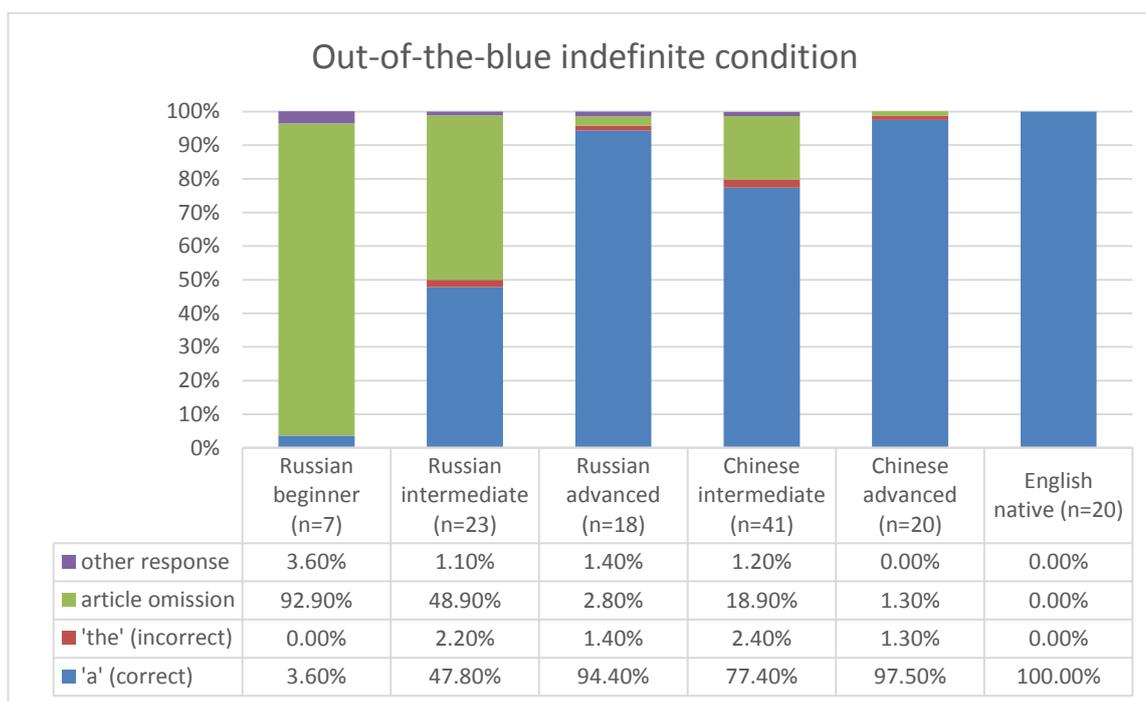


Figure 35. WSPT: Use of articles in the out-of-the blue indefinite condition; target α

The results show that the English native control group use the target indefinite article across the three indefinite conditions, hardly ever producing the non-target definite article. As for the L2 learner groups, the L1 Russian beginner group omit articles almost 90% of the time across the conditions. The two intermediate L1 groups also omit articles across the conditions, the omission

rate being higher for the L1 Russian intermediate group. The results also show the L1 Russian intermediate and advanced groups use the non-target *the* in the two anaphoric conditions but not in the non-anaphoric condition. The L1 Chinese groups incorrectly use the definite article in one of the anaphoric conditions, i.e. the unique bridging, but not in the partitive condition and the out-of-the-blue indefinite condition.

To investigate whether L2 learners distinguish between the target indefinite article and the non-target definite article, a series of non-parametric chi-square tests were performed to compare the actual frequencies of L2 participants' uses of *a* versus *the* across the three indefinite conditions. The results are summarised in Table 38.

Table 38. WSPT: Difference between raw frequencies of the participants' uses of *a* vs. *the* across the indefinite conditions: target *a*

	Partitive (n=4)		Non-unique bridging (n=4)		Out-of-the-blue indefinite (n=4)	
	<i>a</i>	<i>the</i>	<i>a</i>	<i>the</i>	<i>a</i>	<i>the</i>
Russian beginner (n=7)	2/28	0/28 <i>n/a</i>	2/28 <i>n/a</i>	0/28	1/28 <i>n/a</i>	0/28
Russian intermediate (n=23)	43/92 $\chi^2= 8.397, p = .004^*$	20/92	32/92 $\chi^2= 2.283, p = .131$	21/92	44/92 $\chi^2= 38.348, p <.0001^*$	2/92
Russian advanced (n=18)	61/72 $\chi^2= 34.722, p <.0001^*$	11/72	59/72 $\chi^2= 34.797, p <.0001^*$	10/72	68/72 $\chi^2= 65.058, p <.0001^*$	1/72
Chinese intermediate (n=41)	129/164 $\chi^2= 106.869, p <.0001^*$	8/164	68/164 $\chi^2= 4.681, p = .030^*$	45/164	127/164 $\chi^2= 115.489, p <.0001^*$	4/164
Chinese advanced (n=20)	75/80 <i>n/a</i>	0/80	55/80 $\chi^2= 15.211, p <.0001^*$	21/80	78/80 $\chi^2= 75.051, p <.0001^*$	1/80
English controls (n= 20)	77/80 $\chi^2= 74.051, p <.0001^*$	1/80	73/80 $\chi^2= 70.054, p <.0001^*$	1/80	80/80 <i>n/a</i>	0/80

*statistically significant; significant values in bold

As can be seen from Table 38, the contrast between the two forms is highly significant for the English control group. The same is true for the more proficient L2 learner groups: the two advanced groups and the L1 Chinese intermediate group. The contrast between *a* and *the* is not attested for the L1 Russian beginner group due to the almost non-existent use of articles. The L1 Russian intermediate group make a contrast between using *a* and *the* in the partitive and out-of-the-blue indefinite conditions but do not differ in using *a* and *the* in the non-unique bridging condition.

7.3.2.1 Effect of the type of semantic context on the use of articles

In order to investigate whether there is an effect of the type of semantic context on the use of articles across the three indefinite conditions, the target use of *a* and the non-target use of *the* across the three indefinite conditions were compared. Figures 36 and 37 below illustrate the target use of *a* and the non-target use of *the*, respectively, across the three indefinite conditions.

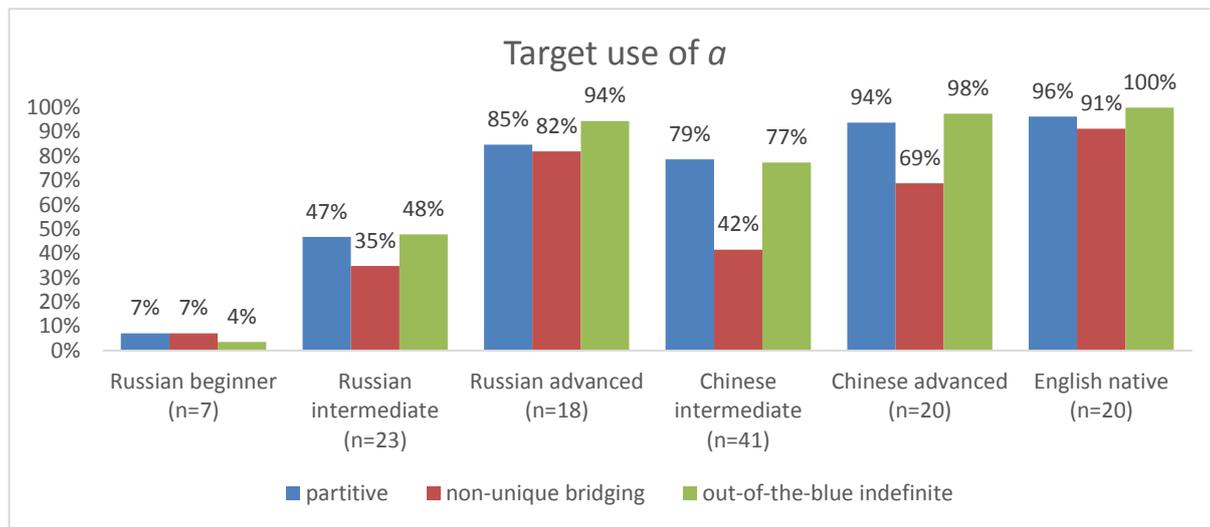


Figure 36. Target use of *a* across the indefinite conditions.

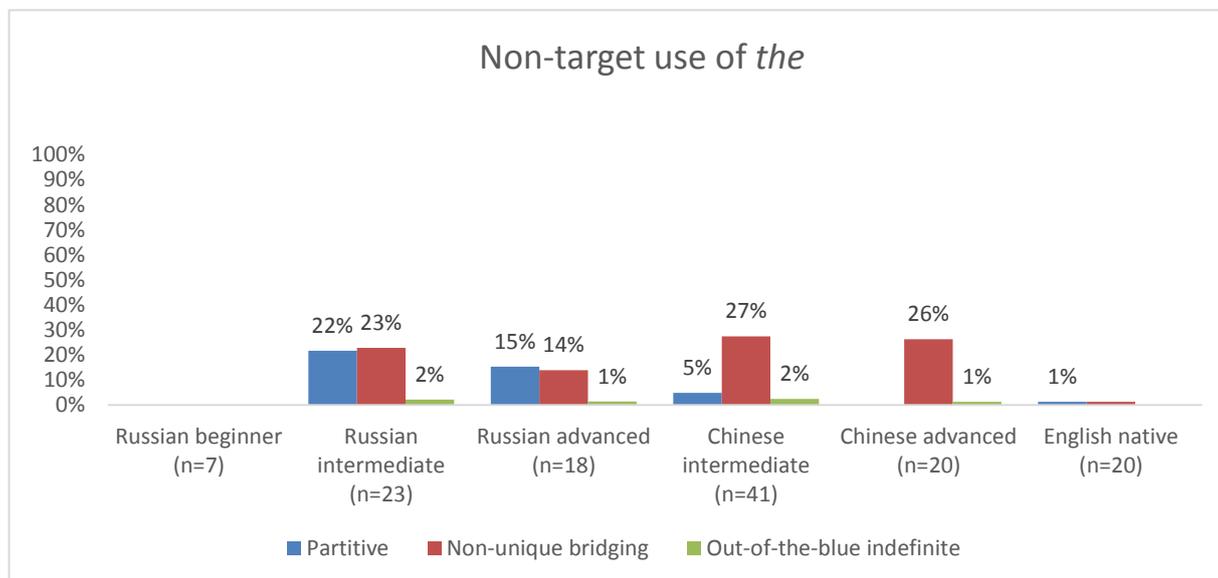


Figure 37. Non-target use of *the* across the indefinite conditions.

As can be seen from Figure 36, the L1 Russian beginner group hardly ever supply an article across the conditions. The L1 Russian advanced group use *a* numerically more often in the non-anaphoric

condition than in the two anaphoric conditions. The L1 Russian intermediate and the two L1 Chinese groups are less accurate in using *a* in the non-unique bridging condition than in the two other conditions.

Figure 37 illustrates that, while the English native controls do not produce the infelicitous definite article in the indefinite conditions, the L2 learners across the L1 groups (except for the L1 Russian beginner group who omit articles more than 90% of the time) use non-target *the* in the indefinite conditions. More specifically, the two L1 Russian groups misuse *the* in the two anaphoric contexts but not in the non-anaphoric condition. The L1 Chinese groups misuse *the* in one of the anaphoric conditions, i.e. non-unique bridging, but not in the other two conditions.

Since L2 learners also omitted articles in the WSPT, their omissions across the indefinite conditions were also investigated in order to determine the effect of context. Figure 38 illustrates article omissions across the definite conditions.

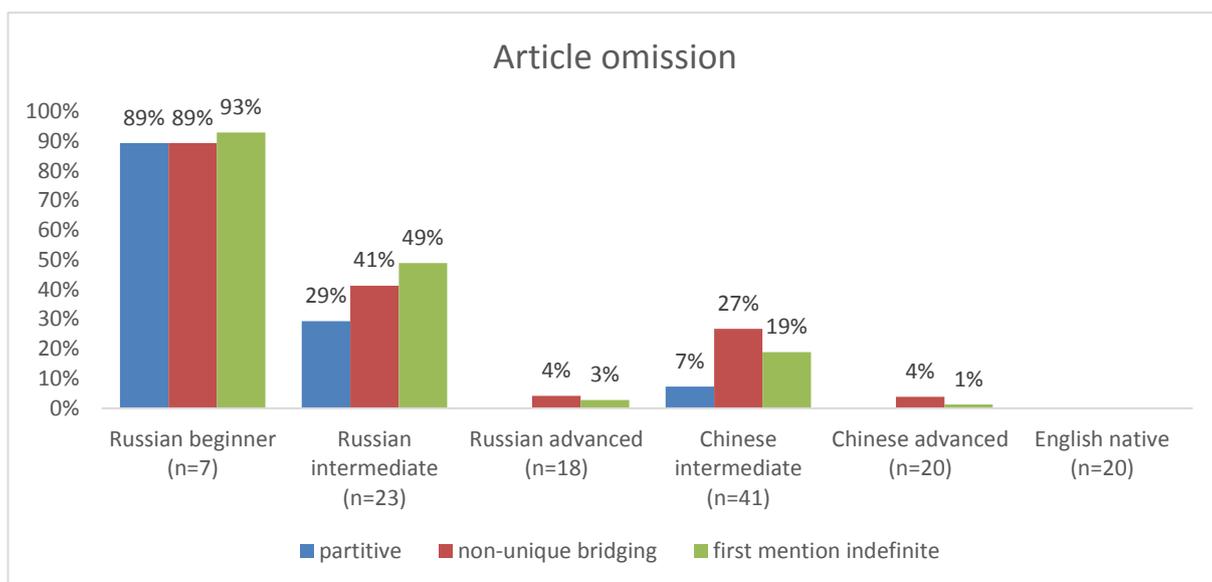


Figure 38. Article omissions across the indefinite conditions.

As can be seen in Figure 38, while article omissions reach 90% for the L1 Russian beginner group, they decrease with increasing proficiency and are almost non-existent for the advanced learners. The L1 Russian intermediate group omit articles more often in the non-anaphoric condition than in the two anaphoric conditions. For the L1 Chinese intermediate group, it is the anaphoric non-unique bridging condition that causes the highest omission errors, although they also omit articles more often in the non-anaphoric condition than in the anaphoric partitive condition.

To check whether there is a significant effect of the type of semantic context on the use and omission of articles, repeated measures ANOVAs with article choice and context as within-subject factors were conducted for each group. The results are presented in Table 39.

Table 39. The effect of the type of semantic context on use of articles; target *a*

Group	'a' (correct)	'the' (incorrect)	Omission
Russian beginner (n=7)	F(2,12)= .462, p= .641	n/a	F(2,12)= .000, p= 1.000
Russian intermediate (n=23)	F(2,44)= 2.585, p= .087**	F(2,44)= 7.985, p= .001*	F(2,44)= 4.701 , p= .014*
Russian advanced (n=18)	F(2,34)= 2.161, p= .131	F(2,34)= 4.537, p=.018*	F(2,34)= 1.000 , p=.378
Chinese intermediate (n=41)	F(2,80)= 29.368, p<.0001*	F(2,80)= 22.374, p<.0001*	F(2,80)= 11.482, p<.0001*
Chinese advanced (n=20)	F(2,38)= 15.221, p<.0001*	F(2,38)= 19.100, p<.0001*	F(2,38)= 1.822, p=.176
English controls (n= 20)	F(2,38)= 1.879, p= .167	F(2,38)= 1.000, p= .377	n/a

Note: significant values in bold; *statistically significant; **approaching significance

The ANOVAs revealed that the effect of the type of indefinite contexts on the target use of *a* was highly significant for the two L1 Chinese groups and was approaching significance for the L1 Russian intermediate group. The effect of the type of indefinite contexts on the non-target use of *the* was significant for the two intermediate and advanced groups. In addition, the two intermediate groups were affected by the type of context in their article omissions. Planned contrasts were further performed to localise the main effect of the type of the indefinite context on the use and omission of articles (see Appendix 10, Table 10.2 for the statistical analysis).

The results yielded that the two intermediate and the two advanced groups made a significant distinction between the non-unique bridging condition and the out-of-the-blue indefinite condition as far the target use of *a* is concerned. These groups were significantly more accurate in using *a* in the out-of-the-blue indefinite condition than in the non-unique bridging condition. The L1 Russian intermediate group and the two L1 Chinese groups were also significantly better at using *a* in the partitive condition than in the non-unique bridging condition.

The L2 learner groups were also affected by the type of semantic context as far as the non-target use of *the* is concerned. Thus, the L1 Russian intermediate and advanced groups used non-target *the* in the two anaphoric conditions, i.e. partitive and non-unique bridging, but not in the non-anaphoric condition, i.e. out-of-the-blue indefinite. The two L1 Chinese groups misused *the* in the anaphoric non-unique bridging condition but not in the other two conditions.

The two intermediate groups were also affected by the type of semantic contexts as far as article omissions are concerned. These groups omitted articles significantly less often in the anaphoric partitive condition than in the other two conditions (the contrast approaching significance for the L1 Russian group in the partitive condition versus the non-unique bridging condition). In addition, the L1 Chinese intermediate group omitted articles significantly more in the anaphoric non-unique bridging condition than in the non-anaphoric out-of-the-blue indefinite condition. Although the L1 Chinese advanced group showed an approaching significance distinction in omitting articles in the partitive condition versus the non-unique bridging condition, this distinction was between 0% and 3.80%.

7.3.2.2 Individual results

In order to ensure that the results attested at the group level also hold at the individual level and to investigate whether there are any individual learners who are target-like in using *a* across the indefinite conditions, the results of individual learners were analysed. An arbitrary cutoff point was chosen to characterise the individual learners into eight patterns (the same patterns used in the definite conditions but with different criteria): (a) target-like, (b) optional, (c) omission, (d) L1-based, (e) not predicted 1 (non-L1-based), (f) anaphoricity-based, (g) not predicted 2, and (h) random (see Appendix 11, (2), for the criteria for the individual analysis). The number and percentage of participants per response is summarised in Table 40.

Table 40. Individual results in the indefinite conditions; number (percentage)

	Target-like	Omission	Optional	L1-based*	Not predicted 1	Anaphoricity-based	Not predicted 2	Random
R beg (n=7)	0(0%)	7(100%)	0 (0%)	0 (0%)	n/a**	0 (0%)	n/a	0 (0%)
R int (n=23)	5 (22%)	6 (26%)	0 (0%)	2 (9%)	n/a	6(26%)	n/a	4 (17%)
R adv (n=18)	12 (67%)	0 (0%)	0 (0%)	0 (0%)	n/a	5(28%)	n/a	1 (5%)
C int (n=41)	12/(29%)	1 (2%)	0 (0%)	20(49%)	0 (0%)	3 (7%)	0 (0%)	5(12%)
C adv (n=20)	10 (50%)	0 (0%)	0 (0%)	9 (45%)	0 (0%)	0 (0%)	0 (0%)	1 (5%)

Note:*the L1-based pattern is different for the L1 Russian groups and the L1 Chinese groups; ** the not predicted patterns are not applicable to the L1 Russian groups since the not predicted pattern for the L1-based pattern is the anaphoricity – based pattern, while the not predicted pattern for the anaphoricity – based pattern is the L-based pattern.

The individual results show that while the majority of individuals in the beginner group fell into the omission pattern, the number of individuals in the omission pattern decreases with increasing proficiency in the L1 Russian groups. The omission errors are non-existent in the advanced groups. In addition, L2 learners are becoming more target-like with increasing proficiency. Thus, among the intermediate learners, 5 (22%) learners in the L1 Russian group and 12 (29%) learners in the L1 Chinese group perform in a target-like way. Among the advanced proficiency learners, 12 (67%) learners in the L1 Russian group and 10 (50%) learners in the L1 Chinese group are target-like.

As seen in Table 40, more learners in the L1 Russian groups follow the anaphoricity-based pattern, while more learners in the L1 Chinese groups follow the L1-based pattern. Thus, almost one third of learners in the L1 Russian intermediate group (6 learners (26%)) and the L1 Russian advanced group (5 learners (28%)) fell into the anaphoricity-based pattern, while only 2 (9%) learners in the L1 Russian intermediate group fell into the L1-based pattern. In contrast, almost half of all the learners in the L1 Chinese intermediate group (20 (49%)) and the L1 Chinese advanced group (9 (45%)) fell into the L1-based pattern, while only 3 (7%) of the intermediate learners fell into the anaphoricity-based pattern.

None of the individuals in the beginner and intermediate groups fell into the optional response pattern, which was attested for these learners in the AJT. In addition, there were no individuals who fell into either of the not predicted patterns and only a small number of learners fell into the random pattern.

7.4 Summary

This chapter reported group and individual results in the two tasks, the acceptability judgment task and the written sentence production task, that were designed to test the research hypotheses advanced in this thesis (see Chapter 6, Section 6.3). The next chapter presents the summary of the main findings and offers a detailed discussion of the findings in the experimental study in relation to the research questions and predictions.

Chapter 8: Discussion, Implications and Conclusion

8.1 Summary of the main findings

In this thesis, I have investigated the L2 acquisition of definiteness in English and its expression through articles by L1 speakers of article-less Mandarin Chinese and Russian through examining L2 learners' interpretation and production of articles in English. The summary of the main findings (discussed in details in Chapter 7) is presented below.

The main findings in the two tasks for the *L1 Russian* groups are as follows:

(169) The L1 Russian *beginner* group:

- did not show the target contrast between *the* and *a* across the definite and indefinite conditions in the AJT
- did not show the target contrast between target *that* and non-target *the* in the previous mention with two equally salient antecedents condition in the AJT
- omitted articles 90% of the time in the production task

(170) The L1 Russian *intermediate* group:

- accepted *the* more often than *a* in anaphoric previous mention contexts and *a* more often than *the* in non-anaphoric out-of-the-blue indefinite contexts, but did not show the target contrast between *the* and *a* in the other conditions in the AJT
- did not show the target contrast between target *that* and non-target *the* in the previous mention with two equally salient antecedents condition in the AJT
- supplied articles 50% of the time only; misused non-target *the* in anaphoric indefinite contexts, i.e. partitive and non-unique bridging, but were target-like in using articles in other conditions in the production task

(171) The L1 Russian *advanced* group:

- showed the target contrast between *the* and *a* across all conditions in the AJT, but incorrectly accepted non-target *the* significantly more often in anaphoric indefinite contexts, i.e. partitive and non-unique bridging, than in non-anaphoric indefinite contexts, i.e. out-of-the-blue indefinite, and preferred target *the*

significantly more often in the anaphoric unique bridging condition than in the non-anaphoric out-of-the-blue definite condition in the AJT

- showed the target contrast between target *that* and non-target *the* in the previous mention with two equally salient antecedents condition in the AJT
- misused non-target *the* in anaphoric indefinite contexts, i.e. partitive and non-unique bridging, but were target-like in using articles in the other conditions in the production task

Overall, the main findings for the L1 Russian groups suggest that the target feature specifications are not yet present in the grammar of the beginner learners and that the feature specifications for the definite article *the* are not target-like in the grammar of the L1 Russian intermediate learners, who incorrectly allowed *the* in anaphoric indefinite conditions and in anaphoric definite conditions with two equally salient antecedents and who omitted articles 50% of the time in the production task. As for the advanced learners, although based on their overall target-like performance it seems that they have acquired the target feature set, their performance in the anaphoric indefinite conditions, i.e. misuse of the definite article with anaphoric indefinite NPs, suggest that the feature specification for the definite article is not target-like in their grammar.

The main findings in the two tasks for the *L1 Chinese* groups (intermediate and advanced) are as follows:

(172) The L1 Chinese *intermediate* group:

- showed the target contrast between *the* and *a* in the three definite conditions and in two out of the three indefinite conditions, i.e. partitive and out-of-the-blue indefinite, but not in the non-unique bridging condition in the AJT
- showed the target contrast between target *that* and non-target *the* in the previous mention with two equally salient antecedents condition in the AJT
- omitted articles across all conditions in the production task, although to a lesser extent than the two lower proficiency L1 Russian groups; misused non-target *the* in anaphoric non-unique bridging contexts but were target-like in using articles in the other conditions in the production task

(173) The L1 Chinese *advanced* group:

- showed the target contrast between *the* and *a* in the three definite conditions and in two out of the three indefinite conditions, i.e. partitive and out-of-the-blue indefinite, but not in the non-unique bridging condition in the AJT

- showed the target contrast between target *that* and non-target *the* in the previous mention with two equally salient antecedents condition in the AJT
- showed a highly significant contrast between using *the* and *a* across all conditions but misused non-target *the* in the anaphoric non-unique bridging condition in the production task

Overall, the main findings for the L1 Chinese groups suggest that both the intermediate and the advanced learners are on the way to acquiring the target feature set of the English articles *the* and *a*. However, they still have difficulty in non-unique bridging contexts, in which they incorrectly allow *the*, suggesting that the feature set for the definite article is not target-like in their grammar.

Comparing the performance of the L1 Russian and L1 Chinese groups across the conditions in the two tasks, the L1 Russian advanced group seem to be more target-like than the L1 Chinese advanced group in showing the target contrast. In contrast, the L1 Chinese intermediate group seem to be more target-like than the L1 Russian intermediate group. While the better performance of the L1 Chinese intermediate group can be attributed to the fact that these learners were significantly more proficient than the L1 Russian intermediate learners ($t = 3.831, p < .0001$), the better performance of the L1 Russian advanced group cannot be accounted by their higher proficiency, as the proficiency of the two advanced groups was not statistically different from each other ($t = -1.640, p = .112$). Therefore, other factors seem to affect the more target-like performance of the L1 Russian advanced group, such as the length of exposure to naturalistic English input (see section 8.2.3 for discussion). The next section discusses different factors that affect the mapping and feature restructuring processes in the L2 acquisition of the target features [familiar, anaphoric] and [unique, anaphoric].

8.2 Feature reassembly in second language acquisition

Recall that on the Feature Reassembly Hypotheses (Lardiere, 2008, 2009a,b), the second language learning task consists of reassembling the features from the way they are realised in the L1 onto new configurations in the L2. This reassembly is argued to involve two processes: feature mapping and feature restructuring. However, what remains unclear under the FRH is what factors affect the mapping and restructuring processes of feature reassembly. In this thesis, I addressed this

question through attempting to provide answers to the following research questions which tease apart different factors that affect feature reassembly:

(174) *Research Questions*

General Research Question 1: What factors play a role in the mapping process of feature reassembly? In particular:

Specific Research Question 1a: Are L2 learners influenced by the differences in the expression of the target features in the L1 and the L2? More specifically, is mapping a feature from an overt L1 morpheme onto an overt L2 morpheme easier than mapping a feature that is realised covertly in the L1 (bare noun) but through a morpheme in the L2?

Specific Research Question 1b: Are L2 learners affected by the transparency of form-feature mappings in the mapping process? That is, is mapping features that are expressed through one form in the L2 and the L1 easier than mapping features that are conflated in one form in the L2 but are distributed on two different forms in the L1?

Specific Research Question 1c: Are L2 learners affected by L1 transfer in the mapping process? In particular, do L2 learners map features from the closest equivalent morpholexical item in the L1 to a morpholexical item in the L2 (based on similarity in meaning or grammatical function)?

General Research Question 2: What factors play a role in the restructuring process of feature reassembly? In particular:

Specific Research Question 2a: Does initial non-target feature mapping affect L2 learners' ability for consecutive feature restructuring?

Specific Research Question 2b: Are L2 learners able to add a new constraint not available in the L1 during feature reassembly?

General Research Question 3: Are L2 learners ultimately able to reassemble the target feature set?

The sections below discuss the findings with regard to the research questions above. More specifically they focus on different factors that affect feature reassembly in the mapping process (Section 8.2.1.) and in the restructuring process (8.2.2). I also discuss the question of ultimate attainment in feature acquisition (8.2.3).

8.2.1 Factors affecting feature mapping

The findings in this thesis indicate that such factors as the overtness of feature expressions in the L1 and the L2, the transparency of form-feature mappings in the L2 as well as the semantics and uses of the closest equivalent morpholexical item in the L1 affect the feature mapping process in the L2. These factors are discussed in Sections 8.2.1.1 – 8.2.1.3 below.

8.2.1.1 Overt versus covert feature expression

Recall that the Specific Research Question 1a concerns the question of whether the overt-to-overt feature mapping is easier than mapping a feature that is realised covertly in the L1 but is expressed through an overt morpheme in the L2. The target features under investigation in this thesis are the features [familiar, anaphoric] and [unique, anaphoric] which are realised through dedicated overt morpholexical items in English, i.e. the definite article *the* and the indefinite article *a*. As discussed in Chapter 3, the native languages of the L2 learners under investigation in this thesis, i.e. Chinese and Russian, do not have dedicated morphemes, i.e. articles, which consistently express these features. Therefore, it has been often suggested in the semantics and linguistics literature that these languages express definiteness covertly (see, for example, Lyons 1999).

However, as shown in Chapter 4, although the features [familiar, anaphoric] and [unique, anaphoric] are usually expressed covertly in Chinese and Russian, i.e. through context, some of the features can receive overt realisation. In particular, it was shown that a demonstrative can express the feature [+familiar, ±anaphoric] and is, in fact, preferred to express the feature [+familiar, +anaphoric] in anaphoric, i.e. previous mention, contexts in both Chinese and Russian. The unstressed numeral *yi* ‘one’ in Chinese and *odin* ‘one’ Russian can express the features [–familiar, –anaphoric] and [–unique, +anaphoric]. However, these languages seem to differ with

regard to their preferences for whether these features are expressed overtly in a given semantic context or whether they receive covert realisation. Thus, there seem to be a preference in Chinese to express the feature [–familiar, –anaphoric] through *yi CL* in out-of-the-blue indefinite contexts. In contrast, whether the feature [–unique, +anaphoric] is expressed overtly depends on different types of non-unique contexts. There is a preference for *yi CL* in partitive contexts whereas in non-unique bridging contexts a covert form, a bare NP is preferred. In Russian, *odin* is preferred to express the feature [–unique, +anaphoric] in both partitive and non-unique bridging contexts, while the feature [–familiar, –anaphoric] is expressed through bare NP and its interpretation is filled through context in out-of-the-blue indefinite contexts. As for the feature [+unique, ±anaphoric], it does not seem to receive overt realisation in either of the two languages, and its interpretation is provided by the discourse context.

As can be seen, the feature [+familiar, ±anaphoric] can receive both overt and covert realisation in Chinese and Russian, although there seems to be a preference to express the feature [+familiar, +anaphoric] through an overt form of demonstratives in the two languages. The features [–familiar, –anaphoric] and [–unique, +anaphoric] can be also expressed either overtly or covertly depending on semantic contexts and preferences in the L1. In contrast, the feature [+unique, ±anaphoric] is the feature that seems to be expressed in a covert way only. It is important to keep in mind that these are native speaker preferences rather than categorical judgements. However, I predicted that, if native speaker preferences for a particular L1 expression of a given feature play a role, this will affect the acquisition of the same feature in the L2. In particular I made the following predictions based on the differences between overt and covert marking of the target features:

(175) Prediction 1 (for RQ 1a): the overt-to-overt mapping of the feature [+familiar, ±anaphoric] from L1 demonstratives onto *the* will be easier, than the covert-to-overt mapping of the feature [+unique, ±anaphoric] from L1 context (bare NPs) onto *the*. As a result, L2 learners will be more accurate at interpreting and using *the* in contexts in which *the* expresses the feature [+familiar, +anaphoric], i.e. previous mention contexts, and the feature [+familiar, –anaphoric], i.e. visible situation contexts, than in contexts in which *the* expresses the feature [+unique, +anaphoric], i.e. unique bridging contexts, and the feature [+unique, –anaphoric], i.e. out-of-the-blue definite contexts.

(176) Prediction 2a (for RQ 1a): for L1 Chinese speakers, the overt-to-overt mapping of the feature [–familiar, –anaphoric] from *yi CL* to *a* will be easy. As for the feature [–unique,

+anaphoric], mapping this feature from *yi CL* to *a* will be easier than mapping the same feature from context onto *a*. As a result, learners will be more accurate at interpreting and using the indefinite article *a* in contexts in which *a* expresses the feature [–familiar, –anaphoric] such as in out-of-the-blue indefinite contexts, and in partitive contexts in which *a* expresses the feature [–unique, +anaphoric] compared to non-unique bridging contexts, in which *a* expresses the feature [–unique, +anaphoric].

- (177) Prediction 2b (for RQ 1a): For L1 Russian speakers, the overt-to-overt mapping of the feature [–unique, +anaphoric] from *odin* onto *a* will be easier than the covert-to-overt mapping of the feature [–familiar, –anaphoric] from context onto *a*. As a result, these learners will be more accurate at interpreting and using *a* in contexts in which *a* expresses the feature [–unique, +anaphoric], such as partitive and non-unique bridging contexts, than in contexts in which *a* expresses the feature [–familiar, –anaphoric] such as in out-of-the-blue indefinite contexts.

With regard to the Prediction 1, recall that visible situation contexts were not operationalised in the two tasks in the present study; therefore, mapping of the feature [+familiar, –anaphoric] will not be discussed in the results. The Prediction 1 is only tentatively supported by the performance of the L1 Russian intermediate group in the acceptability judgement task: these learners were more accurate in accepting target *the* over non-target *a* in previous mention contexts than in unique-bridging and out-of-the-blue definite contexts, although none of the contrasts reached significance. However, the fact that these learners preferred the definite article numerically more often in previous mention contexts might implicate that these contexts are least problematic for these learners. This might be due to the fact that these learners initially mapped the overtly expressed feature [+familiar, +anaphoric] from L1 demonstratives onto *the*. However, the Prediction 1 is not supported by the performance of this group of learners in the production task.

As for the more advanced learners, no significant contrast were attested for the L1 Russian advanced and the L1 Chinese intermediate and advanced groups. However, the findings showed that while the L1 Russian advanced and the L1 Chinese intermediate and advanced groups also preferred *the* more often in previous mention contexts than in out-of-the-blue definite contexts in the acceptability task, they also preferred *the* more often in unique bridging contexts, than in out-of-the-blue definite contexts. In the production task, the L1 Russian advanced group used *the* more often in previous mention contexts than in the two uniqueness contexts; however, the

difference did not reach significance for either of the contexts. Similar to the results in the production task, the two L1 Chinese groups used *the* more often in previous mention and unique bridging contexts than in out-of-the-blue definite contexts.

In other words, while as predicted, the L2 learner groups did not have difficulty in previous mention contexts, assuming that they map the feature [+familiar, +anaphoric] from L1 demonstratives onto *the* in these contexts, only one of the uniqueness contexts, i.e. out-of-the-blue definite was problematic for the learners. That is, not in line with the Prediction 1, the unique bridging condition was not problematic for these learners. These findings suggest that other factors, in addition to the overtness versus covertness of feature expressions seem to affect mapping of the features [+familiar, +anaphoric] and [+unique, ±anaphoric] onto *the* (see Section 8.2.1.3 below for discussion).

With regard to the features [–familiar, –anaphoric] and [–unique, +anaphoric], the performance of the L1 Chinese groups in indefinite contexts in the production task are in line with the Prediction 2a that the covert-to-overt mapping of these features is more problematic than the overt-to-overt mapping. These learners are significantly more accurate in using *a* in out-of-the-blue indefinite contexts and partitive contexts than in non-unique bridging contexts. Thus, the L1 Chinese intermediate group omitted articles in the non-unique bridging condition significantly more than in the other two conditions, suggesting that mapping the covert L1 feature [–unique, +anaphoric] onto *a* in this contexts is problematic for these learners. Article omission was almost non-attested for the L1 Chinese advanced group. However, the two groups incorrectly used *the* in the non-unique bridging condition but not in the other two conditions. Although this shows once again that non-unique bridging contexts are problematic for these learners, the transfer from the L1 cannot account for the misuse of *the* in these contexts and other factors seem to lead to this misuse (see section 8.2.1.3 for discussion).

The results of the L1 Russian intermediate and advanced groups in indefinite contexts in the production task provide counterevidence for the Prediction 2b. Thus, these learners were significantly more accurate in using *a* in out-of-the-blue indefinite contexts than in non-unique bridging contexts. The advanced group also used *a* more often in out-of-the-blue indefinite contexts than in partitive contexts. In addition, L2 learners across the two groups incorrectly used *the* in partitive and non-unique bridging contexts but not in out-of-the blue indefinite contexts (thus, being in line with Prediction 4b, discussed in Section 8.2.1.3). Since L1 transfer cannot account for such misuse, similarly to the results of the L1 Chinese groups, these learners seem to be affected by other factors in their article use (see section 8.2.1.3 for discussion).

Further evidence that some other, and, probably, a common factor seems to affect the performance of the two L1 Chinese groups and the L1 Russian intermediate and advanced groups comes from the performance of these groups in the indefinite conditions in the acceptability task. The L1 Russian advanced learners accepted non-target *the* in the two anaphoric conditions, partitive and non-unique bridging, significantly more than in the non-anaphoric out-of-the-blue indefinite condition. The two L1 Chinese groups also accepted *the* significantly more in one of the anaphoric conditions, non-unique bridging, than in the out-of-the-blue indefinite condition. As can be seen, these results mirror the performance in the production task for these groups of learners.

To summarise, the performance in indefinite contexts of the L1 Chinese groups across the tasks and of the L1 Russian intermediate group in the production task suggests that mapping a feature that is realised covertly in the L1 is more problematic than mapping an overtly realised feature. However, the results also show that while the preferences of how a given feature is expressed in the L1 seem to affect all L1 Chinese speakers regardless of their proficiency, the proficiency seems to be a factor for the lower proficiency Russian group only, with low proficiency learners being affected by feature overtness. Furthermore, the discussion above also suggests that other factors (discussed below), in addition to overt versus covert feature marking, seem to affect feature mapping.

8.2.1.2 Transparency of form-feature mapping

The Specific Research Question 1b investigated in this thesis is whether the transparency of form-feature mappings plays a role in mapping and reassembling the target L2 features. I hypothesised that the acquisition of features which require transparent mapping will be easier than the acquisition of features mapped onto forms in non-transparent, ambiguous, ways. In other words, mapping and reassembling features from one form in the L1 onto one form in the L2 should be easier than mapping and reassembling features that are realised in two different ways in the L1 but are conflated in one form in the L2. The rationale behind this prediction is that since L2 learners do not a priori know how many features a given morpheme in the L2 expresses, if the closest equivalent form in the L1 expresses only one feature, they will initially assume that only one feature is expressed through a given morpheme in the L2. Further evidence in the input will be needed for L2 learners to notice that more than one feature is encoded in the target L2 morpheme. I put forth the following prediction for mapping the features [+familiar, ±anaphoric]

and [+unique, ±anaphoric] onto *the* and the features [–familiar, –anaphoric] and [–unique, +anaphoric] onto *a*.

- (178) Prediction 3 (for RQ 1b): mapping the features [–familiar, –anaphoric] and [–unique, +anaphoric], which are expressed through one form in the L2 (the indefinite article) and one form in the L1 (either an unstressed numeral or context), will be easier than mapping the features [+familiar, ±anaphoric] and [+unique, ±anaphoric], which are expressed through one form in the L2 (the definite article) but are realised through two different ways in the L1 (i.e., demonstratives express the feature [+familiar, ±anaphoric] while bare NPs express the feature [+unique, ±anaphoric]). As a result, L2 learners, regardless their L1, will be overall more target-like in using the indefinite article *a* than the definite article *the*.

Recall that the contrastive analysis of how the features [familiar, anaphoric] and [unique, anaphoric] are expressed in Chinese and Russian, the L1s of L2 learners in the present study, showed that either context or an unstressed numeral can express the two features [–familiar, –anaphoric] and [–unique, +anaphoric] in these languages (see Chapter 4). Although the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] have a single expression, i.e. context, in these languages, the feature [+familiar, ±anaphoric] can also be expressed through demonstratives, while the feature [+unique, ±anaphoric] cannot. In English, the L2 under investigation in the present study, the features [–familiar, –anaphoric] and [–unique, +anaphoric] are expressed through the indefinite article *a*, hence a single exponent, and the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] are also expressed through one form of the definite article *the*.

Assuming that L2 learners map the features from the closest equivalent morpheme in the L1 to that of the L2 based on similarities in meaning and grammatical function (as suggested by the FRH), mapping the [–familiar, –anaphoric] and [–unique, +anaphoric] from one form in the L1, the unstressed numeral (*yi* in Chinese and *odin* in Russian), onto *a* will be easier than mapping the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] which are realised in two different ways in the L1, demonstratives and context, respectively, onto *the*. As a result, I predicted that L2 learners are expected to be more target-like in using the indefinite article than the definite article. That is, if L2 learners map the target features onto *a*, they will not misuse *a* in definite contexts. In contrast, if L2 learners do not map the target features onto *the*, they will misuse *the* in indefinite contexts.

The Prediction 3 was confirmed by the findings in the production task. The L2 learners across all proficiency levels and L1 groups hardly ever misused the indefinite article in definite contexts, the highest percentage of misuse being 10%. Even the L1 Russian intermediate group who omitted articles almost 50% of the time across the definite conditions, did not use *a* incorrectly in these conditions. In contrast, four out of the five L2 learner groups, the two intermediate and advanced groups, incorrectly used the definite article in indefinite contexts in the production task, the highest percentage of misuse reaching 27%. In particular, the misuse of *the* was attested in partitive and non-unique bridging, contexts.

To sum up, the fact that L2 learners hardly ever use *a* in definite contexts in the production task suggests that they know that the indefinite article is not appropriate in definite contexts, since it is not compatible with the features [+familiar, ±anaphoric] or [+unique, ±anaphoric]. This, in turn, suggests that L2 learners know that *a* expresses the features [–familiar, –anaphoric] and [–unique, –anaphoric]. In contrast, the fact that L2 learners produce *the* in indefinite contexts, which are non-unique, suggests that they do not always map uniqueness onto *the*. To put it in other words, although based on the results in definite contexts in the production task, i.e. the fact that L2 learners do not allow an indefinite article in these contexts, it appears that L2 learners have mapped the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] onto *the*, the fact that they produce *the* in indefinite contexts suggests that the underlying feature specifications for *the* might not be target-like in L2 learners' grammar.

8.2.1.3 Semantics and uses of the closest morphological counterpart in the L1

The Specific Research Question 1c in this thesis asks whether L2 learners map the features from the closest equivalent morphological item in the L1 to the morphological item in the L2 in the mapping process. Recall that based on the predictions of the Feature Reassembly Hypothesis, in the mapping process, L2 learners look for the closest equivalent morpheme in the L1 based on the similarities in meaning between the L1 and the L2 morphemes. Thus, it was predicted that L2 learners will map the feature [+familiar, ±anaphoric] from L1 demonstratives onto *the*, as both of these morphemes express this feature.

In addition, based on the cross-linguistic analysis of how the feature [+familiar, ±anaphoric] is expressed through demonstratives and the definite article in English, it was shown that the feature [+familiar, +anaphoric] is most commonly expressed in anaphoric definite contexts, such as previous mention contexts. Therefore, I predicted that L2 learners will incorrectly associate the

use of *the* with anaphoric contexts. I made the following predictions for the use and interpretation of articles in definite and indefinite contexts:

(179) Prediction 4a (for RQ 1c): L2 learners will map the feature [+familiar, +anaphoric] from L1 demonstratives onto *the* and will associate *the* with anaphoric contexts. As a result, in definite contexts, L2 learners will be more accurate at interpreting and using *the* in anaphoric definite contexts, such as previous mention and unique bridging, than in non-anaphoric definite contexts, such as out-of-the-blue definite.

(180) Prediction 4b (for RQ 1c): L2 learners will map the feature [+familiar, +anaphoric] from L1 demonstratives onto *the* and will associate *the* with anaphoric contexts. As a result, in indefinite contexts, L2 learners, regardless of their L1, will incorrectly interpret and use *the* in anaphoric indefinite contexts such as partitive and non-unique bridging, but not in non-anaphoric indefinite contexts, such as out-of-the-blue indefinite.

Looking at the results, the performance of the L1 Russian advanced and the two L1 Chinese groups in the definite conditions in the two tasks provide partial support for the Prediction 4a. Thus, in the AJT, the L1 Russian advanced group showed a significant contrast in preferring *the* in anaphoric unique bridging contexts compared to non-anaphoric out-of-the-blue definite contexts and a non-significant trend in preferring *the* in anaphoric previous mention contexts compared to non-anaphoric out-of-the-blue definite contexts. The L1 Chinese advanced group preferred *the* significantly more in previous mention contexts than in out-of-the-blue definite contexts and the two Chinese groups tended to prefer *the* more often in unique bridging contexts than in out-of-the-blue definite contexts. More, specifically neither of these groups preferred *the* significantly more often in non-anaphoric definite contexts compared to anaphoric definite contexts, which will go against the prediction.

In definite contexts in the production task, the L1 Chinese intermediate group used *the* significantly more often in one of the anaphoric conditions, i.e., unique bridging, compared to the non-anaphoric out-of-the-blue definite condition. Although no significant contrast was attested between the anaphoric previous mention condition and the non-anaphoric out-of-the-blue definite condition for this group of learners, these learners tended to use *the* more often in the previous mention condition than in the out-of-the-blue definite condition. No other significant contrasts were attested for the other L2 learner groups.

In other words, the reason some L2 learners are target-like in previous mention and unique bridging contexts is because these contexts are anaphoric. That is, regardless of whether L2 learners map uniqueness onto *the*, which is expressed in unique bridging contexts, if they associate *the* with anaphoricity, they will use the definite article correctly in these contexts. Although, the proposal that L2 learners associate *the* with anaphoricity cannot account for the target-like use of *the* in non-anaphoric unique definite contexts such as out-of-the-blue definite contexts, it is possible that the reason L2 learners appear target-like in these contexts is because these contexts involve world unique entities such as *the sky*, *the world*, *the sun*. Therefore, it is plausible that L2 learners have memorised the use of the definite article with these nouns as memorised units.

The findings in the indefinite conditions across the two tasks for the more proficient learners provide further evidence for the effect of anaphoricity on article interpretation and use. In the acceptability task, the L1 Russian advanced group accepted the non-target *the* significantly more in the two anaphoric indefinite conditions, i.e. partitive and non-unique bridging, than in the non-anaphoric out-of-the-blue indefinite condition. The two L1 Chinese groups also accepted *the* significantly more in one of the anaphoric conditions, i.e. non-unique bridging, than in the non-anaphoric out-of-the-blue indefinite condition. However, while the L1 Chinese speakers were affected by anaphoricity in anaphoric non-unique bridging contexts, this effect was absent in anaphoric partitive contexts. As suggested in Section 8.2.1.1 above, this result is due to the fact that these learners were aided by L1 transfer, i.e. mapping the target feature [-unique, +anaphoric] from the L1 unstressed numeral *yi* CL onto *a* in partitive contexts. The effect of anaphoricity attested in the indefinite conditions in the acceptability task was echoed in the findings in the production task for the three groups of learners.

As for the lower proficiency group, the L1 Russian intermediate group showed a significant effect of the type of semantic context on the misuse of *the* in the production task. Similar to the performance of the advanced learners, the intermediate group also used *the* significantly more in the two anaphoric conditions, i.e. partitive and non-unique bridging, than in the non-anaphoric out-of-the-blue indefinite condition. Although, the effect of anaphoricity was not attested for this group of learners in the acceptability task, it was present in the production task. However, recall that in the acceptability task the L1 Russian intermediate group tended to optionally allow both articles across all conditions, hardly ever showing the contrast between the two forms. Therefore, it is possible that the acceptability task was difficult for these learners, and their performance in the production task might be a better reflection of their true language competence.

Overall, the above results suggest that L2 learners are affected by the similarity in meaning between the L2 morphological item and the equivalent form in the L1 in the feature mapping process, thus being consistent with the Feature Reassembly Hypothesis (Lardiere, 2009).

8.2.2 Factors affecting feature restructuring

The findings in this thesis indicate that factors as the interplay between initial feature mapping and consecutive feature restructuring as well as the acquisition of a new constraint play a role in the feature restructuring process in the L2. These factors are discussed in Sections 8.2.2.1 – 8.2.2.2 below.

8.2.2.1 Initial non-target feature mapping

The Specific Research Question 2a in this thesis asks whether the initial non-target feature mapping affects L2 learners' ability for consecutive target-like feature restructuring. In relation to this question, I predicted that initial incorrect mapping will affect consecutive reassembly. More specifically, I made the following prediction:

- (181) Prediction 5 (for RQ 2a): initial non-target mapping of anaphoricity onto *the* will have a long-lasting effect on L2 learners' interpretation and use of *the* and *a*

Based on the Prediction 5, even more proficient learners will have difficulty overcoming the effect of anaphoricity, i.e. the initial incorrect mapping of anaphoricity on the definite article *the* and the association of *the* with anaphoric contexts, as discussed in Section 8.2.1.3.

The results in the two tasks from the L1 Russian advanced group and the L1 Chinese intermediate and advanced groups suggest that the effect of anaphoricity is persistent even in very proficient learners. Overall, the findings for these learner groups suggest that these learners seem to make a distinction between anaphoric definite contexts, previous mention and unique bridging, on the one hand, and non-anaphoric out-of-the-blue definite contexts, on the other. In particular, L2 learners tend to be more accurate at interpreting and using *the* in anaphoric definite contexts compared to non-anaphoric definite contexts, and they incorrectly allow and use *the* in anaphoric indefinite contexts, such as partitive and non-unique bridging.

Overall, these findings suggest that the initial non-target mapping of anaphoricity onto the definite article *the* is difficult to overcome even for more proficient L2 learners. As a result, these learners have difficulty in restructuring the target features of *the*.

8.2.2.2 Acquisition of a new constraint

The Specific Research Question 2b concerns the question of whether L2 learners are able to add a new constraint not available in the L1 during the feature reassembly process. Recall from the discussion in Section 6.2, that mapping the feature [+familiar, ±anaphoric] from L1 demonstratives onto *the* will require some reassembly, namely adding a new constraint for the expression of the feature [+familiar, ±anaphoric] through the definite article *the*. More specifically, L2 learners need to learn that the feature [+familiar, +anaphoric] is computed relevant to the most salient antecedent with *the* (and not relevant to the immediately salient antecedent as is the case for demonstratives) and that the feature [+familiar, –anaphoric] is computed relevant to the most perceptually salient referent with *the* (and not relevant to the immediately perceptually salient referent, as is the case for demonstratives). In relation to this question, I made the following prediction:

- (182) Prediction 6 (for RQ 2b): adding a new constraint, i.e. that the feature [+familiar, ±anaphoric] is computed relevant to the most salient antecedent/most perceptually salient referent with *the* will be difficult, although not impossible, for L2 learners. As a result, L2 learners will incorrectly allow *the* in previous mention contexts with two equally salient antecedents.

Recall that the interpretation and use of *the* in contexts in which it expresses the feature [+familiar, –anaphoric], i.e. in visible situation contexts, was not investigated in the present study. Therefore, the acquisition of this feature is not discussed here. With regard to the feature [+familiar, +anaphoric], Prediction 6 was confirmed by the performance of the lower proficiency L2 learners, the L1 Russian intermediate group, in the acceptability judgment task. These learners accepted both *the* and *that* to the same extent in previous mention contexts with two equally salient antecedents, failing to reject *the* in these contexts. These findings show that the lower proficiency learners map the feature [+familiar, +anaphoric] and its constraint onto *the*, thus allowing *the* to refer to the immediately salient antecedent in contexts with two equally salient

antecedents, in which only demonstratives should be felicitous. In other words, these learners equate the semantics of the definite article *the* with the semantics of demonstratives.

However, the results also show that L2 learners are able to acquire a new constraint with increasing proficiency. Thus, the more proficient L2 learners, the L1 Russian advanced group and the two L1 Chinese groups, were target-like in preferring *that* rather than *the* in previous mention contexts with two equally salient antecedents, rejecting the inappropriate definite article in these contexts. This is further confirmed by the performance of individual learners. Thus, 50 % of the L1 Russian advanced and L1 Chinese advanced learners performed in a target-like way, suggesting that the acquisition of the target constraint is possible. However, the fact that 33% of the L1 Russian advanced learners and 25% of the L1 Chinese learners accepted *the* half of the time in previous mention contexts with two equally salient antecedents suggests that acquiring a new constraint is not instantaneous and might be problematic even for more proficient learners.

Overall, the performance of the lower proficiency groups suggests that these learners are still affected by L1 transfer: they map the feature [+familiar, +anaphoric] and its constraint from the L1 demonstratives onto both *that* and *the*. This implies that they have not yet reassembled the target [+familiar, +anaphoric] feature on *the*. The performance of the more proficient learners suggests that they are able to acquire the target contrast between *the* and *that*. In other words, they are able to add a new constraint to the target featural specifications of *the*. That is, they are able to learn that *the* is used in a situation with the most salient antecedent, thus, it should not be preferred in contexts with two equally salient antecedents. However, as shown by the performance of the English speakers, this constraint can be sometimes violated even in the native grammar, suggesting that the evidence in the input might be ambiguous for L2 learners. This, in turn, might lead to the delay in the acquisition of the target feature set and its constraint.

Recall from the discussion in Section 2.3.2 that the incorrect use of the definite article in contexts requiring the use of demonstratives was also attested for L1 Korean speakers in a study by Ionin et al. (2012). Although Ionin et al. (2012) argue that this misuse is due to the incorrect mapping of the semantics of L1 demonstratives onto *the*, their proposal differs from the proposal advanced in this thesis. More specifically, they suggest that demonstratives and the definite article share the semantics of uniqueness, but differ in how this uniqueness is computed. Based on the discussion of the semantics of definiteness in Chapter 3, it is suggested in this thesis that it is the semantics of familiarity, rather than uniqueness, that is shared by demonstratives and the definite article, and that they differ in how familiarity is computed: relevant to the most salient antecedent, as is the case for *the*, or relevant to the immediately salient antecedent, as is the case for demonstratives. This proposal offers an alternative account for the misuse of the definite article in contexts requiring demonstratives, as attested for L2 learners from article-less L1s.

8.2.3 Ultimate attainment in second language feature reassembly

The Research Question 3 in this thesis investigates whether L2 learners are ultimately able to reassemble the target feature set. Following the Feature Reassembly Hypothesis (Lardiere, 2008, 2009a,b), I made the following prediction:

- (183) Prediction 7 (for RQ 3): More proficient learners will be able to reassemble the target features [familiar, anaphoric] and [unique, anaphoric] onto L2 English articles.

In order to ascertain that the target features under investigation in this thesis, i.e. the features [familiar, anaphoric] and [unique, anaphoric], have been acquired by L2 learners, it is important to look at both article production and article interpretation. On a group and on an individual level, it is important to see whether L2 learners have established the target contrast between the appropriate and the inappropriate form in each of the target contexts. Thus, we should see that, L2 learners accept the target *the* and reject the non-target *a* in definite contexts and that they accept the target *a* and reject the non-target *the* in indefinite contexts in the acceptability judgement task.

The group results in the acceptability task show that while the three more proficient groups, the L1 Russian advanced group and the two L1 Chinese groups, seem to distinguish between *the* and *a* in definite contexts, the L1 Russian advanced group is the only group which also distinguishes between *a* and *the* in indefinite contexts. In addition, the L1 Russian advanced group is the only group who consistently rejected the inappropriate articles across the conditions that tested the interpretation of *the* and *a*. Thus, they rejected the non-target indefinite article across all definite conditions and they rejected the non-target definite article across all indefinite conditions. In contrast, all three groups have established the target contrast between *the* and *that* in contexts that tested the interpretation of the definite article and demonstratives.

The group results in the production task show that while the three groups seem to have established the target contrast between *the* and *a* in definite and indefinite contexts, the L1 Chinese intermediate group often omitted articles across the contexts. They also misused the non-target definite article in indefinite contexts. While the two advanced groups hardly ever omitted an article, they also used non-target *the* in indefinite contexts, although the misuse of *the* was low for the L1 Russian advanced group, not exceeding 15%.

Overall, based on the results from the two tasks, it appears that the L1 Russian advanced group is the only group that have successfully reassembled the features [+familiar, ±anaphoric] and [+unique, ±anaphoric] onto *the* and the features [-familiar, -anaphoric] and [-unique, +anaphoric] onto *a*. This group have also added a new constraint not available in the L1, namely, that the feature [+familiar, +anaphoric] is computed relative to the most salient referent with the definite article.

The question arises as to why the L1 Russian advanced group are more target-like than the L1 Chinese advanced group. Since the proficiency of the two groups is not significantly different ($t = -1.640, p = .112$), the proficiency effect cannot account for this result. The two groups also did not differ with regard to the age of the first exposure to English ($t = .786, p = .437$) and the years of learning English ($t = .475, p = .637$). In addition, since the L1 does not play a facilitative role for the L1 Russian advanced group, their overall better performance cannot be attributed to the L1 transfer.

However, the comparison between the two advanced groups shows that the only significant difference between them is the length of exposure to naturalistic input, i.e. the length of stay in an English-speaking country. Thus, the mean length of exposure for the L1 Chinese advanced group ($n = 20$) is 4.8 months (range 0 – 11 months), while the mean length of exposure for the L1 Russian advanced group ($n = 18$) is 32.8 months (range 2 – 72 months), the difference being highly significant ($t = -5.165, p < .0001$). In other words, with proficiency being constant, what accounts for the better performance of the L1 Russian advanced group is their longer exposure to naturalistic input. More specifically, all of the L1 Russian advanced learners ($n=18$) have stayed in an English-speaking country, with the majority ($n=14$) exceeding 12 months. In contrast, although 16 out of the 20 L1 Chinese advanced learners have stayed in an English-speaking country, only one learner reached the 11 month threshold. Overall, this finding suggests that the length of exposure to the naturalistic L2 input plays a facilitative role in the acquisition of the L2 features.

Looking at individual results, 1 (out of 20) L1 Chinese advanced learners and 3 (out of 18) L1 Russian advanced learners performed in a completely target-like way across all conditions in the two tasks. That is, the mean error rate for these learners did not exceed 33% in the conditions testing the interpretation of *the* versus *a* and 25% in the conditions testing the interpretation of *the* versus *that* in the acceptability task, and 25% across all conditions in the production task.²² However, looking only at the performance of L2 learners in the conditions testing the interpretation and use of articles across the two tasks, 8 out 18, that is almost 50%, of the L1

²² The difference in the criteria for the error rate is due to the different number of test items per condition in the AJT and the WSPT. See Chapter 7 for the criteria for individual analysis.

Russian advanced learners were target-like, while only 2 out of 41 L1 Chinese intermediate learners and 1 out of 20 L1 Chinese advanced learners performed in a target-like way.

Overall, the performance of the 4 learners who were target-like across all conditions in the two tasks suggests that reassembling the L2 features and constraints on their expression is ultimately possible.

8.2.4 Summary

The sections above discussed different factors that play a role in the mapping and restructuring processes of feature reassembly. This section summarises the main findings with reference to the Feature Reassembly Hypothesis (Lardiere 2009, a,b) and the cline of difficulty in feature acquisition (Slabakova, 2009).

With regard to the role of feature overtness in feature reassembly, the performance of the L1 Chinese groups in indefinite contexts across the two tasks provides support for the cline of difficulty in feature acquisition. More specifically, the results show that these learners were more accurate in using the indefinite article in out-of-the-blue indefinite and partitive contexts that involve the overt-to-overt feature reassembly of the features [-familiar, -anaphoric] and [-unique, +anaphoric], respectively, from the L1 unstressed numeral *yi Ci* onto *a*, than in non-unique bridging contexts that involve the covert-to-overt feature reassembly of the feature [-unique, +anaphoric] from the L1 unstressed numeral *yi Ci* onto *a*.

However, the performance of the L1 Russian intermediate and advanced group in indefinite contexts in the AJT and WSPT provide counterevidence for the cline of difficulty in feature acquisition. Contra the Prediction 2b, these learners were overall more accurate in using the indefinite article *a* in out-of-the-blue indefinite contexts, which involve the covert-to-overt feature reassembly, than in partitive and non-unique bridging contexts, which involve the overt-to-overt feature reassembly from the L1 unstressed numeral *odin* onto *a*.

The prediction of the cline of difficulty in feature acquisition that the overt-to-overt feature reassembly will be easier than the covert-to-overt feature reassembly was also not supported by the performance of the L2 learners in definite contexts in the AJT. None of the L2 learners groups accepted and used the definite article significantly more often in previous mention contexts, than in unique-bridging and out-of-the-blue definite contexts, although the L1 Russian intermediate group were numerically more accurate in accepting *the* in previous mention contexts, that involve

reassembling the feature [+familiar, +anaphoric] from L1 demonstratives onto *the*, than in non-unique bridging contexts that involve reassembling the features [+unique, ±anaphoric] from L1 bare nouns onto L2 *the*.

However, recall that four L2 learner groups, the L1 Russian intermediate and advanced and the L1 Chinese intermediate and advanced, incorrectly misused the definite article *the* in non-unique indefinite contexts, such as partitive and non-unique bridging. This result suggests that L2 learners have difficulty computing uniqueness in the definite article, that is they have problems with the covert-to-overt reassembly of the feature [+unique, ±anaphoric] from L1 bare nouns onto *the*, thus, being in line with claims of the cline of difficulty in feature acquisition.

Overall, the findings provide only partial support for the cline of difficulty in feature acquisition proposed by Slabakova (2009). More specifically, the findings show that while some L2 learners are affected by the distinction between overt versus covert feature expression (the L1 Chinese intermediate and advanced groups), for other L2 learners (the L1 Russian intermediate and advanced group) this distinction does not seem to play a role. Therefore, it is possible that other factors rather than the overtness of feature expressions might be affecting feature reassembling for these learners.

With regard to the role of transparency in feature mapping, overall, the results suggest that, as predicted, mapping the features [–familiar, –anaphoric] and [–unique, +anaphoric] onto *a* is easier than mapping the features [+familiar, ±anaphoric] or [+unique, ±anaphoric] onto *the*, as the latter mapping involves the ambiguous mapping of two features. More specifically, L2 learners seem to have difficulty in mapping uniqueness onto *the*, thus allowing *the* in non-unique indefinite contexts, while not misusing *a* in definite contexts. Consequently, using the definite article appropriately is more difficult for L2 learners. This proposal offers an alternative explanation for the problems with using the definite article correctly, and more specifically the difficulty in mapping uniqueness onto *the*, attested in previous studies (Ko et al., 2008; Yang & Ionin, 2009; Ko, et al. 2010 ; Cho, 2016).

The discussion in Section 8.2.1.3 showed that L2 learners are affected by the similarity in meaning and uses between the L2 morpholexical item and the closest morpholexical counterpart in the L1 in the feature mapping process, thus being in line with the predictions of the Feature Reassembly Hypothesis (Lardiere, 2009a,b). More specifically, it was shown that L2 learners map the semantics, i.e. the feature [+familiar, +anaphoric], and the most common uses of L1 demonstratives, i.e. uses in anaphoric previous mention contexts, onto *the* and as a result incorrectly associate *the* with anaphoric contexts.

Thus, the performance of some L2 learner groups in definite and indefinite contexts in the two tasks shows that L2 learners are affected by anaphoricity in their use and interpretation of the definite article in definite contexts (to be discussed in details in Section 8.3): the L1 Russian advanced group in the acceptability task and the L1 Chinese intermediate groups in the production task. These learners were significantly more accurate in accepting and using *the* in anaphoric unique bridging contexts compared to non-anaphoric out-of-the-blue definite contexts, and they followed a non-significant tendency in accepting and using *the* more often in anaphoric previous mention contexts than in non-anaphoric out-of-the-blue definite contexts. Although no significant contrasts were attested for the other L2 learner groups, neither of these groups accepted or used *the* significantly more often in non-anaphoric definite contexts compared to anaphoric definite contexts, which will go against the prediction. In indefinite contexts across the two tasks, the L1 Russian advanced group and the L1 Chinese intermediate and advanced groups incorrectly accepted and misused the definite article in anaphoric indefinite contexts but not in non-anaphoric indefinite contexts. A similar performance was attested for the L1 Russian intermediate group but in the production task only.

Evidence for the claim that L2 learners map the semantics of L1 demonstratives and the constraints on their uses comes from the performance of L2 learners in contexts comparing the acceptance of demonstratives and the definite article. As discussed in Section 8.2.2.2, the intermediate learners and even some of the advanced learners in the two L1 groups incorrectly accepted *the* in contexts with two equally salient antecedents, in which *the* should not be felicitous. However, the results from some more proficient learners in the L1 Russian advanced group and the L1 Chinese intermediate and advanced group show that it is possible to acquire a new constraint in the restructuring process of feature reassembly.

With regard to the question of whether the target feature reassembly is possible, the target-like performance of four L2 learners (3 L1 Russian advanced learners and 1 L1 Chinese advanced learner) across the different conditions in the two tasks suggests that L2 learners are able to reassemble the target L2 feature set, and that such factor as the length of exposure to the L2 naturalistic input appears to play a facilitative role in the restructuring process. However, such factors as the

overtness of feature marking, transparency of form-feature mapping, incorrect initial feature mapping as well as the acquisition of a new constraint seem to impede the target feature reassembly.

8.3 The role of anaphoricity in the L2 acquisition of definiteness in English

The findings discussed in Section 8.2.1.3 show that L2 learners are affected by the notion of anaphoricity when acquiring the semantics of English articles. Recall that based on the discussion of the semantics definiteness in Chapter 3, the concept of definiteness is comprised of two independent notions, i.e. familiarity and uniqueness. Through the discussion of the different uses of definite descriptions, it became apparent that another notion, namely the notion of anaphoricity, constitutes part of the semantics of definiteness. I proposed the following informal definitions of the different meanings of definiteness and indefiniteness (see Section 4.1 for discussion):

(184) Different meanings of definiteness:

- a. *Familiarity*: an NP is familiar if the hearer already has the mental representation of the intended referent through the previously mentioned most salient direct antecedent (*anaphoric familiarity*) or through the presence of the perceptually most salient antecedent (*non-anaphoric familiarity*)
- b. *Uniqueness*: an NP is unique if a unique referent for the hearer exists in a given situation based on the unique part-whole relation with the previously mentioned indirect antecedent (*anaphoric uniqueness*) or through general knowledge that a given situation contains only one unique referent (*non-anaphoric uniqueness*)

(185) Different meanings of indefiniteness:

- a. *Non-familiarity*: a NP is non-familiar if it refers to a new referent for the speaker and the hearer or to a referent that is known to the speaker but unknown to the hearer (*non-anaphoric non-familiarity*)
- b. *Non-uniqueness*: a NP is non-unique if it refers to a non-unique referent through a non-unique member-set/part-whole relation with the previously mentioned direct/indirect antecedent (*anaphoric non-uniqueness*)

I further proposed the following feature bundle for English articles (see Section 4.1):

- (186) [D, ±familiar/±unique, ± anaphoric]:
[+familiar, +anaphoric] → ‘the’
[+familiar, -anaphoric] → ‘the’

[+unique, +anaphoric] → 'the'

[+unique, -anaphoric] → 'the'

[-familiar, -anaphoric] → 'a'

[-unique, +anaphoric] → 'a'

As can be seen from (186), the definite article *the* in English can express anaphoric/non-anaphoric familiarity and anaphoric/non-anaphoric uniqueness, i.e. the features [+familiar, ±anaphoric] and [+unique, ±anaphoric], respectively. As for the indefinite article *a*, it can express non-anaphoric non-familiarity, i.e. the feature [-familiar, -anaphoric], or anaphoric non-uniqueness, i.e. [-unique, +anaphoric].

Based on the contrastive analysis of the expression of the features of definiteness in English, Russian and Chinese (see section 4.5 for discussion) as well as taking into account the claims of the FRH and of the cline of difficulty in feature acquisition (Slabakova, 2009), I suggested that in the initial mapping process L1 Chinese and L1 Russian L2 English learners will map the feature [+familiar, ±anaphoric] from the overt form of L1 demonstratives onto the overt form of *the* in English. I further suggested that since both demonstratives in the L1 and *the* in L2 English are most commonly used in previous mention contexts, in which they express anaphoric familiarity, L2 learners will incorrectly associate the use of *the* with anaphoricity. As for the feature [+unique, ±anaphoric], I predicted that L2 learners will have difficulty mapping uniqueness onto *the* as it involves the covert-to-overt mapping, i.e. mapping from L1 bare NPs onto L2 *the*.

I further predicted that the incorrect association of *the* with anaphoricity will result in the more accurate use and interpretation of *the* in anaphoric definite contexts, such as previous mention and unique bridging, than in non-anaphoric definite contexts, such as out-of-the-blue definite. Note that although the definite article expresses uniqueness in both unique bridging contexts and out-of-the-blue definite contexts, only unique bridging contexts are anaphoric. In other words, even if L2 learners do not always map uniqueness onto *the*, but rather incorrectly associate *the* with anaphoricity, they will, nevertheless, appear target-like in unique bridging contexts.

In addition, I suggested that the incorrect association of *the* with anaphoricity will lead to the misuse of *the* in anaphoric indefinite contexts, such as partitive and non-unique bridging. Recall that in these contexts the indefinite article expresses the feature [-unique, +anaphoric]. In fact, the indefinite article can only express non-uniqueness in anaphoric contexts. Thus, I predicted that if L2 learners incorrectly associate *the* with anaphoricity while failing to always map

uniqueness onto it, they will allow *the* in partitive and non-unique bridging contexts, which involve anaphoricity but are non-unique.

The findings discussed in Section 8.2.1.3 support these predictions. Overall the results of the L1 Russian advanced group from the two tasks in both definite and indefinite contexts suggest that these learners are affected by anaphoricity in their use and interpretation of the definite and indefinite articles in English. Moreover, the effect of anaphoricity seems to be stronger in indefinite contexts than in definite contexts. More specifically, these learners were more accurate at using and interpreting *the* in anaphoric definite contexts, i.e. in previous mention and unique bridging, but they also incorrectly allowed *the* in anaphoric indefinite contexts, i.e. partitive and non-unique bridging.

The results for the two L1 Chinese groups, intermediate and advanced, across the tasks and conditions, also suggest that these learners are affected by anaphoricity in the interpretation and use of *the* and *a* in English. Similar to the L1 Russian advanced group, these groups of learners were more accurate at using and interpreting *the* in anaphoric definite contexts. However, although they also incorrectly allowed *the* in anaphoric indefinite contexts, they did so only in non-unique bridging contexts, but not in partitive contexts. It is possible that transfer from the L1 overrides the effect of anaphoricity in anaphoric partitive contexts for L1 Chinese speakers. That is, as discussed in Section 8.2.1.1, the fact that *yi CL* is preferred to express the feature [–unique, +anaphoric] in partitive contexts in Chinese seems to facilitate the overt-to-overt reassembling of this feature onto *a* in partitive contexts in English. In contrast, the fact that bare NPs are preferred to express the feature [–unique, +anaphoric] in non-unique bridging contexts in Chinese appears to impede the covert-to-overt reassembly of this feature onto *a* in non-unique bridging contexts in English. This finding shows that the preference for an overt form to express a given feature in the L1 facilitates the acquisition of the same feature in the L2, thus providing support for the cline in difficulty of feature acquisition (Slabakova, 2009).

The role of anaphoricity in the L2 acquisition of definiteness in English has also been attested in a recent study by Cho (2016) with L1 Korean speakers (see the discussion of this study in Section 5.4.2). Cho proposes the distinction between anaphoric and non-anaphoric definiteness. She suggests that in English both types of definiteness are expressed through the definite article *the*. In Korean, an article-less language, anaphoric definiteness can be expressed by the demonstrative *ku* while non-anaphoric definiteness is expressed through bare NPs. Cho argues that L1 Korean speakers will be more accurate in using *the* in contexts in which *the* expresses anaphoric definiteness, as they will be mapping anaphoric definiteness from L1 demonstratives into L2 *the*. She investigated L2 learners' preferences for a given article form, i.e. *the* or *a*, in three types of anaphoric definite contexts (direct anaphoric, taxonomic anaphoric and anaphoric bridging) and

one non-anaphoric definite context (non-anaphoric bridging). Although the findings from intermediate L2 learners were in line with Cho's prediction, the performance of advanced L2 learners was not as predicted. In particular, while intermediate learners had difficulty with non-anaphoric bridging contexts only, for advanced learners both anaphoric bridging and non-anaphoric bridging contexts were problematic.

It should be noted here that Cho's classification of different types of definite contexts based on anaphoricity is different from the classification proposed in this thesis. More specifically, while I argue that all bridging definite contexts are anaphoric, Cho makes a distinction between anaphoric and non-anaphoric bridging definite contexts. Thus, her non-anaphoric bridging context is essentially anaphoric on the proposal advanced in this thesis. Since Cho did not test L2 learners preferences in out-of-the-blue definite contexts, i.e. non-anaphoric definite contexts, as proposed in this thesis, her findings are not directly comparable to the findings in the present study. In addition, Cho argues that anaphoricity is a feature of definite NPs only. On my proposal, the notion of anaphoricity also applies to indefinite NPs, and is not an inherent property of definite NPs. Further research comparing L2 learners from different L1s and testing different semantic contexts is needed in order to ascertain the role of anaphoricity in the L2 acquisition of articles in English.

Overall, the findings in the present study contribute to the research on L2 English articles in two ways. First, they reveal that anaphoricity is a factor that affects L2 article choice. Second, the findings show that the way the two meanings of definiteness are expressed in article-less L1s has direct implications on the acquisition of these meanings in L2 English.

8.3.1 Alternative explanations

Recall from the discussion of the previous research on the L2 acquisition of English articles in Chapter 2 (Section 2.3), problems with uniqueness expressed by the definite article *the* have been attested in a number of studies (Ko et al., 2006, 2008, 2010; Yang and Ionin, 2009). Thus, similar to the findings in the present study, Ko and colleagues found that L1 Korean L2 English learners misuse the definite article in partitive and non-unique bridging (their implicit partitive) contexts, but not in out-of-the-blue indefinite contexts (their non-partitive). Accounting for this misuse, Ko and colleagues suggested that although the definite article in English encodes the presupposition of existence and uniqueness, L2 learners associate it with the presupposition of existence only. Since NPs in partitive and non-unique bridging contexts are presuppositional, as the target NP is

presupposed to exist in the previously mentioned set, L2 learners incorrectly allow *the* in these contexts.

However, on Ko et al's proposal it is not clear what leads L2 learners to associate *the* with presuppositionality only rather than with presuppositionality and uniqueness. In other words, on this proposal it is not clear why L2 learners do not map uniqueness onto *the*. On the proposal advanced in this thesis, L2 learners have difficulty mapping uniqueness onto *the* because this mapping requires mapping from the covert form of bare NPs in article-less languages onto the overt form of the definite article *the*, exactly the type of mapping that is predicted to be problematic under the cline of difficulty in feature acquisition (Slabakova, 2009). In addition, L2 learners' sensitivity to presuppositionality as proposed by Ko and colleagues might in fact be their sensitivity to anaphoricity on the proposal advanced in this thesis. That is, while on Ko et al's proposal it is not clear why L2 learners associate *the* with presuppositionality, on the proposal advanced in this thesis, L2 learners associate *the* with anaphoricity because they map the semantics and uses of the closest morpholexical item in the L1, i.e. demonstratives, onto *the*.

Another study that attested problems with uniqueness is Yang and Ionin (2009), who looked at the interpretation of articles in English by L1 Chinese speakers. They found that while L1 Chinese speakers in their study were target-like in preferring the indefinite article *a* in partitive contexts (their non-unique with previous mention), the same learners preferred both *a* and non-target *the*, not significantly distinguishing between the two forms, in non-unique bridging contexts (their non-unique with association). Accounting for the results, Yang and Ionin suggested that L2 learners do not always compute uniqueness in the definite article and incorrectly associate the with the discourse factors of previous mention and association, thus allowing it in non-unique indefinite contexts that involve previous mention. However, as Yang and Ionin (2009) themselves acknowledge, it is not clear why L2 learners form such associations. In addition, on Yang and Ionin's proposal, it is not clear why L1 Chinese speakers performed differently in the two types of non-unique contexts which both involve previous mention, being target-like in partitive contexts but having difficulty in non-unique bridging contexts.

Recall that similar to the findings in Yang and Ionin's (2009) study for L1 Chinese speakers, the L1 Chinese participants in the present study were also target-like in partitive contexts, while incorrectly allowing and using the definite article *the* in unique bridging contexts. On the proposal advanced in this thesis, L1 Chinese speakers incorrectly allow *the* in non-unique bridging contexts, because they incorrectly associate *the* with anaphoricity. However, as discussed in Section 8.2.1.1, I suggested that in partitive contexts these learners are facilitated by their L1 in overcoming the effect of anaphoricity. More specifically, the fact that the unstressed numeral, *yi CL*, that shares the semantics of the indefinite article, i.e. non-uniqueness, is preferred in partitive contexts in

Chinese seems to aid these learners in correctly using the indefinite article *a* in these contexts in English.

Overall, the proposal advanced in this thesis, i.e. the incorrect association of *the* with anaphoricty and failure to map uniqueness onto it, offers a plausible explanation for the problems with uniqueness as well as the misuse of the definite article in partitive and non-unique bridging contexts attested for L2 English learners from article-less L1s.

8.4 Theoretical implications for second language acquisition

The findings of this thesis have implications for the generative second language acquisition theory in general and for the Feature Reassembly Hypothesis in particular. More specifically, the findings in this thesis suggest that reassembling features from the way they are represented in the L1 onto the way they are realised in the L2 is problematic in second language acquisition, thus providing clear evidence for the Feature Reassembly Hypothesis (2009). However, although the Feature Reassembly Hypothesis allows us to formulate testable predictions for second language acquisition, it does not discuss what factors might facilitate or impede the reassembly process. Slabakova (2009) proposes overt versus covert feature marking as one such factor. However, this proposal has only recently received empirical investigation (Cho 2012; Cho & Slabakova, 2013).

The findings in this thesis provide partial evidence for Slabakova's (2009) proposal. In particular, the findings show that for some L2 learners the overt-to-overt feature reassembling is easier than reassembling features that are realised covertly in the L1 but are expressed overtly in the L2. In other words, the findings show that, in addition to the difficulty with the overt-to-covert feature reassembly attested in a study by Cho and Slabakova (2014), the covert-to-overt feature reassembly is also problematic.

In addition, the findings revealed that other important factors play a role in the feature reassembly process. More specifically, the findings show that such factors as transparency of form-feature mapping, the semantics and uses of the closest morpholexical counterpart in the L1, initial non-target feature mapping, and the acquisition of a new constraint might either facilitate or impede the feature mapping and restructuring processes.

Finally, the findings in this thesis provide new insights into the role of the native language in the feature reassembly process. Thus, the findings show that if a given feature does not receive consistent overt realisation in the L1 but can sometimes be expressed through an overt

morpholexical item, native speaker preferences for either a covert or an overt way to express that feature in the L1 can facilitate or impede the feature reassembly process in the L2. More specifically, the findings show that the preference for the overt marking of a given feature in the L1 can facilitate reassembling that feature onto the overt form in the L2.

To summarise, the findings in this thesis show that reassembling features that are expressed differently in the L1 and the L2 is problematic for L2 learners, thus providing support for the Feature Reassembly Hypothesis (Lardiere, 2009 a, b). However, the findings also show that different factors play a role in the feature mapping and restructuring processes of feature reassembly and that not all learner groups are affected by those factors to the same extent. Overall, the findings in the present study suggest that teasing apart the different processes involved in feature reassembly, i.e. the mapping process and the reassembly process, will allow us to offer a more explanatory developmental account in L2 acquisition. However, while the present thesis teased apart different factors that play a role in feature reassembly, further research should attempt to account for variability between L2 learners from different L1s and between different proficiency groups within the same L1.

8.5 Pedagogical implications for second language acquisition

The findings in the present study have not only theoretical implications but also pedagogical implications. In the recent years, there has been a rising interest in applications of generative second language acquisition theories and findings to the language classroom (see the volume by Whong et al. (2013) for an overview). Thus, Whong et al. (2013: 1) suggest that “the more classroom instruction is underpinned by an understanding of theoretical principles, the more effective it will be”. In other words, they suggest that in order to be able to teach a specific, and at times complex, phenomenon, it is important to understand what exactly should be taught.

Therefore, second language acquisition theories that allow us to formulate the exact learning task for second language acquisition, such as the Feature Reassembly Hypothesis (Lardiere, 2009a,b), can have direct applications to language pedagogy. In particular, as discussed in Chapter 5, this hypothesis allows us to formulate the exact learning task based on the contrastive analysis of a given property in the L1 and the L2. Slabakova’s (2009) cline of difficulty in feature acquisition further allows us to predict which learning scenario will be easy or difficult for L2 learners. In turn, understanding what is difficult for L2 learners will require spending more time practicing this property in the language classroom (Slabakova, 2014).

Thus, as scholars of L2 acquisition have known for many years, and as the present study confirmed, acquiring universal meanings, that is, meanings that are expressed in all languages, such as definiteness, can be difficult for L2 learners, if these meanings are expressed differently in the L1 and the L2. Further difficulty arises from the fact that some meanings can be underspecified, that is they do not receive one meaning to one form mapping. As shown in this thesis, this is the case for the meaning of definiteness. Although definiteness is expressed through the definite article *the* in English, the definite article expresses different notions of definiteness, either familiarity or uniqueness, in different semantic contexts. In other words, one form *the* expresses two meanings. Therefore, difficult properties, such as definiteness, should be presented and practiced in the language classroom in ample and meaningful contexts (Slabakova 2008, 2013), further focusing on the differences (and similarities) of how these properties are expressed in the L1 and the L2.

For instance, the findings in the present study showed that non-unique bridging contexts are difficult for native speakers of Russian and Chinese. In contrast, partitive contexts are difficult for Russian speakers only. These results suggest that while Russian native speakers who learn definiteness in L2 English should be explicitly taught about the uses of articles in both non-unique bridging and partitive contexts, native Chinese speakers should focus on non-unique bridging contexts only, since partitive contexts are not problematic for them.

8.6 Limitations and suggestions for future research

There are three limitations of the methodology of the present study that should be kept in mind when designing future studies. The first limitation concerns the acceptability judgement task that was designed to investigate interpretations that L2 learners assign to English articles. Recall that there were 104 test sentences (including 104 contexts) in this task. It is possible that due to this high number of test sentences the task was cognitively fatiguing. As a result, it is plausible that learners were not always paying attention to the task. This can account for the high percentage of individual learners who fell into the random pattern, that is, were choosing answer options randomly in the task. To avoid this confound, future studies should either use fewer test items or administer the task in two sessions.

The second limitation concerns the fact that not all L1 groups were matched for proficiency. Thus, the L1 Chinese intermediate group were more proficient than the L1 Russian intermediate group. In order to tease apart the effect of proficiency from the role of the L1 at early interlanguage

development it is important to compare L2 learners who are matched for proficiency (and ideally for the length of exposure to classroom and naturalistic input).

The third limitation of the present study concerns the limited number of semantic contexts and grammatical features that were used to investigate the interpretation and use of articles in L2 English. Recall that the semantic contexts (the stories in the acceptability judgment task) were designed to elicit the interpretation and use of articles with singular nouns only. Future studies should also investigate how plurality and the count/mass distinction interact with article interpretation and use. In addition, future studies should investigate the use and interpretation of articles in semantic contexts that were not investigated in the present study, such as the use of articles in visible and immediate situations, establishing relative clauses, noun phrase complements, and nominal modifiers, among others (see Hawkins (1978) for an overview and examples). This will further our understanding of whether and how other semantic contexts, not investigated in the present study, affect the acquisition of definiteness.

On a suggestive note, an interesting direction for future research would be investigating the acquisition of the features [familiar, anaphoric] and [unique, anaphoric] in other languages. For example, it would be interesting to investigate the acquisition of these features in languages that employ two dedicated overt forms to express these features or by native speakers of these languages, such as German (see Chapter 3, Section 3.5.1 for discussion and examples). This will allow us to investigate whether reassembling features that are realised overtly and are mapped onto dedicated morpholexical forms. i.e. one-feature-one-form mapping (as is the case in German), is easier than reassembling features that are realised overtly but are conflated in one form, i.e. two-features-one-form mapping (as is the case in English). This, in turn, will further our understanding of the role of transparency of feature-form mappings in second language acquisition.

8.7 Conclusion

This thesis investigated the L2 acquisition of definiteness and its expression through articles in English by L1 speakers of article-less Mandarin Chinese and Russian. Although the L2 acquisition of definiteness in English by speakers of article-less languages has received a lot of interest in second language acquisition research, the question remained as to why this phenomenon is problematic, assuming that all languages can express this concept, and what exactly is difficult for L2 learners.

This thesis approached the learnability problem in two ways. First, based on the semantics and linguistics literature, it defined what exactly definiteness is and how it is expressed in languages under investigation in this thesis. Second, it formulated the exact learning task and predictions for the acquisition of this property, following a feature-based contrastive approach to L2 acquisition, i.e. the Feature Reassembly Hypothesis (Lardiere, 2009a,b) and the predictions of the cline of difficulty in feature acquisition (Slabakova, 2009). More specifically, it was suggested that definiteness is comprised of two independent meanings, familiarity and uniqueness, which were operationalised as the features [familiar, anaphoric] and [unique, anaphoric] in this thesis, and that the acquisition task consisted of reassembling these features from the way they are realised in the L1 onto English articles.

The findings provide evidence for the Feature Reassembly Hypothesis (Lardiere, 2009a,b), showing that the principal challenge in second language acquisition is reassembling features that are realised differently in the L1 and the L2. The findings also provide further evidence for the cline of difficulty in feature acquisition proposed by Slabakova (2009), confirming that the acquisition of a feature is easier when the feature is expressed overtly both in the L1 and the L2 and is more difficult when a feature is expressed covertly, i.e. through context, in the L1 but is realised overtly, through a morpholexical item in the L2.

In addition, the findings revealed that such factors as the transparency of form-feature mapping and the semantics and uses of the closest morpholexical counterpart in the L1 play a role in the feature mapping process of feature reassembly, whereas the feature restructuring process is affected by the initial non-target feature mapping and the acquisition of a new constraint. Overall, the findings in the present study advance our understanding of learnability problems in the L2 acquisition of syntax-semantics mismatches.

Appendices

Appendix 1: Ethics approval

Your Ethics Submission (Ethics ID:[10368](#)) has been reviewed and approved

ERGO [ergo@soton.ac.uk]

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Submission Number: 10368

Submission Name: The interpretation of sentences in English by second language learners of English whose first language is Chinese or Russian

This is email is to let you know your submission was approved by the Ethics Committee.

Comments

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Appendix 2: Test items in the Acceptability Judgement Task

Instructions²³

You will see a short (two/three sentence long) story on a computer screen. First, you should read the story. Then, you should click on the Click button. Here is an example of what you will see:

(1) Anna grew up in a small town, but a few years ago she moved to a big city. She bought a beautiful flat there.

- click

After clicking on the button, a sentence in bold will appear on the screen:

She really likes her flat.

You should decide if the sentence in bold is an acceptable continuation of the story (that is, if the sentence makes sense in the context of the story). The following answer options will be available to you:

- **Acceptable** (means that the sentence can continue the story because **it makes sense** in the context of the story)
- **Not acceptable** (means that the sentence can't continue the story because **it does not make sense** in the context of the story)
- **I don't know** (I can't decide)

Please, use the option "**I don't know**" only when you really cannot make sense of a sentence. All the stories are hypothetical; therefore, think about hypothetical continuation of each story.

Here are two examples for you to understand how it works:

(1) Anna grew up in a small town, but a few years ago she moved to a big city. She bought a beautiful flat there.

- click

She really likes her flat.

²³ The instructions for the Chinese and Russian groups were provided in the participants' L1s.

You should decide if the sentence 'She really likes her flat' can continue the story.

Answer: **Acceptable**. The sentence is an acceptable continuation of the story because it makes sense in the context of the story.

Here is one more example:

(2) Ruth has a lot of free time, so she has many hobbies. It does not take her too long to learn a new activity.

- click

His favourite hobby is drawing.

You should decide if the sentence 'His favourite hobby is drawing' can continue the story.

Answer: **Not acceptable**. The sentence is not an acceptable continuation of the story because it is not clear who 'his' refers to.

We are interested in your spontaneous reaction, so do not think too long about your judgement.

If you understand the instructions and do not have any questions, please proceed to Part 1 of Task 1. You have to finish a story before moving to the next one. You will not be able to go back and change your answers.

Please complete the task without interruption.

Test items

1. Partitive condition: *a* vs. *the* (target *a*)

- (1) Betty decided to get a kitten, so she went to a pet shop. The pet shop had five kittens, and she played with them for a while.
Then she chose a/the kitten.
- (2) David wanted to buy a computer, so he went to an electrical store. The store had six computers, and he spent some time looking around.
Finally, he bought a/the computer.
- (3) John wanted to get a bicycle, so he went to a sports store. The store had seven different bicycles, and he spent some time choosing.
In the end, he got a/the bicycle.
- (4) Kevin had nothing to do at home, so he went to the cinema. The cinema played four films at the same time, and he could not decide what to see.
But finally, he chose a/the film.
- (5) Nick went to a party at his friend's house last Friday night. He saw three beautiful girls there, but he was afraid to talk to them.

Finally, he said hello to a/the girl.

- (6) Emily needed a hat, so she went to a clothes shop. The shop had five hats, and she tried them on.

In the end, she bought a/the hat.

2. Non-unique bridging condition: *a* vs. *the* (target *a*)

- (7) James often goes to football games. Last Saturday he went to see a popular team play in his hometown, and he enjoyed the game.

He even got an autograph from a/the player.

- (8) Richard likes reading books. Last Sunday he went to the library, and he read a book for three hours. It was very old.

He accidentally ripped a/the page.

- (9) Amy moved to a new town, and she bought a big house last month. It was quite old, so she decided to repaint it.

She started by painting a/the window last week.

- (10) Alex is a photographer, and last Saturday he worked at a wedding party. It was a long day, and he got bored being by himself.

So he talked to a/the guest for a while.

- (11) Crystal likes gardening, so she spends a lot of time in her garden. Yesterday she planted a new flower, and it was very beautiful.

But she accidentally broke a/the leaf.

- (12) Ruth likes classical music. Last week she went to see a new orchestra perform in her hometown, and she enjoyed the performance very much.

She even met a/the musician after the performance.

3. Out-of-the-blue indefinite condition: *a* vs. *the* (target *a*)

- (13) Maria walked her dog in the park for two hours yesterday evening. When she came back home, it was still too early to go to sleep.

So she read a/the magazine before going to bed.

- (14) Megan had a busy day yesterday, and she came back home late. When she entered her bedroom, she was frightened.

She saw a/the spider on her bed.

- (15) Emma likes exercising, so she goes running every morning. When she was running yesterday, she saw something scary.

She saw a/the car crash into a tree.

- (16) Clare stayed at home last Sunday, and she did a lot of household chores. When she finished them, she wanted to relax.

So she watched a/the film on TV.

- (17) Aaron is a policeman, and last night he was at work. He was tired, and he fell asleep. When he woke up, he was surprised.

He saw a/the mouse in his office.

(18) Sam went to see a friend yesterday, and they cooked dinner together. When he was walking home, he was surprised.
He found a/the wallet on the road.

4. Previous mention condition: *the* vs. *a* (target *the*)

(19) Bob decided to learn skateboarding, so last Sunday he went to a sports store and bought a skateboard. After that he went to see a friend.
He showed the/a skateboard to his friend.

(20) Mary often goes shopping, and last Friday she went to a new shopping mall. She bought a bag there, and she was very happy.
She used the/a bag straight away.

(21) Luke was going to have a job interview, so he went shopping and bought a new suit. After that he went back home.
He showed the/a suit to his wife.

(22) Jack wanted to buy a present for his daughter. So he went to a toy store and bought a doll. Then he went home.
He gave the/a doll to his daughter.

(23) Adam was bored at home, but he had nothing to read. So he went out and bought a book. Then he went back home and started reading.
He read the/a book for two hours.

(24) Mia had a birthday party yesterday, and she received a lot of presents. Her best friend gave her a necklace, and she really liked it.
She wore the/a necklace straight away.

5. Unique bridging condition: *the* vs. *a* (target *the*)

(25) Ben did not have a lot of money, so he bought a cheap house last year. It was very old, so he had to fix many things in it.
He even had to repair the/a roof.

(26) Tom wanted to buy a car, but he did not have a lot of money. So he bought a used car, but he could not drive it.
He had to fix the/a steering wheel.

(27) Nina enjoys reading books. Yesterday she went to a bookstore, and she saw an interesting book. It was expensive, so she did not buy it.
But she remembered the/a title.

(28) Ellen is a student, and she was looking for a cheap flat to rent. Finally, she rented a small flat, but it was very dirty.
She cleaned the/a kitchen all day.

(29) Michael likes going out, so he often goes to parties. Last Saturday he went to a wedding, and he had fun there.
He even danced with the/a bride.

(30) Ella wanted to learn to cycle, so she needed a bicycle. She bought a small bicycle, but she did not like riding it.

She found the/a seat uncomfortable.

6. Out-of-the-blue definite condition: *the* vs. *a* (target *the*)

(31) Harry lives in a small village next to the forest. Last month a lot of trees were cut down in the forest, and he was upset.

He cares about the/a environment.

(32) Lisa went hiking with her friends last Saturday, but it rained all day. Her clothes got wet, and she was cold.

She disliked the/a weather that day.

(33) Ivy enjoys spending time outdoors. Last Saturday she went to the beach, and it was a very nice day.

She enjoyed the/a sun all afternoon.

(34) Patrick went camping last summer, but one night he could not fall asleep. He got up, and he did not know what to do.

So he watched the/a sky for a while.

(35) Susan is a writer, and she used to write on paper. She was wasting a lot of paper, so one day she decided to write on a computer.

She wanted to protect the/an earth.

(36) Rebecca travelled to an island last month. She arrived at the hotel late, and it was very dark outside. She did not want to go to bed, so she looked through the window.

She saw the/a moon from her hotel window.

7. Previous mention with one salient antecedent condition: *the* vs. *that* (target *that/the*)

(37) Larry moved to a big office last Monday, and it had three windows. It was hot that day, so he opened one of the windows.

But he forgot to close the/that window when he went home.

(38) Carol went to a farm last Sunday, and she saw six rabbits there. They were running around, but she managed to catch one of the rabbits.

She played with the/that rabbit for a while

(39) Ken went to a small art gallery last weekend, and it had nine paintings. They were very unusual, and he looked at one of the paintings for a long time.

Finally, he bought the/that painting for his wife.

(40) Jeffrey went to the forest yesterday, and he saw four horses there. They seemed friendly, so he stroked one of the horses.

He fed the/that horse an apple.

8. Previous mention with two equally salient antecedents condition: *the* vs. *that* (target *that*)

(41) Simon enjoys cycling, and last year he bought two bicycles. One of the bicycles was heavy and difficult to ride. But the other bicycle was very light and easy to ride.

He rode that/the bicycle to work every day.

(42) Jason was taking a long flight, so he took two magazines with him. One of the magazines was about politics, and it was boring. But the other magazine was about sports, and it was very interesting.

He read that/the magazine during his journey.

(43) Anna went shopping last week, and she bought two dresses. One of the dresses was long and yellow. But the other dress was short and black.

She wore that/the dress to a party.

(44) Karen went to a pet shop last year, and she bought two puppies. One of the puppies was cute and quiet. But the other puppy turned out to be very naughty.

She spent a lot of time training that/the puppy.

9. Fillers (possessives)

(45) Beth is a student, and she always leaves her house early. Yesterday she woke up late, and she rushed out of the house.

She left her/his mobile phone at home.

(46) Daisy lived in a small village when she was a child. One day her family moved to a town, and she was unhappy there.

She missed his/her village a lot.

(47) Justin travels to a new country every year. He usually travels alone, but sometimes he travels with his friends.

He travelled with her/his best friend last year.

(48) William likes tennis, and he wants to be a professional tennis player. He was playing tennis yesterday, and he fell down.

He broke his/her arm.

(49) Lucy was looking for a house to rent. Last week she finally rented a house with a small garden.

She likes her/his garden very much.

(50) Bella went to a bookstore yesterday, and she bought a book. Then she took the bus home.

She left his/her book on the bus.

(51) Josh likes learning languages. He usually travels to different countries and learns languages there. Last year he went to Spain.

He met her/his girlfriend there.

(52) Rob likes eating out, so he often goes to restaurants. Last night he went to a Chinese restaurant.

He left his/her umbrella in the restaurant.

Appendix 3: Test items in the Written Sentence Production Task

Instructions

You will see the beginning of a short (one/two sentence long) story on a computer screen. First, you should read the beginning of the story. Then you should click on the Click button. Here is an example of what you will see:

(1) Polly likes meeting new people.

- click

After clicking on the button, some words in parentheses () will appear on the screen:

(last Friday she go to party) (she meet John there)

You should continue the story by putting the words in parentheses into one sentence or two sentences. However, you should not change the order of the words in parentheses. For example, a possible continuation of the story in (1) might be:

Last Friday she went to a party. She met John there.

There will be 24 short stories altogether. You might need to change the form of some verbs or add something to sentences so that your sentences follow the beginning of each story and make sense together. The table below shows what you can and cannot change or add:

You CAN	You CANNOT
<ol style="list-style-type: none">1. make two separate sentences or one long sentence2. change the form of verbs (e.g., <i>like</i> → <i>liked</i>; <i>read</i> → <i>reading</i>)3. you can add copula BE (e.g., <i>is</i>, <i>are</i>, <i>was</i>, <i>were</i>)4. add connecting words (e.g., <i>and</i>, <i>so</i>, <i>but</i>, <i>because</i>, <i>as</i>, <i>when</i>, etc.)5. add articles (<i>a/an</i>, <i>the</i>)6. add prepositions (e.g., <i>to</i>, <i>from</i>, <i>of</i>, etc.)7. add punctuation marks (e.g., a full stop (.), a comma (,), a semicolon (;) or a colon (:))	<ol style="list-style-type: none">1. change the order of words in parentheses ()2. change the number of nouns (e.g., <i>book</i> → <i>books</i>)3. change nouns into pronouns (e.g., <i>bicycle</i> → <i>it</i>)4. add possessive pronouns (e.g., <i>her</i>, <i>his</i>, <i>its</i>, etc.)5. add quantity words (e.g., <i>every</i>, <i>some</i>, <i>many</i>, etc.)6. add demonstratives (<i>this</i>, <i>that</i>)

- | | |
|--|---|
| | <p>7. add nouns, verbs
or adjectives (e.g., <i>boring, tall</i>, etc.)</p> <p>8. add negation to verbs (e.g., <i>buy</i> → <i>did not buy</i>)</p> |
|--|---|

Here are more examples:

(2) Bob changed his school last year, and he was very sad.

- click

(he do not have many friends) (he feel very lonely)

Possible continuation: He did not have many friends, and he felt very lonely.

(3) Mike likes travelling, and last year he went to Africa.

- click

(one day when he drive car) (he see elephant on road)

Possible continuation: One day when he was driving a car, he saw an elephant on the road.

If you understand the instructions and do not have any questions, please proceed to the task. You have to finish a story before moving to the next one. You will not be able to go back and change your answers.

Please complete the task without interruption.

Test items

1. Partitive condition: target α

(1) Tim went to see a film last night, and the cinema played three films.

(he do not know what to see) (finally he choose film)

(2) Jenny wanted to buy a car. So she went to a car shop last month, and it had six cars.

(she spend all evening in shop) (finally she buy car)

(3) Rosie decided to get a puppy. So she went to a pet shop last week, and she saw four puppies there.

(she like them all) (finally she choose puppy)

(4) John wanted to buy a bicycle. So he went to a sports store last weekend, and it had five bicycles.

(he spend some time in store) (finally he buy bicycle)

2. Non-unique bridging condition: target *a*

- (5) Cathy likes classical music, and she went to see a new orchestra perform last night.
(she enjoy music) (she even meet musician after performance)
- (6) Anna does not like going to parties, but last summer she went to a dinner party.
(she sit quietly at table) (finally she talk to guest)
- (7) Jack likes watching football. He went to see a popular football team play yesterday.
(he enjoy game) (he even get autograph from player)
- (8) Holly has a big garden, and yesterday she planted a new flower.
(when she water it) (she break leaf)

3. Out-of-the-blue indefinite condition: target *a*

- (9) Carol lives alone, and she usually comes back home late.
(when she come back home yesterday) (she see mouse in kitchen)
- (10) Megan has a dog, and she walked her dog in the park for two hours yesterday.
(when she walk back home) (she buy magazine on way)
- (11) Sarah stayed at home yesterday, and she cleaned her house all afternoon.
(she be tired after that) (she watch film)
- (12) Tom is a student, and he usually walks to university.
(when he walk to university yesterday) (he saw wallet on road)

4. Previous mention condition: target *the*

- (13) Penny had a birthday last week, and her best friend gave her a necklace.
(she be very happy) (she wear necklace straight away)
- (14) Alex went to a bookstore on Sunday, and he bought a new book.
(after that he go to park) (he read book there)
- (15) Ken has a little daughter Mia, and he bought her a doll yesterday.
(when he go home) (he give doll to Mia)
- (16) Ellen went shopping last Sunday, and she bought a dress.
(after that she go to see friend) (she show dress to her friend)

5. Unique bridging condition: target *the*

- (17) Richard likes going out. Last Friday he went to a wedding.
(he have fun there) (he even dance with bride)
- (18) Bob was in a bookstore yesterday, and he found an interesting book. But it was very expensive.
(he do not buy it) (he remember title)
- (19) Nina moved to a new town, and she rented a cheap flat.
(it be very dirty) (she clean kitchen all day)
- (20) Patrick wanted to buy a cheap house, and last week he found an old house.
(he buy it) (he have to fix roof)

6. Out-of-the-blue definite condition: target *the*

(21) Lucy could not sleep last night, so she went out.

(she have long walk) (she watch sky for while)

(22) Rob travelled to an island last month, and it was very hot there.

(he have good time) (he enjoy sun every day)

(23) Linda used to have a car, and she used to drive it every day.

(one day she decide to buy bicycle) (she want save earth)

(24) Beth went hiking in the forest last Sunday, but it rained all day.

(she be cold) (she dislike weather that day)

Appendix 4: Cambridge Quick Placement Test

Instructions: Please complete the sentences by selecting the best answer from the available answers below. You can select by underlining or making a X next to your choice.

- 1) Water _____ at a temperature of 100° C.
is to boil is boiling boils
- 2) In some countries _____ very hot all the time.
there is is it is
- 3) In cold countries people wear thick clothes _____ warm.
for keeping to keep for to keep
- 4) In England people are always talking about _____.
a weather the weather weather
- 5) In some places _____ almost every day.
it rains there rains it raining
- 6) In deserts there isn't _____ grass.
the some any
- 7) Places near the Equator have _____ weather even in the cold season.
a warm the warm warm
- 8) In England _____ time of year is usually from December to February.
coldest the coldest colder
- 9) _____ people don't know what it's like in other countries.
The most Most of Most
- 10) Very _____ people can travel abroad.
less little few
- 11) Mohammed Ali _____ his first world title fight in 1960.
has won won is winning
- 12) After he _____ an Olympic gold medal, he became a professional boxer.
had won have won was winning
- 13) His religious beliefs _____ change his name when he became a champion.
have made him made him to made him
- 14) If he _____ lost his first fight with Sonny Liston, no one would have been surprised.
has would have had
- 15) He has traveled a lot _____ as a boxer and as a world-famous personality.
both and or
- 16) He is very well known _____ the world.

all in all over in all
17) Many people _____ he was the greatest boxer of all time.

is believing are believing believe

18) To be the best _____ the world is not easy.

from in of

19) Like any top sportsman, Ali _____ train very hard.

had to must should

20) Even though he has now lost his title, people _____ always remember him as a champion.

would will did

Read the following passage about the history of aviation and choose the best answer for each blank. Note that it is a continuous story.

21) The history of _____ is

airplane the airplane an airplane

22) _____ short one. For many centuries men

quite a a quite quite

23) _____ to fly, but with

are trying try had tried

24) _____ success. In the 19th century a few people

little few a little

25) succeeded _____ in balloons. But it wasn't until

to fly in flying into flying

26) the beginning of _____ century that anybody

last next that

27) _____ able to fly in a machine

were is was

28) _____ was heavier than air, in other words, in

who which what

29) _____ we now call a 'plane'. The first people to achieve

who which what

30) 'powered flight' were the Wright brothers. _____ was the machine

His Their Theirs

31) _____ which was the forerunner of the Jumbo jets and supersonic airliners that are _____ common

such such a some

32) _____ sight today. They _____ hardly have imagined that in 1969,

- could should couldn't
- 33) _____ more than half a century later,
not much not many no much
- 34) a man _____ landed on the moon.
will be had been would have
- 35) Already _____ is taking the first steps towards the stars.
a man man the man
- 36) Although space satellites have existed _____ less
since during for
- 37) than forty years, we are now dependent _____ them for all
from of on
- 38) kinds of _____. Not only
informations information an information
- 39) _____ being used for scientific research in
are they they are there are
- 40) space, but also to see what kind of weather _____.
is coming comes coming

Appendix 5: Background questionnaire

1. Your name:
2. Your email:
3. Sex: F/M
4. Year of birth:
5. Place of birth:
6. Occupation:
7. Highest qualification held: secondary/college/university
8. What is your first language?
9. Which language(s) did you speak at home as a child?
10. Which language(s) were you formally educated in? Where (what country)?
 - Primary School:
 - Secondary School:
 - College:
 - University:
11. Which language(s) do you use
 - At home/student accommodation:
 - At university/work:
 - In social situations:
12. Do you know any other languages besides English? If Yes, please tell what languages and your proficiency.

Appendix 6: Results in the filler conditions

Table 6.1 Paired Samples T-Test: the percentage and the difference between the acceptable and the non-acceptable pronoun form in the filler conditions

	Possessive of a female subject noun; target <i>her</i> acceptable		Possessive of a male subject pronoun; target <i>his</i> acceptable	
	<i>her</i> acceptable	<i>her</i> not acceptable	<i>his</i> acceptable	<i>his</i> not acceptable
Russian beginner (n=7)	67.86% $t = 2.091, p = .081^*$	28.57%	67.86% $t = 2.091, p = .081^*$	28.57%
Russian intermediate (n=23)	82.61% $t = 9.527, p < .0001$	16.30%	75% $t = 3.986, p = .001$	23.91%
Russian advanced (n=18)	87.50% $t = 6.460, p < .0001$	12.50%	88.89% $t = 7.083, p < .0001$	12.50%
Chinese intermediate (n=41)	82.93% $t = 9.925, p < .0001$	17.07%	86.59% $t = 16.226, p < .0001$	10.37%
Chinese advanced (n=20)	90% $t = 12.114, p < .0001$	7.50%	86.25% $t = 8.542, p < .0001$	13.75%
English controls (n= 20)	100%	0% <i>n/a</i>	98.75% $t = 39.000, p < .0001$	1.25%

Note: *non-significant results in bold

Table 6.2 Paired Samples T-Test: the percentage and the difference between acceptance of the target and the non-target pronoun form in the filler conditions

	Possessive of a female subject noun; target <i>her</i> acceptable		Possessive of a male subject pronoun; target <i>his</i> acceptable	
	<i>her</i> acceptable	<i>his</i> acceptable	<i>his</i> acceptable	<i>her</i> acceptable
Russian beginner (n=7)	67.86% $t = 1.216, p = .270^*$	46.43%	67.86% $t = 1.732, p = .134^*$	42.86%
Russian intermediate (n=23)	82.61% $t = 4.429, p < .0001$	44.57%	75% $t = 6.173, p < .0001$	22.83%
Russian advanced (n=18)	87.50% $t = 12.187, p < .0001$	1.39%	88.89% $t = 15.544, p < .0001$	4.28%
Chinese intermediate (n=41)	82.93% $t = 5.676, p < .0001$	44.51%	86.59% $t = 7.719, p < .0001$	45.73%
Chinese advanced (n=20)	90% $t = 6.788, p < .0001$	33.75%	86.25% $t = 6.723, p < .0001$	42.50%
English controls (n= 20)	100% $t = 75.000, p < .0001$	1.32%	98.75% $t = 79.000, p < .0001$	0%

Note: *non-significant results in bold

Appendix 7: Raw frequencies (percentage) of the participants' choices in the two tasks

Table 7.1. AJT: Raw frequencies (percentage) of the participants' choices in the AJT across the three definite contexts; target: *the* acceptable, *a* not acceptable

	Previous mention: (n=6)	Unique bridging: (n=6)	Out-of-the-blue definite (n=6)
Russian beginner (n=7)			
<i>the</i> acceptable	28/42 (66.7%)	28/42 (66.7%)	31/42 (73.8%)
<i>the</i> not acceptable	14/42 (33.3%)	13/42 (31%)	11/42 (26.2%)
<i>the</i> don't know	0/42 (0%)	1/42 (2.4%)	0/42 (0%)
<i>a</i> acceptable	32/42 (76.2%)	32/42 (76.2%)	28/42 (66.7%)
<i>a</i> not acceptable	10/42 (23.8%)	9/42 (21.4%)	14/42 (33.3%)
<i>a</i> don't know	0/42 (0%)	1/42 (2.4%)	0/42 (0%)
Russian intermediate (n=23)			
<i>the</i> acceptable	119/138 (86.2%)	106/138 (76.8%)	107/138 (77.5%)
<i>the</i> not acceptable	18/138 (13%)	32/138 (23.2%)	27/138 (19.6%)
<i>the</i> don't know	1/138 (0.7%)	0/138 (0%)	4/138 (2.9%)
<i>a</i> acceptable	81/138 (58.7%)	97/138 (70.3%)	82/138 (59.4%)
<i>a</i> not acceptable	52/138 (37.7%)	41/138 (29.7%)	53/138 (38.4%)
<i>a</i> don't know	5/138 (3.6)	0/138 (0%)	3/138 (2.2%)
Russian advanced (n=18)			
<i>the</i> acceptable	99/108 (91.7%)	101/108 (93.5%)	90/108 (83.3%)
<i>the</i> not acceptable	8/108 (7.4%)	7/108 (6.5%)	17/108 (15.7%)
<i>the</i> don't know	1/108 (0.9%)	0/108 (0%)	1/108 (0.9%)
<i>a</i> acceptable	30/108 (27.8%)	32/108 (29.6%)	33/108 (30.6%)
<i>a</i> not acceptable	78/108 (72.2%)	75/108 (69.4%)	75/108 (69.4%)
<i>a</i> don't know	0/108 (0%)	1/108 (0.9%)	0/108 (0%)
Chinese intermediate (n=41)			
<i>the</i> acceptable	212/246 (86.2%)	213/246 (86.6%)	199/246 (80.9%)
<i>the</i> not acceptable	29/246 (11.8%)	33/246 (13.4%)	43/246 (17.5%)
<i>the</i> don't know	5/246 (2.0%)	0/246 (0%)	4/246 (1.6%)
<i>a</i> acceptable	136/246 (55.3%)	140/246 (56.9%)	132/246 (53.7%)
<i>a</i> not acceptable	109/246 (44.3%)	106/246 (43.1%)	111/246 (45.1%)
<i>a</i> don't know	1/246 (0.4%)	0/246 (0%)	3/246 (1.2%)
Chinese advanced (n=20)			
<i>the</i> acceptable	110/120 (91.7%)	109/120 (90.8%)	105/120 (87.5%)
<i>the</i> not acceptable	10/120 (8.3%)	11/120 (9.2%)	12/120 (10%)
<i>the</i> don't know	0/120 (0%)	0/120 (0%)	3/120 (2.5%)
<i>a</i> acceptable	42/120 (35%)	56/129 (46.7%)	41/120 (34.2%)
<i>a</i> not acceptable	77/120 (64.2%)	63/120 (52.5%)	75/120 (62.5%)
<i>a</i> don't know	1/120 (0.8%)	1/120 (0.8%)	4/120 (3.3%)
English controls (n=20)			
<i>the</i> acceptable	120/120 (100%)	118/120 (98.3%)	119/120 (99.2%)
<i>the</i> not acceptable	0/120 (0%)	2/120 (1.7%)	1/120 (0.8%)
<i>the</i> don't know	0/120 (0%)	0/120 (0%)	0/120 (0%)
<i>a</i> acceptable	4/120 (3.3%)	2/120 (1.7%)	8/120 (6.7%)
<i>a</i> not acceptable	115/120 (95.8%)	118/120 (98.3%)	112/120 (93.3%)
<i>a</i> don't know	1/120 (0.8%)	0/120 (0%)	0/120 (0%)

Table 7.2. AJT: Raw frequencies (percentage) of the participants' choices across the two definite conditions; target: *the vs that*

	Previous mention with one salient antecedent (n=4) <i>target: both 'the' and 'that'</i>	Previous mention with two equally salient antecedent (n=4) <i>target: 'that' but not 'the'</i>
Russian beginner (n=7)		
<i>the</i> acceptable	21/28 (75.0%)	14/28 (50.0%)
<i>the</i> not acceptable	5/28 (17.9%)	13/28 (46.4%)
<i>the</i> don't know	2/28 (7.1%)	1/28 (3.6%)
<i>that</i> acceptable	20/28 (71.4%)	16/28 (57.1%)
<i>that</i> not acceptable	8/28 (28.6%)	12/28 (42.9%)
<i>that</i> don't know	0/28 (0%)	0/28 (0%)
Russian intermediate (n=23)		
<i>the</i> acceptable	68/92 (73.9%)	46/92 (50.0%)
<i>the</i> not acceptable	23/92 (25.0%)	42/92 (45.7%)
<i>the</i> don't know	1/92 (1.1%)	4/92 (4.3%)
<i>that</i> acceptable	66/92 (71.7%)	54/92 (58.7%)
<i>that</i> not acceptable	22/92 (23.9%)	35/92 (38.0%)
<i>that</i> don't know	4/92 (4.3%)	3/92 (3.3%)
Russian advanced (n=18)		
<i>the</i> acceptable	58/72 (80.6%)	26/72 (36.1%)
<i>the</i> not acceptable	14/72 (19.4%)	43/72 (59.7%)
<i>the</i> don't know	0/72 (0%)	3/72 (4.2%)
<i>that</i> acceptable	64/72 (88.9%)	56/72 (77.8%)
<i>that</i> not acceptable	8/72 (11.1%)	15/72 (20.8%)
<i>that</i> don't know	0/72 (0%)	1/72 (1.4%)
Chinese intermediate (n=41)		
<i>the</i> acceptable	119/164 (72.6%)	70/164 (42.7%)
<i>the</i> not acceptable	44/164 (26.8%)	92/164 (56.1%)
<i>the</i> don't know	1/164 (0.6%)	2/164 (1.2%)
<i>that</i> acceptable	119/164 (72.6%)	98/164 (59.8%)
<i>that</i> not acceptable	43/164 (26.2%)	65/164 (39.6%)
<i>that</i> don't know	2/164 (1.2%)	1/164 (0.6%)
Chinese advanced (n=20)		
<i>the</i> acceptable	64/80 (80.0%)	26/80 (32.5%)
<i>the</i> not acceptable	15/80 (18.8%)	53/80 (66.3%)
<i>the</i> don't know	1/80 (1.3%)	1/80 (1.3%)
<i>that</i> acceptable	68/80 (85.0%)	61/80 (76.3%)
<i>that</i> not acceptable	11/80 (13.8%)	19/80 (23.8%)
<i>that</i> don't know	1/80 (1.3%)	0/80 (0%)
English controls (n=20)		
<i>the</i> acceptable	72/80 (90.0%)	38/80 (47.5%)
<i>the</i> not acceptable	8/80 (10.0%)	40/80 (50.0%)
<i>the</i> don't know	0/80 (0%)	2/80 (2.5%)
<i>that</i> acceptable	78/80 (97.5%)	77/80 (96.3%)
<i>that</i> not acceptable	2/80 (2.5%)	3/80 (3.8%)
<i>that</i> don't know	0/80 (0%)	0/80 (0%)

Table 7.3: AJT: Raw frequencies (percentage) of the participants' choices across the indefinite conditions; target: *a* acceptable, *the* not acceptable

	Partitive (n=6)	Non-unique bridging (n=6)	Out-of-the-blue indefinite (n=6)
Russian beginner (n=7)			
<i>a</i> acceptable	28/42 (66.7%)	31/42 (73.8%)	31/42 (73.8%)
<i>a</i> not acceptable	12/42 (28.6%)	11/42 (26.2%)	11/42 (26.2%)
<i>a</i> don't know	2/42 (4.8%)	0/42 (0%)	0/42 (0%)
<i>the</i> acceptable	27/42 (64.3%)	29/42 (69%)	30/42 (71.4%)
<i>the</i> not acceptable	15/42 (35.7%)	13/42 (31%)	11/42 (26.2%)
<i>the</i> don't know	0/42 (0%)	0/42 (0%)	1/42 (2.4%)
Russian intermediate (n=23)			
<i>a</i> acceptable	98/138 (71%)	101/138 (73.2%)	111/138 (80.4%)
<i>a</i> not acceptable	37/138 (26.8%)	33/138 (23.9%)	27/138 (19.6%)
<i>a</i> don't know	3/138 (2.2%)	4/138 (2.9%)	0/138 (0%)
<i>the</i> acceptable	87/138 (63%)	87/138 (63%)	82/138 (59.4%)
<i>the</i> not acceptable	51/138 (37%)	49/138 (35.5%)	54/138 (39.1%)
<i>the</i> don't know	0/138 (0%)	2/138 (1.4%)	2/138 (1.4%)
Russian advanced (n=18)			
<i>a</i> acceptable	96/108 (88.9%)	90/108 (83.3%)	100/108 (92.6%)
<i>a</i> not acceptable	11/108 (10.2%)	18/108 (16.7%)	8/108 (7.4%)
<i>a</i> don't know	1/108 (0.9%)	0/108 (0%)	0/108 (0%)
<i>the</i> acceptable	29/108 (26.9%)	40/108 (37%)	12/108 (11.1%)
<i>the</i> not acceptable	78/108 (72.2%)	68/108 (63%)	96/108 (88.9%)
<i>the</i> don't know	1/108 (0.9%)	0/108 (0%)	0/108 (0%)
Chinese intermediate (n=41)			
<i>a</i> acceptable	186/246 (75.6%)	187/246 (76%)	214/246 (87%)
<i>a</i> not acceptable	55/246 (22.4%)	59/246 (24%)	29/246 (11.8%)
<i>a</i> don't know	5/246 (2%)	0/246 (0%)	3/246 (1.2%)
<i>the</i> acceptable	72 /246 (29.3%)	167/246 (67.9%)	141/246 (57.3%)
<i>the</i> not acceptable	168/246 (68.3%)	75 /246 (30.5%)	103/246 (41.9%)
<i>the</i> don't know	6/246 (2.4%)	4/246 (1.6%)	2/246 (0.8%)
Chinese advanced (n=20)			
<i>a</i> acceptable	90/120 (75%)	97/120 (80.8%)	109/120 (90.8%)
<i>a</i> not acceptable	30/120 (25%)	22/120 (18.3%)	11/120 (9.2%)
<i>a</i> don't know	0/120 (0%)	1/120 (0.8%)	0/120(0%)
<i>the</i> acceptable	20/120 (16.7%)	96/120 (80.0%)	50/120 (41.7%)
<i>the</i> not acceptable	99/120 (82.5%)	23/120 (19.2%)	69/120 (57.5%)
<i>the</i> don't know	1/120 (0.8%)	1/120 (0.8%)	1/120 (0.8%)
English controls (n=20)			
<i>a</i> acceptable	114/120 (95%)	111/120 (92.5%)	115/120 (95.8%)
<i>a</i> not acceptable	6/120 (5%)	9/120 (7.5%)	5/120 (4.2%)
<i>a</i> don't know	0/120 (0%)	0/120 (0%)	0/120 (0%)
<i>the</i> acceptable	6/120 (5%)	9/120 (7.5%)	6/120 (5%)
<i>the</i> not acceptable	114/120 (95%)	109/120 (90.8%)	114/120 (95%)
<i>the</i> don't know	0/120 (0%)	2/120 (1.7%)	0/120 (0%)

Table 7.4. WSPT: Raw frequencies (percentage) of the participants' choices across the three definite conditions; target: *the*

	Previous mention (n=4)	Unique bridging (n=4)	Out-of-the-blue definite (n=4)
Russian beginner (n=7)			
the	0/28 (0%)	1/28 (3.6%)	3/28 (10.7%)
a	1/28 (3.6%)	2/28 (7.1%)	0/28 (0%)
omission	27/28 (96.4%)	24/28 (85.7%)	25/28 (89.3%)
other	0/28 (0%)	1/28 (3.6%)	0/28 (0%)
Russian intermediate (n=23)			
the	39/92 (42.4%)	45/92 (48.9%)	40/92 (43.5%)
a	8/92 (8.7%)	8/92 (8.7%)	4/92 (4.3%)
omission	42/92 (45.7%)	38/92 (41.3%)	46/92 (50%)
other	3/92 (3.3%)	1/92 (1.1%)	2/92 (2.2%)
Russian advanced (n=18)			
the	69/72 (95.8%)	62/72 (86.1%)	66/72 (91.7%)
a	1/72 (1.4%)	7/72 (9.7%)	1/72 (1.4%)
omission	2/72 (2.8%)	1/72 (1.4%)	5/72 (6.9%)
other	0/72 (0%)	2/72 (2.8%)	0/72 (0%)
Chinese intermediate (n=41)			
the	108/164 (65.9%)	124/164 (75.6%)	96/164 (58.5%)
a	4/164 (2.4%)	1/164 (0.6%)	0/164 (0%)
omission	51/164 (31.1%)	39/164 (23.8%)	68/164 (41.5%)
other	1/164 (0.6%)	0/164 (0%)	0/164 (0%)
Chinese advanced (n=20)			
the	74/80 (92.5%)	72/80 (90%)	69/80 (86.3%)
a	1/80 (1.3%)	2/80 (2.5%)	0/80 (0%)
omission	4/80 (5.0%)	3/80 (3.8%)	11/80 (13.8%)
other	1/80 (1.3%)	3/80 (3.8%)	0/80 (0%)
English controls (n=20)			
the	71/80 (88.8%)	80/80 (100%)	80/80 (100%)
a	7/80 (8.8%)	0/80 (0%)	0/80 (0%)
omission	0/80 (0%)	0/80 (0%)	0/80 (0%)
other	2/80 (2.5%)	0/80 (0%)	0/80 (0%)

Table 7.5. WSPT: Raw frequencies of the participants' choices across the indefinite conditions;
target: *a*

	Partitive (n=4)	Non-unique bridging (n=4)	Out-of-the-blue indefinite (n=4)
Russian beginner (n=7)			
a	2/28 (7.1%)	2/28 (7.1%)	1/28 (3.6%)
the	0/28 (0%)	0/28 (0%)	0/28 (0%)
omission	25/28 (89.3%)	25/28 (89.3%)	26/28 (92.9%)
other	1/28 (3.6%)	1/28 (3.6%)	1/28 (3.6%)
Russian intermediate (n=23)			
a	43/92 (46.7%)	32/92 (34.8%)	44/92 (47.8%)
the	20/92 (21.7%)	21/92 (22.8%)	2/92 (2.2%)
omission	27/92 (29.3%)	38/92 (41.3%)	45/92 (48.9%)
other	2/92 (2.2%)	1/92 (1.1%)	1/92 (1.1%)
Russian advanced (n=18)			
a	61/72 (84.7%)	59/72 (81.9%)	68/72 (94.4%)
the	11/72 (15.3%)	10/72 (13.9%)	1/72 (1.4%)
omission	0/72 (0%)	3/72 (4.2%)	2/72 (2.8%)
other	0/72 (0%)	0/72 (0%)	1/72 (1.4%)
Chinese intermediate (n=41)			
a	129/164 (78.7%)	68/164 (41.5%)	127/164 (77.4%)
the	8/164 (4.9%)	45/164 (27.4%)	4/164 (2.4%)
omission	12/164 (7.3%)	44/164 (26.8%)	31/164 (18.9%)
other	15/164 (9.1%)	7/164 (4.3%)	2/164 (1.2%)
Chinese advanced (n=20)			
a	75/80 (93.8%)	55/80 (68.8%)	78/80 (97.5%)
the	0/80 (0%)	21/80 (26.3%)	1/80 (1.3%)
omission	0/80 (0%)	3/80 (3.8%)	1/80 (1.3%)
other	5/80 (6.3%)	1/80 (1.3%)	0/80 (0%)
English controls (n=20)			
a	77/80 (96.3%)	73/80 (91.3%)	80/80 (100%)
the	1/80 (1.3%)	1/80 (1.3%)	0/80 (0%)
omission	0/80 (0%)	0/80 (0%)	0/80 (0%)
other	2/80 (2.5%)	6/80 (7.5%)	0/80 (0%)

Appendix 8: Within-subjects contrasts for the effect of the type of semantic context on the acceptability of articles in the Acceptability Judgement Task

Table 8.1. Within-subjects contrasts for the effect of the type of semantic context on acceptability of articles in the definite conditions in the AJT: target *the*

Group	Previous mention vs. out-of-the-blue definite	Unique bridging vs. out-of-the-blue definite	Previous mention vs. unique bridging
R beg (n=7) <i>the</i> #a	F(1,6)= .658, p= .448 F(1,6)= .300, p= .604	F(1,6)= .300, p= .604 F(1,6)= .278, p= .617	F(1,6)= .051, p= .829 F(1,6)= .030, p= .869
R int (n=23) <i>the</i> #a	F(1,22)= 3.067, p= .094** F(1,22)= .013, p= .910	F(1,22)= .000, p= 1.000 F(1,22)= 5.223, p= .032*	F(1,22)= 2.912, p= .102 F(1,22)= 3.272, p= .084**
R adv (n=18) <i>the</i> #a	F(1,17)= 1.873, p= .189 F(1,17)= .127, p= .726	F(1,17)= 5.781, p= .028* F(1,17)= .090, p= .767	F(1,17)= .680, p= .421 F(1,17)= .456, p= .508
C int (n=41) <i>the</i> #a	F(1,40)= 2.628, p= .113 F(1,40)= .428, p= .517	F(1,40)= 3.157, p= .083** F(1,40)= .952, p= .335	F(1,40)= .000, p= 1.000 F(1,40)= .037, p= .849
C adv (n=20) <i>the</i> #a	F(1,19)= 4.170, p= .055** F(1,19)= .000, p= 1.000	F(1,19)= .883, p= .359 F(1,19)= 4.413, p= .049*	F(1,19)= .656, p= .428 F(1,19)= 10.230, p= .005*
E nat (n= 20) <i>the</i> #a	F(1,19)= 1.000, p= .330 F(1,19)= 1.727, p= .204	F(1,19)= 1.000, p= .330 F(1,19)= 2.803, p= .110	F(1,19)= 2.111, p= .163 F(1,19)= .322, p= .577

Note: significant values in bold; *statistically significant; **approaching significance; #incorrect article

Table 8.2. Within-subjects contrasts for the effect of the type of semantic context on the acceptability of articles in the indefinite conditions: target *a*

Group	Partitive vs. out-of-the blue indefinite	Non-unique bridging vs. out-of-the blue indefinite	Partitive vs. non-unique bridging
R beg (n=7) <i>a</i> # <i>the</i>	F(1,6)= 1.171, p= .321 F(1,6)= .077, p= .784	F(1,6)= .000, p= 1.000 F(1,6)= .079, p= .788	F(1,6)= .533, p= .493 F(1,6)= .176, p= .689
R int (n=23) <i>a</i> # <i>the</i>	F(1,22)= 2.256, p= .147 F(1,22)= .041, p= .846	F(1,22)= 2.787, p= .109 F(1,22)= .148, p= .704	F(1,22)= .041, p= .842 F(1,22)= .381, p= .543
R adv (n=18) <i>a</i> # <i>the</i>	F(1,17)= .041, p= .842 F(1,17)= 16.278, p= .001*	F(1,17)= .430, p=.521 F(1,17)= 18.309, p= .001*	F(1,17)= .797, p= .384 F(1,17)= 1.987, p= .177
C int (n=41) <i>a</i> # <i>the</i>	F(1,40)= 2.105, p= .155 F(1,40)= 18.741, p<.0001*	F(1,40)= 4.745, p= .035* F(1,40)= 5.070, p=.030*	F(1,40)= .069, p= .794 F(1,40)= 46.867, p<.0001
C adv (n=20) <i>a</i> # <i>the</i>	F(1,19)= 4.037, p= .059** F(1,19)= 10.037, p= .005*	F(1,19)= 4.394, p= .050* F(1,19)= 32.318, p<.0001*	F(1,19)= .568, p= .460 F(1,19)= 154.095, p<.0001
E nat (n=20) <i>a</i> # <i>the</i>	F(1,19)= .064, p= .804 F(1,19)= .000, p= 1.000	F(1,19)= 1.653, p= .214 F(1,19)= 1.306, p= .267	F(1,19)= .811, p= .379 F(1,19)= 1.879, p= .186

Note: significant values in bold; *statistically significant; **approaching significance; #incorrect article

Appendix 9: Criteria for the individual analysis in the Acceptability Judgment Task

(1) Criteria for the individual analysis in the definite conditions

- (a) Target-like pattern: If the participant made 2 or fewer errors in each of the contexts, s/he was characterised into the target-like pattern. In other words, if the participant accepted *the* at least 4 out of 6 items and rejected *a* at least 4 out of 6 items in each condition then the learner was considered to have acquired the target contrast.
- (b) Optional pattern: If the participant accepted *the* at least 3 out of 6 items and *a* at least 3 out of 6 items per each of the three definite conditions, s/he was characterised into the optional pattern.
- (c) L1-based pattern²⁴: If the participant accepted *the* more often in previous mention contexts than in unique bridging and out-of-the-blue definite contexts (difference of at least 2 or more) and if the participant accepted *a* less often in previous mention contexts than in unique bridging and out-of-the-blue definite contexts (difference of 2 or less), s/he was characterised into the L1-based pattern.
- (d) Not predicted 1 pattern (non-L1-based): If the participant accepted *the* more often in unique bridging and out-of-the-blue definite contexts than previous mention contexts (difference of at least 2 or more) and if the participant accepted *a* less often in unique bridging and out-of-the-blue definite contexts than previous mention contexts (difference of 2 or less), s/he was characterised into the non-L1-based pattern.
- (e) Anaphoricity-based pattern²⁵: If the participant accepted *the* more often in the two anaphoric conditions than in the non-anaphoric condition (difference of at least 2) and if the participant accepted *a* less often in the two anaphoric conditions (difference of 2 or less) than in the non-anaphoric condition, s/he was characterised into the anaphoricity-based pattern.
- (f) Not predicted 2 pattern: If the participant accepted *the* more in the non-anaphoric condition than in the two anaphoric conditions (difference of at least 2) and if the

²⁴The L1-based pattern is based on the predictions of the cline of difficulty in feature acquisition

²⁵ The anaphoricity-based pattern is based on the incorrect association of *the* with anaphoricity

participant accepted *a* less often in the non-anaphoric condition than in the two anaphoric conditions (difference of 2 or less), s/he was characterised into the not predicted pattern.

- (g) Random pattern: The participants who did not fit into either of the above patterns were characterised in the random pattern.

(2) Criteria for the individual analysis in the indefinite conditions

- (a) Target-like pattern: If the participant made 2 or fewer errors in each of the conditions, s/she was characterised into the target-like pattern. In other words, if the participant accepted *a* at least 4 out of 6 items and rejected *the* at least 4/6 items in each of the conditions than the learner was considered to have acquired the target contrast.
- (b) Optional pattern: If the participant accepted both *a* at least 3 out of 6 items and accepted *the* at least 3 out of 6 items per each of the three indefinite contexts, s/he was characterised into the optional pattern.
- (c) L1-based pattern: Different criteria are used to characterise learners into the L1-based pattern since different predictions are made based on L2 learners' L1s (see Section 6.3).

L1 Chinese: If the participant accepted the target *a* more often in the partitive and the out-of-the-blue indefinite conditions than in the non-unique bridging condition (difference of at least 2 or more) and if the participant accepted the non-target *the* more often in the non-unique bridging condition than in the partitive and the out-of-the-blue indefinite conditions (difference of at least 2 or more), s/he was characterised into the L1-based pattern.

L1 Russian: If the participant accepted the target *a* more often in the two anaphoric conditions than in the anaphoric condition (difference of at least 2 or more) and if the participant accepted the non-target *the* more often in the non-anaphoric condition than in the two anaphoric conditions (difference of at least 2 or more), s/he was characterised into the L1-based pattern.

- (d) Not predicted 1 pattern (non-L1-based): Different criteria are used to characterise learners into the L1-based pattern since different predictions are made based on L2 learners' L1s.

L1 Chinese: If the participant accepted the target *a* more often in the non-unique bridging condition than in the partitive and the out-of-the-blue indefinite conditions (difference of at least 2 or more) and if the participant accepted the non-target *the* more often in the partitive and the out-of-the-blue indefinite conditions than in the

non-unique bridging condition (difference of at least 2 or more), s/he was characterised into the L1-based pattern.

L1 Russian: The not predicted 1 pattern is not applicable to the L1 Russian groups since the not predicted pattern for the L1-based pattern is the anaphoricity – based pattern

- (e) Anaphoricity-based pattern: If the participant accepted the non-target *the* more often in the two anaphoric conditions than in the non-anaphoric condition (difference of at least 2), and if s/he accepted the target *a* less often in the two anaphoric conditions than in the non-anaphoric condition (difference of 2 or more), s/he was characterised into the anaphoricity-based pattern.
- (f) Not predicted 2 pattern²⁶: If the participant accepted the non-target *the* more often in the non-anaphoric condition than in the two anaphoric conditions (difference of at least 2 or more) and if the participant accepted the target *a* less often in the non-anaphoric condition than in the two anaphoric conditions (difference of at least 2 or more), s/he was characterised into the not predicted 2 (non-anaphoricity-based) pattern.
- (g) Random pattern: The participants who did not fit into either of the above patterns were characterised in the random pattern

²⁶ The not predicted 2 pattern is not available for the L1 Russian groups, as the non-anaphoricity-based pattern for this group is the L1-based pattern (c).

Appendix 10: Within-subjects contrasts for the effect of the type of semantic context on the use and omission of articles in the Written Sentence Production Task

Table 10.1. Within-subjects contrasts for the effect of the type of semantic context on the use and omission of articles in the definite conditions: target *the*

Group	Previous mention vs. out-of-the-blue definite	Unique bridging vs. out-of-the-blue definite	Previous mention vs. unique bridging
R beg (n=7) <i>the</i> <i>#a</i> <i>omission</i>	F(1,6)= 2.077, p= .200 F(1,6)= 1.000, p= .356 F(1,6)= 1.000, p= .356	F(1,6)= .632, p= .457 F(1,6)= 1.000, p= .356 F(1,6)= .097, p= .766	F(1,6)= 1.000, p= .356 F(1,6)= 1.000, p= .356 F(1,6)= 2.077, p= .200
R int (n=23) <i>the</i> <i>#a</i> <i>omission</i>	F(1,22)= .350, p= .560 F(1,22)= 3.022, p= .096 F(1,22)= .605, p= .445	F(1,22)= .561, p= .462 F(1,22)= 1.150, p= .295 F(1,22)= 3.556, p= .073**	F(1,22)= 1.344, p= .259 F(1,22)= .056, p= .814 F(1,22)= .460, p= .505
R adv (n=18) <i>the</i> <i>#a</i> <i>omission</i>	F(1,17)= 1.308, p= .269 n/a F(1,17)= 1.308, p= .269	F(1,17)= .654, p= .430 F(1,17)= 2.429, p= .138 F(1,17)= 2.957, p= .104	F(1,17)= 2.843, p= .110 F(1,17)= 2.429, p= .138 F(1,17)= 1.000, p= .331
C int (n=41) <i>the</i> <i>#a</i> <i>omission</i>	F(1,40)= 2.268, p= .140 F(1,40)= 4.324, p= .044* F(1,40)= 5.458, p= .025*	F(1,40)= 18.711, p<.0001* F(1,40)= 1.000, p= .323 F(1,40)= 21.318, p<.0001*	F(1,40)= 6.415, p= .015* F(1,40)= 1.837, p= .183 F(1,40)= 4.241, p= .046*
C adv (n=20) <i>the</i> <i>#a</i> <i>omission</i>	F(1,19)= 1.357, p= .258 F(1,19)= 1.000, p= .330 F(1,19)= 5.444, p= .031*	F(1,19)= .379, p= .545 F(1,19)= 2.111, p= .163 F(1,19)= 4.108, p= .057*	F(1,19)= .087, p= .772 F(1,19)= .322, p= .577 F(1,19)= .192, p= .666
E nat (n=20) <i>the</i> <i>#a</i> <i>omission</i>	F(1,19)= 15.545, p= .001* F(1,19)= 10.231, p= .005* n/a	n/a n/a n/a	F(1,19)= 15.545, p= .001* F(1,19)= 10.231, p= .005* n/a

Note: significant values in bold; *statistically significant; **approaching significance; #incorrect article

Table 10.2. Within-subjects contrasts for the effect of the type of semantic context on the use and omission of articles in the indefinite conditions; target *a*

Group	Partitive vs. out-of-the-blue indefinite	Non-unique bridging vs. out-of-the-blue indefinite	Partitive vs. non-unique bridging
R beg(n=7) <i>a</i> # <i>the</i> omission	F(1,6)= 1.000, p= .356 n/a F(1,6)=.000, p= 1.000	F(1,6)= 1.000, p= .356 n/a F(1,6)=.000, p= 1.000	F(1,6)= .000, p= 1.000 n/a F(1,6)=.000, p= 1.000
R int (n=23) <i>a</i> # <i>the</i> omission	F(1,22)= .018, p= .894 F(1,22)= 12.960, p= .002* F(1,22)= 8.630, p=.008*	F(1,22)= 4.966, p= .036* F(1,22)= 11.783, p= .002* F(1,22)= 1.744, p= .200	F(1,22)= 6.525, p= .018* F(1,22)= .033, p= .857 F(1,22)= 3.067, p= .094**
R adv (n=18) <i>a</i> # <i>the</i> omission	F(1,17)= 1.434, p= .248 F(1,17)= 4.620, p= .046* F(1,17)= 1.000, p= .331	F(1,17)= 4.636, p= .046* F(1,17)= 4.636, p= .046* F(1,17)= 1.000, p= .331	F(1,17)= .386, p= .542 F(1,17)= 1.000, p= .331 F(1,17)= 1.000, p= .331
C int (n=41) <i>a</i> # <i>the</i> omission	F(1,40)= .012, p= .914 F(1,40)= 1.345, p=.253 F(1,40)= 9.221, p=.004*	F(1,40)= 56.510, p<.0001* F(1,40)= 28.394, p<.0001* F(1,40)= 4.229, p= .046*	F(1,40)= 38.095, p<.0001* F(1,40)= 20.937, p<.0001* F(1,40)= 18.825, p<.0001*
C adv (n=20) <i>a</i> # <i>the</i> omission	F(1,19)= 1.000, p= .330 F(1,19)= 1.000, p= .330 F(1,19)= 1.000, p=.330	F(1,19)= 25.831, p<.0001* F(1,19)= 18.098, p<.0001* F(1,19)= 1.000, p=.330	F(1,19)= 12.725, p= .002 F(1,19)= 21.111, p<.0001 F(1,19)= 3.353, p= .083*
E nat (n= 20) <i>a</i> # <i>the</i> omission	F(1,19)= 3.353, p= .083 F(1,19)= 1.000, p= .330 n/a	F(1,19)= 2.803, p= .110 n/a n/a	F(1,19)= .681, p= .419 F(1,19)= 1.000, p= .330 n/a

Note: significant values in bold; *statistically significant; **approaching significance

Appendix 11: Criteria for the individual analysis in the Written Sentence Production Task

(1) *Criteria for the individual analysis in the definite conditions*

- (a) Target-like pattern: If the participant made 1 error or no errors in each of the conditions, s/she was characterised into the target-like pattern. In other words, if the participant used *the* at least 3 out of 4 items, did not use *a* more than once and did not omit an article more than once in each of the conditions than the learner was considered to be target-like.
- (b) Omission pattern: If the participant omitted an article in 2 or more out of 4 items per each condition (50% omission or more), s/he was characterised into the omission pattern.
- (c) Optional pattern: If the participant used *the* 2 out of 4 items and *a* 2 out of 4 items per each of the three definite conditions, s/he was characterised into the optional pattern.
- (d) L1-based pattern: If the participant used *the* more often in the previous mention condition than in the unique bridging and out-of-the-blue definite conditions (difference of at least 1 (25%) or more), s/he was characterised into the L1-based pattern
- (e) Not predicted 1 pattern (non-L1-based): If the participant used *the* more often in the unique bridging and out-of-the-blue definite conditions than in the previous mention condition (difference of at least 1 (25%) or more), s/he was characterised into the not predicted 1 pattern
- (f) Anaphoricity-based pattern: If the participant used *the* more often in each of the two anaphoric conditions than in the non-anaphoric condition (difference of at least 1 (25%) or more), s/he was characterised into the anaphoricity-based pattern
- (g) Not predicted 2 pattern: If the participant used *the* more often in the non-anaphoric condition than in each of the two anaphoric conditions (difference of at least 1 (25%) or more), s/he was characterised into the not predicted 2 pattern
- (h) Random pattern: The participants who did not fit into either of the above patterns were characterised into the random pattern

(2) Criteria for the individual analysis in the indefinite conditions

- (a) Target-like pattern: If the participant made 1 error or no errors in each of the conditions, s/she was characterised into the target-like pattern. In other words, if the participant used *a* at least 3 out of 4 items, did not use *the* more than once and did not omit an article more than once in each of the conditions than the learner was considered to be target-like.
- (b) Omission pattern: If the participant omitted an article in 2 or more out of 4 items per each condition (50% omission or more), s/he was characterised into the omission pattern.
- (c) Optional pattern: If the participant used *a* 2 out of 4 items and *the* 2 out of 4 items per each of the three indefinite conditions, s/he was characterised into the optional pattern.
- (d) L1-based pattern: Different criteria are used to characterise learners into the L1-based pattern since different predictions are made based on L2 learners' L1s (see Section 6.3).
- L1 Chinese*: If the participant used *a* more often in the partitive and out-of-the-blue indefinite condition than in the non-unique bridging condition (difference of at least 1 (25%) or more), s/he was characterised into the L1-based pattern
- L1 Russian*: If the participant used *a* more often in the partitive and the non-unique bridging conditions than in the out-of-the-blue indefinite condition (difference of at least 1 (25%) or more), s/he was characterised into the L1-based pattern
- (e) Not predicted 1 pattern (non-L1-based): Different criteria are used to characterise learners into the L1-based pattern since different predictions are made based on L2 learners' L1s.
- L1 Chinese*: If the participant used *a* more often in the non-unique bridging condition than in the partitive and the out-of-the-blue indefinite conditions (difference of at least 1 (25%) or more), s/he was characterised into the not predicted 1 pattern
- L1 Russian*: The not predicted 1 pattern is not applicable to the L1 Russian groups since the not predicted pattern for the L1-based pattern is the anaphoricity – based pattern
- (f) Anaphoricity-based pattern: If the participant incorrectly used *the* more often in each of the two anaphoric conditions, i.e. partitive and non-unique bridging, than in the non-anaphoric condition, i.e. out-of-the-blue indefinite (difference of at least 1 error (25%) or more), s/he was characterised into the anaphoricity-based pattern

- (g) Not predicted 2 pattern²⁷: If the participant incorrectly used *the* more often in the non-anaphoric condition than in each of the two anaphoric conditions (difference of at least 1 (25%) or more), s/he was characterised into the not predicted 2 pattern
- (h) Random pattern: The participants who did not fit into either of the above patterns were characterised into the random pattern.

²⁷ Note that the not predicted 2 pattern is not applicable to the L1 Russian groups since the not predicted pattern for the anaphoricity – based pattern is the L1-based pattern.

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