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**THE L2 ACQUISITION OF AGREEMENT:
COMPARING THE INTERLANGUAGE OF DUTCH,
ENGLISH, FRENCH AND SWEDISH-SPEAKING
LEARNERS OF SPANISH**

Lieve Van Espen

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Thesis submitted in partial fulfilment of the requirements for the degree
of Doctor of Philosophy at Durham University

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School of Linguistics and Language
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No part of this thesis has previously been submitted for a degree at Durham University or any other University.

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ABSTRACT

Much of current generative research into non-native language (L2) acquisition of morphosyntax has focused on L1 transfer and access to Universal Grammar. Subject-Verb agreement (1) has figured more prominently than nominal agreement ((1)-(2)) in this debate, but empirical findings remain inconclusive. For instance, Hawkins & Franceschina (2004) conclude that UG features (e.g. [GENDER]) not realised in the L1 cannot be acquired, whereas White et al. (2001) argue the opposite.

- (1) La niña china / *chino lee / *leen un libro. [Spanish]
*The.FEM.SG girl_{FEM.SG} Chinese.FEM / *MASC.SG read.3SG / *3PL a book.*
 'The Chinese girl reads a book.'
- (2) La niña es china / *chino
*The.FEM.SG girl_{FEM.SG} be.3SG Chinese.FEM / *MASC.SG*
 'The girl is Chinese.'

The present study examines the acquisition of nominal and verbal agreement marking in L2 Spanish through acceptability judgement, comprehension and production tasks carried out amongst adult L2 acquirers matched for at least two levels of proficiency, with L1s which vary in terms of the realisation of nominal and/or verbal agreement:

	Spanish	L1 Dutch	L1 English	L1 French	L1 Swedish
nominal agreement	+	+	-	+	+
verbal agreement	+	+	+	+	-

I demonstrate that the fact that L2ers can produce or recognise agreeing morphological markers is not sufficient to ascribe to them knowledge of syntactic agreement (and hence of the relevant functional features). The experiments address this issue by examining (non)agreement in non-contiguous ('long' distance) contexts with a complex sentential subject consisting of a head noun and an intervener (as illustrated in (3a-b) for nominal gender marking). Such test items systematically contrast contexts where the head noun and intervener have matching (3a) versus opposite (3b) agreement features.

- (3) a. La niña con la bicicleta es china / *chino.
*The.FEM.SG girl_{FEM.SG} with the.FEM.SG bike_{FEM.SG} be.3SG Chinese.FEM / *MASC.SG*
 'The girl with the bike is Chinese.'
- b. La niña con el libro es china / *chino.
*The.FEM.SG girl_{FEM.SG} with the.MASC.SG book_{MASC.SG} be.3SG Chinese.FEM / *MASC.SG*
 'The girl with the book is Chinese.'

L2ers at lower proficiency level perform significantly better at contexts with matching than opposite gender agreement features, suggesting that they rely more on linear word order and hence general cognitive learning strategies. The most advanced L2ers, however, demonstrate native-like 'long' distance agreement in all contexts, suggesting (hierarchical) structure dependency and hence acquisition that is specific to Language (contra Hawkins & Chan's (1997) *Failed Functional Features Hypothesis*, but supporting access to UG as defined by Schwartz & Sprouse's (1996) *Full Transfer/Full Access Theory*).

The data also reveal that not all types of morphosyntactic agreement are equally acquirable. For all L2ers regardless of their L1, nominal and verbal [NUMBER] are less problematic than [PERSON] and [GENDER]. These L2A findings differ from the results of studies into the L1A of Spanish agreement morphology. L1 children master gender agreement before they start producing nominal number agreement (Marrero & Aguirre 2003, Hernández Pina 1984) and produce distinctions between different verbal persons (1st and 3rd) before plural verb forms emerge (Bel 2002, Grinstead 2000, López Ornat 1997).

The L2ers' L1 does play a role, however, in the initial stages of L2A, particularly in the field of L2 morphology. Problems with remapping syntactic features onto surface morphology cause difficulties for L2ers whose L1 operates a different morphological system to L2 Spanish. L1 French speakers, for instance, have fewer problems with the acquisition of separate morphemes for nominal gender and nominal number agreement in L2 Spanish than Dutch and Swedish L2ers whose L1 uses a portmanteau morpheme to realise both features.

These problems in the field of 'morphological competence' (Lardiere 2005) appear more relevant than issues of syntactic transfer as predicted by Schwartz & Sprouse (1996). Indeed, L1 English learners of Spanish do not seem to experience more problems building up a morphosyntactic system for nominal agreement from scratch than the Swedish and Dutch L2ers who need to 'remap' (i.e. disentangle and reassemble - Lardiere 2005) syntactic features to agreement morphemes.

The finding that mapping problems between syntactic features and lexical forms prevent some L2ers from producing concording agreement morphology is also confirmed by the discrepancy between L2ers' ability to interpret and judge agreement marking, as reflected in the acceptability judgement and comprehension tasks, and the L2ers' more limited ability to produce agreement marking. Moreover, the least marked features often act as defaults, as demonstrated by the overgeneralization of [+MASC], [+3P] and [+SG] markings.

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CHAPTER 1 INTRODUCTION

1.1. INTRODUCTION

Much of current generative research into second or nonnative language (L2) acquisition of morphosyntax has focused on native language (L1) transfer and access to Universal Grammar (UG). Subject-Verb agreement (1) has figured prominently in the existing literature (e.g. Paradis, Le Corre & Genesee 1998; Herschensohn 2001), whereas nominal agreement (2) has been relatively neglected and findings remain inconclusive. Hawkins & Franceschina (2004), for instance, conclude that features (e.g. [GENDER]) not realised in the L1 cannot be acquired, whereas White & al. (2001) argue the opposite.

- (1) El chico compra un periódico.
the.MASC.SG boy_{MASC.SG} buy.3SG a newspaper
'The boy buys a newspaper.'

- (2) Los gatos son negros.
the.MASC.PL cat_{MASC.PL} are.3PL black.MASC.PL
'The cats are black.'

Given these contradictory findings in the field of L2 acquisition (L2A) of morphosyntax, the current empirical study was designed to systematically investigate issues of L1 transfer and access to UG in the non-native acquisition of Spanish nominal and verbal agreement.

1.2. AIMS

As illustrated in example (3), Spanish has both verbal agreement and nominal agreement. The verb (*juega* 'play.3SG') agrees in person and number with the subject DP (*la niña italiana* - 'the Italian girl'); the components of the Spanish DP, i.e. Determiner, Noun and Adjective, agree with each other in gender and number.

- (3) La niña italiana juega con los perros.
the.FEM.SG girl_{FEM.SG} Italian.FEM.SG play.PRES.3SG with the.MASC.PL dogs_{MASC.PL}
'The Italian girl plays with the dogs.'



This project seeks to research, in a well-controlled, systematic fashion, two main issues in the domain of the L2A of syntactic agreement: (a) the role of the L1 and (b) the involvement of UG. This will be done by means of a cross-sectional study of the morphosyntactic representation of nominal ([GENDER] and [NUMBER]) and verbal ([PERSON] and [NUMBER]) agreement in Interlanguage (IL)¹ Spanish.

The subjects, matched for two levels of Spanish proficiency (three in the case of the L1 English speakers), are adult L2 acquirers (L2ers) with L1s which vary in terms of the realisation of nominal and/or verbal agreement (see Table 1 in Section 1.3.1 below). L1 transfer and access to UG will be tested by comparing the ILs of L2ers whose L1s have nominal/verbal agreement with the ILs of L2ers whose L1s do not.

Transfer predicts that there will be IL differences in the respective domain (nominal and/or verbal agreement), at least at early stages of development, dependent on the properties of the L1. Access to UG predicts that L2ers whose L1s lack nominal/verbal agreement will (eventually) come to acquire it, implicating the acquisition of the relevant functional features.

Of special interest will be the systematic comparison between nominal gender and number and verbal person and number agreement features; no study has as yet tested whether all instantiations of syntactic agreement are equally acquirable. In sum, this research project should yield novel, experimental data to test a variety of current L2 acquisition theories concerning L1 transfer and access to UG in L2 acquisition.

Note, however, that the observation that L2ers can produce or recognise agreeing morphological markers may not be sufficient to ascribe to them knowledge of syntactic agreement (and hence of the relevant functional features), for rote learning could be the source. The experiments will address this by examining (non)agreement in non-contiguous ('long' distance) contexts with a complex sentential subject consisting of a head noun and an intervener (see Section 1.3.2 below for an example). Such test items will systematically contrast contexts where the head noun and intervener have matching versus opposite agreement features.

If participants only demonstrate agreement in matching contexts, this would suggest reliance on linear word order and hence general cognitive learning, whereas demonstrations of 'long' distance agreement in a context with opposite agreement features would suggest structure dependency and hence acquisition that is specific to Language.

¹ IL or 'interlanguage' is the non-native linguistic system that represents a learner's internalised L2 knowledge, ranging from the initial to the final state of L2 knowledge (see White 2003:1).

Additionally, since this project aims to look at the syntactic operation of agreement and not lexical learning, examples such as (4)b will be considered to display morphological agreement, though not targetlike, as there is consistency in agreement marking between the determiner and the adjective if *coche* 'car' is represented as [+FEM] in the subject's IL lexicon.

(4)	a.	el	coche	* roja	b.	* la	coche	* roja
		<i>the</i> .MASC.SG	<i>coche</i> _{MASC.SG}	<i>red</i> .FEM.SG		<i>the</i> .FEM.SG	<i>car</i> _{MASC.SG}	<i>red</i> .FEM.SG
		'the red car'				'the red car'		

Examples such as (4)a will be judged to lack agreement. Most other studies have rejected both (4)a and b, thereby equating nominal gender agreement with the assignment of (inherent) gender (e.g. Bartning 2000; Bruhn de Garavito & White 2000; Gess & Herschensohn 2000; Hawkins & Franceschina 2004, but see Gess & Herschensohn 2000, White et al. 2001, 2002).

1.3. RESEARCH QUESTIONS

1.3.1. L2 ACQUISITION OF VERBAL AND NOMINAL AGREEMENT IN L2 SPANISH: L1 TRANSFER?

Generative hypotheses of L2 acquisition vary, *inter alia*, in terms of the extent of L1 influence on the L2 initial state. At one extreme, Schwartz & Sprouse (1996) argue that the entire L1 grammar transfers; 'intermediate' positions such as those of Eubank (1993/94) and Vainikka & Young-Scholten (1996) propose partial transfer of L1 properties; at the other extreme, researchers such as Epstein, Flynn & Martohardjono (1998) claim there is no L1 transfer.

In so far as syntactic agreement is dependent on the functional architecture of the phrase and clause, these theories lead to specific, testable hypotheses with respect to the initial representation of nominal and verbal agreement in ILs. Whether functional structure and its attendant features can transfer determines, in part, when morphological agreement should be realisable, and therefore this area is a prime candidate for testing rival L1 transfer hypotheses.

In order to obtain an accurate picture of the role of the L1, the participants of the empirical study will consist of L2ers of Spanish who have an L1 which differs from or resembles Spanish in terms of nominal and/or verbal agreement. As schematised in Table 1, this will include native speakers of Dutch, English, French and Swedish:

Table 1. Nominal and verbal agreement properties of L2 Spanish and the participants' L1s

	Spanish	English	French	Swedish	Dutch
Nominal agreement	+	- ¹	+	+	+ ²
Verbal agreement	+	+	+	-	+

¹ English does display nominal number agreement on some determiners.

² In Dutch, only attributive adjectives agree with the head noun in gender and number (see Chapter 2).

In contrast with previous studies, the grammaticality judgement, comprehension and production tasks were designed in such a way that the results for agreement in gender and in number (for nominal agreement) and in person and in number (for verbal agreement) can be isolated in the data analysis. This facilitates a systematic analysis of the role of transfer, that is: do learners 'transfer' the (non-)realisation of features ([GENDER]), [NUMBER], [PERSON]) in their L1 to their IL, of some and not others?

1.3.2. L2 ACQUISITION OF VERBAL AND NOMINAL AGREEMENT IN L2 SPANISH: ACCESS TO UG?

L2 acquisition theories also vary in terms of the (internal) source of development from the L2 initial state. Hypotheses of 'full access' to Universal Grammar (e.g. Schwartz & Sprouse 1996; Vainikka & Young-Scholten 1996; Epstein, Flynn & Martohardjono 1998) contrast with 'no access' views (e.g. Clahsen & Muysken 1986; Bley-Vroman 1989); in between, researchers such as Hawkins, Towell & Bazergui (1993) and Eubank (1993/94) postulate partial availability of UG in L2 acquisition.

By examining the morphological patterns of L2ers whose L1s lack the relevant feature(s), this study will investigate whether adult IL development is guided by UG, i.e. whether grammatical features not instantiated in the L1 are in principle acquirable (over time). A related question is whether all features involved in nominal agreement and verbal agreement are equally acquirable. Dewaele & Véronique (2000) suggest that mastery of one type of morphosyntactic agreement (e.g. nominal) does not imply mastery of other types (e.g. verbal).

Very few studies into the L2A of agreement have investigated whether targetlike results on agreement morphology actually mean that L2ers have *acquired* the (hierarchical) L2 agreement relations, or whether they are using local, linearly determined strategies instead. This empirical study will examine this issue by testing participants on 'long distance' agreement, where the main DP consists of a head noun and an 'intervener noun', as illustrated in (5)a-b for nominal agreement.

- (5) a. La niña con la bicicleta es china / *chino.
*The.FEM.SG girl.FEM.SG with the.FEM.SG bike.FEM.SG be.3SG Chinese-FEM / *MASC.SG*
 'The girl with the bike is Chinese.'
- b. La niña con el libro es china / *chino.
*The.FEM.SG girl.FEM.SG with the.MASC.SG book.MASC.SG be.3SG Chinese-FEM / *MASC.SG*
 'The girl with the book is Chinese.'

The intervener and head noun either have matching ((5)a) or opposite ((5)b) features (illustrated here for nominal gender agreement). If subjects are relying on linear closeness to produce or judge agreement morphology, an intervener of the opposite gender as in (5)b should be more likely to trigger agreement errors.

1.4. METHODOLOGY

Subjects were asked to complete a language background questionnaire, a proficiency test, and three other tasks. The grammaticality judgement task is presented aurally (by means of recorded speech of a native speaker) to reduce the focus on 'explicitly learnt grammar rules'. The sentences are accompanied by a picture, providing context for the sentences.

The comprehension task is a partial replication of the White et al. (2001) study, adapting their picture selection instrument with amendments to the vocabulary test. This task focuses on the interpretation of nominal agreement marking.

In the elicited production tasks, participants are shown pictures to describe, where determiners, adjectives and verbs are the targets of investigation. This task also incorporates items aimed at the production of 'long distance' agreement with complex sentential subjects including a head noun and intervener with opposite or matching features.

1.5. FINDINGS

The data reveal that not all types of morphosyntactic agreement are equally acquirable. All L2ers regardless of their L1, perform less accurately on [GENDER] and [PERSON] than on nominal and verbal [NUMBER]. These L2A findings differ from the results of studies into the L1A of Spanish agreement morphology, as L1 children master gender agreement before nominal number agreement (Marrero &

Aguirre 2003, Hernández Pina 1984) and produce distinctions between different verbal persons (1st and 3rd) before plural verb forms emerge (Bel 2002, Grinstead 2000, López Ornat 1997).

In the field of L2 'morphological competence' (Lardiere 2005), results show that the learners' L1 plays a role in the initial stages of L2A. L2ers whose L1 is based on a different morphological system than Spanish (e.g. agglutinating vs. portmanteau morphology for nominal agreement) experience problems remapping syntactic features to the corresponding morphemes in target language Spanish.

A comparison between the comprehension and production tasks confirms that mapping problems between syntactic features and lexical forms prevent some L2ers from producing correct agreement morphology. The least marked features act as defaults (e.g. the overgeneralization of [+MASC] and [+3P] markings).

I also show that L2ers at lower proficiency level often rely on linear word order rather than structural agreement relations to produce or recognise agreeing morphological markers, as they perform significantly better on 'long distance' agreement (see Section 1.3.2) when the head noun and intervener have matching rather than opposite gender agreement features. However, advanced L2 learners, regardless of their L1, display acquisition of the relevant syntactic features in their L2 grammar and thus access to UG.

1.6. STRUCTURE OF THE DISSERTATION

This thesis is organised as follows: Chapters 2 and 3 start the thesis with an overview of the way in which nominal and verbal agreement are realised or absent in target language Spanish and in the participants' L1s (Dutch, English, French and Swedish). This description of the languages involved in the empirical study will be relevant to the discussions on access to UG (for features not instantiated in the participants' L1) and transfer of the L1.

Chapter 4 first introduces the main research questions, theories and hypotheses in the field of L2A. This is followed by a discussion of previous research into the L2A of nominal agreement in adult L2A. Chapter 5 will discuss existing studies into the L2A of verbal agreement. The selected studies in these two chapters provide an insight into the main achievements and shortcomings of existing research in this domain, as well as the implications for the theoretical issues surrounding the debate of L1 transfer and access to UG in L2A. This then leads to practical suggestions that will form the basis for the methodology of the current empirical study.

Chapter 6 describes the participants who took part in the study and other general issues relating to the empirical study. Chapters 7 and 8 provide an overview of the acceptability judgement, comprehension and production tasks for nominal and verbal agreement, respectively. Each chapter concludes with the

formulation of specific research hypotheses for the empirical study into the L2A of nominal or verbal agreement and how the different tasks aim to evaluate these hypotheses.

This is followed by an overview of the data for nominal agreement (Chapter 9) and verbal agreement (Chapter 10) for the different tasks. The structure of these chapters reflects the order of the research hypotheses for nominal and verbal agreement as presented in Chapters 7 and 8. Results of the various tasks will be discussed where they are relevant to the issues raised by the hypotheses.

Chapter 11 discusses the findings of the empirical study and how they contribute to our understanding of L2A of nominal and verbal agreement morphology. The findings are linked to previous research into L2A of morphosyntax and are placed in the wider context of L2A theories. Suggestions for future research are raised where relevant.

CHAPTER 2 THE REALISATION OF NOMINAL AGREEMENT

2.1. INTRODUCTION

This chapter will provide an overview of nominal agreement in the languages that are relevant to the current research project. It will describe the way in which agreement is overtly realised or absent in Spanish, the target language (TL) of the empirical study (discussed in Chapter 4 and following), as well as the first languages (L1s) of the participants acquiring L2 Spanish, viz. Dutch, English, French and Swedish. Spanish is discussed first, as it is the target language for all L2ers involved in this study. The participants' L1s are then discussed in alphabetical order. The following chapter will provide an overview of verbal agreement in these languages.

2.2. NOMINAL AGREEMENT IN SPANISH

2.2.1. GENDER

Gender is an inherent lexical feature of Spanish nouns: all nouns have masculine or feminine grammatical gender (Carroll 1989; Corbett 1999; Butt & Benjamin 2004). Grammatical gender corresponds to natural gender for animate nouns denoting human beings, with few exceptions, and for many nouns referring to 'higher order' animals (1). In the case of inanimate nouns, gender is assigned arbitrarily (2).

(1)	Masculine nouns (animate)	Feminine nouns (animate)
	chico <i>boy</i>	chica <i>girl</i>
	hombre <i>man</i>	mujer <i>woman</i>
	hermano <i>brother</i>	hermana <i>sister</i>
	profesor <i>teacher (male)</i>	profesora <i>teacher (female)</i>
	artista <i>artist (male)</i>	artista <i>artist (female)</i>
	toro <i>bull</i>	vaca <i>cow</i>
	but:	
	bebé <i>baby (male/female)</i>	persona <i>person (male/female)</i>

(2)	Masculine nouns (inanimate)		Feminine nouns (inanimate)	
	libro	<i>book</i>	casa	<i>house</i>
	zapato	<i>shoe</i>	bicicleta	<i>bicycle</i>
	coche	<i>car</i>	leche	<i>milk</i>
	árbol	<i>tree</i>	flor	<i>flower</i>

The gender of inanimate nouns needs to be learnt for each noun individually, although there are phonological rules which are often taught in language classes that can assist the learner.¹ Many nouns in Spanish, for instance, end in *-o* or *-a*, with *-o* ((3)a) typically (but not exclusively) denoting masculine gender and *-a* ((3)b) feminine gender².

(3)	Masculine nouns (inanimate)		Feminine nouns (inanimate)	
a.	libro	<i>book</i>	mano	<i>hand</i>
	zapato	<i>shoe</i>	radio	<i>radio</i>
b.	clima	<i>climate</i>	casa	<i>house</i>
	problema	<i>problem</i>	bicicleta	<i>bicycle</i>

The empirical study will rely entirely on nouns ending in *-o* and *-a* that follow the typical masculine/feminine pattern. Learners will almost definitely have assigned the correct inherent gender to such nouns, which is helpful but not essential for the tasks used in this research as it is the acquisition of gender agreement or concord³ rather than lexical learning of inherent gender (cf. Section 3.3.2.1) that is the main interest of this study.

¹ See, for instance, Butt & Benjamin (2004) for a comprehensive overview of these rules and the many exceptions that illustrate their unreliability.

² Harris (1991) has claimed that *-o* and *-a* are (declension class) word markers rather than gender markers because: [the] 'suffixes share a unique pattern of distribution. [...] The form classes defined by these morphemes, however, are unrestricted with respect to gender: each may contain masculine, feminine, and gender-ambiguous nouns, adjectives, and specifiers. Moreover, adverbs – which are strictly genderless – are scattered throughout the various form classes. These cannot, therefore, be gender classes. (1991:59)

However, this distinction does not affect the current research project as it will not be concerned with the acquisition of the inherent lexical gender of nouns but rather with gender agreement or concord between D, N and A.

³ Traditionally, the term concord has been used for agreement within the DP, assuming that agreement within the DP is a special case of agreement in general.

Gender is also marked on other elements of the DP, such as determiners and adjectives, as well as on predicative adjectives. Table 1 shows how Spanish articles⁴ are inflected for gender:

Table 1. Definite and indefinite articles in Spanish

	indefinite		definite	
	masculine	feminine	masculine	feminine
singular	un	una	el	la
plural	unos	unas	los	las

Many adjectives follow the same *-o/-a* pattern as the nouns described above ((4)a-b), although different endings exist ((5)a-b), including ambiguous endings that can be either masculine or feminine ((6)a-b). Again, only adjectives ending in *-o/-a* will be used in the present study as these show the masculine-feminine distinction most clearly.⁵

(4) a. el libro blanco
the.MASC.SG book_{MASC.SG} white.MASC.SG
 'the white book'

b. la casa roja
the.FEM.SG house_{FEM.SG} red.FEM.SG
 'the red house'

(5) a. el libro español
the.MASC.SG book_{MASC.SG} Spanish.MASC.SG
 'the Spanish book'

b. la casa española
the.FEM.SG house_{FEM.SG} Spanish.FEM.SG
 'the Spanish house'

(6) a. el libro azul
the.MASC.SG book_{MASC.SG} blue.MASC.SG
 'the blue book'

b. la casa azul
the.FEM.SG house_{FEM.SG} blue.FEM.SG
 'the blue house'

2.2.2. NUMBER

Nouns are marked for plural number by adding the morpheme /-s/ to the singular word form.

Broadly speaking, the morpheme /-s/ is realised as /-s/ in the case of nouns ending in an unstressed

⁴ Other determiners (demonstratives, quantifiers, etc.) that are inflected for gender in Spanish will not be examined in the empirical study and will therefore not be discussed here.

⁵ In the glosses, morphemes will be indicated (and separated) by dots. This does not imply any statement about whether or not these morphemes are realised as a distinct segment (unless explicitly discussed as such).

vowel (7); /-es/ for words ending in a consonant other than –s (8); and /ø/ if a multisyllabic word ends in an unstressed vowel followed by –s (9).⁶

(7) casa - casas house - houses

(8) árbol - árboles tree - trees

(9) crisis - crisis crisis - crises

Adjectives are marked for plural by adding /-s/, realised as /-s/ (10) if preceded by a vowel, /-es/ if following a consonant (11) and sometimes /ø/ (12). Table 1 above provides an overview of the way Spanish articles are inflected for number.

	Singular	Plural	
(10)	la chica <u>alta</u>	las chicas <u>altas</u>	<i>the tall girl(s)</i>
(11)	el libro <u>español</u>	los libros <u>españoles</u>	<i>the Spanish book(s)</i>
(12)	el ratón <u>hembra</u>	los ratones <u>hembra</u>	<i>the female mouse/mice</i>

2.2.3. NOMINAL AGREEMENT

Adjectives - both attributive and predicative – and determiners agree with the head noun in gender and number (see also (4)-(6) above):

(13) El edificio nuevo es lindo.
the.MASC.SG building_{MASC.SG} new.MASC.SG be.PRES.3SG beautiful.MASC.SG
 'The new building is beautiful.'

⁶ See Butt & Benjamin (2004) for a more detailed overview of the formation of plural nouns.

- (14) La escritora inglesa es famosa.
the.FEM.SG writer_{FEM.SG} English.FEM.SG be.PRES.3SG famous.FEM.SG
 'The English writer is famous.'
- (15) Los pájaros amarillos son ruidosos.
the.MASC.PL bird_{MASC.PL} yellow.MASC.PL be.PRES.3PL noisy.MASC.PL
 'The yellow birds are noisy.'
- (16) Las pinturas modernas son caras.
the.FEM.PL painting_{FEM.PL} modern.FEM.PL be.PRES.3PL expensive.FEM.PL
 'The modern paintings are expensive.'

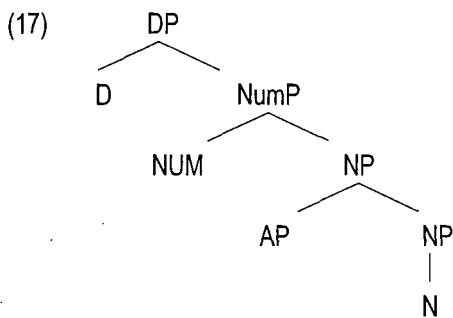
The four different combinations of gender and number marking are all indicated by a different morpheme for the adjectives and determiners used in this study (as described above), which means it is possible to produce correct number morphology and incorrect gender morphology (or vice versa). This allows the researcher to separate and compare the data for gender versus number agreement.

In Minimalist theory (Chomsky 1995, 2001), gender and number features on nouns are considered to be interpretable⁷ features, whereas gender and number features on determiners and adjectives are uninterpretable and therefore enter the syntax unvalued. For the present purposes, it suffices to say that syntactic agreement involves the valuing of unvalued ϕ -features by a category with matching but valued features under a closest c-command relationship⁸. It is worth noting that Spanish (as opposed to Dutch, one of the L1s involved in the study) does not differentiate between attributive and predicate adjective in terms of agreement marking.

Following on from Abney's (1987) DP hypothesis which proposed that the functional category D is the head of DP and selects NP as its complement, linguists have posited more functional projections within the DP. Bernstein (1993), Carstens (1991), Ritter (1991) and Valois (1991), among others, have assumed NumP between DP and NP (as in (17)), a functional phrase where number features [\pm plural] are located and checked.

⁷ Interpretable in a grammatical, not necessarily semantic sense (e.g. in the case of gender features on the noun).

⁸ Carstens (2000), for instance, has provided a detailed account of how Chomsky's (1995) checking theory can be applied to concord within the DP.



As illustrated in (14)-(16), articles are pre-nominal in Spanish, whereas attributive adjectives usually follow the noun.⁹ As number features are strong in Romance languages, the Noun must raise overtly to the functional category Num to have these features checked. Adjectives thus follow nouns in the Spanish surface order.

Some linguists (e.g. Gess & Herschensohn 2001, Harris 1996, Ritter 2001) assume that gender features are also located in the functional category Num, whereas others assume gender to be a feature on the noun itself (Carstens 2001). This theoretical issue does not need concern us here.

An aspect of Spanish that will be relevant to the empirical study is the fact that it allows N-drop or N-ellipsis. A DP does not need to have an overtly realised lexical head Noun as illustrated in the following example:

(18) a. La chica tiene una guitarra amarilla y una roja.
the.FEM.SG girl.FEM.SG have.3SG a.FEM.SG guitar.FEM.SG yellow.FEM.SG and a.FEM.SG red.FEM.SG
 'The girl has a yellow guitar and a red one.'

b. La falda que quiere comprar es la roja.
the.FEM.SG skirt.FEM.SG that want.3SG buy.INF be.3SG the.FEM.SG red-FEM.SG
 'The skirt (s)he wants to buy is the red one.'

Language users can recover the content of the head noun through the correct interpretation of gender and number morphology on the overtly realised elements of the DP in context.¹⁰ The articles and

⁹ See Butt & Benjamin (2004) for a more comprehensive discussion of the placement of adjectives which, amongst other things, depends on the distinction between restrictive (post-nominal) vs. non-restrictive (pre-nominal) adjectives. However, all nouns in the present empirical study are accompanied by a post-nominal adjective, if any.

¹⁰ The details of the exact syntactic analysis of N-drop are not relevant here, but see, for instance, Bernstein (1993), Contreras (1989), Kester (1996), Kester & Sleeman (2002), Liceras & Morgan (2000) and Torrego (1988) for a variety of proposals.

adjectives in (18), for instance, indicate that the null noun is [+FEM] and [+SG] and refers to *guitarra* and *falda* respectively.

2.3. NOMINAL AGREEMENT IN DUTCH

In Dutch, most nouns have one of three possible grammatical genders: masculine, feminine or neuter.¹¹ Grammatical gender corresponds to natural gender for most animate nouns denoting human beings and animals (19). In the case of inanimate nouns, gender is assigned arbitrarily (20). Masculine and feminine nouns are also called '*de*'-words (or common gender nouns), neuter nouns '*het*'-words according to the definite article they are used with. The difference between masculine and feminine nouns is only visible on pronouns, not on determiners.¹²

The gender of inanimate nouns needs to be learnt for each noun individually. In some cases, there is no real distinction between masculine and feminine gender, and the masculine gender is used. This is particularly the case in The Netherlands where the distinction between masculine and feminine gender for inanimate nouns is becoming increasingly blurred and many nouns are treated as if they have masculine gender. In Belgium, where most of the test subjects were recruited, the distinction remains much clearer.¹³

(19)	Masculine nouns (animate)	Feminine nouns (animate)
	man <i>man</i>	vrouw <i>woman</i>
	broer <i>brother</i>	zus <i>sister</i>
	kunstenaar <i>artist (male)</i>	kunstenares <i>artist (female)</i>
	stier <i>bull</i>	koe <i>cow</i>

(20)	Masculine nouns (inanimate)	Feminine nouns (inanimate)	Neuter nouns (inanimate)
	roman <i>novel</i>	deur <i>door</i>	huis <i>house</i>
	koffie <i>coffee</i>	liefde <i>love</i>	boek <i>book</i>

¹¹ Some words have more than one gender, e.g. *schort* ('apron') can be feminine or neuter with no difference in meaning.

¹² Thus, a bike is referred to as *hij* ('he'), whereas a bottle would be indicated by *zij* ('she').

¹³ See Donaldson (1987), Kooij (1987) & van Berkum (1996).

There are two regular plural endings for nouns which are added to the singular word form: *-en* (21) and *-s* (22). Some plural nouns end in *-eren* (23); other irregular forms (24) are also possible.

- (21) boon - bonen¹⁴ *bean - beans*
kat - katten *cat - cats*
- (22) tafel - tafels *table - tables*
taxi - taxi's *taxi - taxis*
- (23) ei - eieren *egg - eggs*
- (24) koe - koeien *cow - cows*
stad - steden *city - cities*

The gender and number of the noun and the definiteness of the DP determine the form of determiners and attributive adjectives, as well as pronouns. Table 2 provides an overview of the different forms of the article in Dutch.

Table 2. Definite and indefinite articles in Dutch

	indefinite		definite	
	common	neuter	common	neuter
singular	een	een	de	het
plural	-	-	de	de

Adjectives are inflected for definiteness, gender and number depending on their function (and hence position) in the sentence (attributive or predicative), the (in)definiteness, gender and number of the head noun and the regional variety of Dutch used by the speaker. Two forms are possible: the base form with the zero suffix (e.g. *stoer* – ‘tough’) and the marked form with the *-e* suffix pronounced as [ə] (e.g. *stoere* – ‘tough’).^{15, 16}

¹⁴ Adding inflectional marking to Dutch words (nouns, adjectives and verbs) may trigger spelling changes to ensure that the spelling of the newly formed word continues to reflect the phonology of the word correctly. Thus *boon* (‘bean’) becomes *bonen* (rather than **boonen*) and *kat* (cat) becomes *katten* (rather than **katen*). This is of no interest to the present study.

¹⁵ Adjectives ending in *-a*, *-o*, *-e* [ə], *-en* (e pronounced as [ə]), *-é*, *-i* of *-y* do not have an inflected form. A complete overview (in Dutch) of all the rules of Dutch grammar can be found in Haeseryn, Romijn, Geerts, de Rooij & van den

In the standard variety of Dutch spoken in The Netherlands, attributive adjectives always use the form ending in *-e* except when they are part of an indefinite singular DP whose head noun has neuter gender (i.e. a [-definite, +neuter, +singular] DP).¹⁷ In the case of the variety of Dutch spoken in Belgium, there is a distinction between [+singular, +neuter] DPs with zero suffix¹⁸ (regardless of the definiteness of the DP) and all other attributive adjectives which add the inflectional suffix *-e*. Table 3 provides an overview of adjectival inflection within DP in the Dutch language.

Table 3. Attributive adjective suffixes in Dutch

	indefinite		definite	
	common	neuter	common	neuter
singular	-e	-∅	-e	-e <NI> -∅
plural	-e	-e	-e	-e

Examples (25) and (26) illustrate the different combinations of D, A and N in Dutch, depending on the gender and number of the head noun, in indefinite (25) and definite (26) DPs.

- (25) Common gender head noun Neuter head noun
- een zwarte fiets *a black bike* een zwart paard *a black horse*
 zwarte fietsen *black bikes* zwarte paarden *black horses*
- (26) Common gender head noun Neuter head noun
- de zwarte fiets *the black bike* het zwarte <NI> / zwart paard *the black horse*
 de zwarte fietsen *the black bikes* de zwarte paarden *the black horses*

Predicative adjectives are not marked for gender or number. They only occur in the form without the *-e* suffix. Examples (27)-(29) contrast the form of the attributive and predicative adjectives:

Toorn (1997), the official Dutch reference grammar. For more information about the Dutch inflectional system in English, see Booij (2002).

¹⁶ The spelling changes as a result of adding inflectional marking mentioned in fn. 14 also affect adjectives: *xenofob* ('xenophobic') becomes *xenofobe*, for instance, and *lief* ('sweet, nice') becomes *lieve*.

¹⁷ Kester (1996) provides a detailed account of adjectival inflection in Dutch and other languages.

¹⁸ See Tummers, Speelman & Geeraerts (2005) for a detailed study of inflectional variation of Dutch attributive adjectives.

(27) De oude radio is kapot(*te).
*the.MASC/FEM.SG old.MASC/FEM.SG radio_{MASC.SG} be.PRES.3SG broken.PRED (*ATTR)*

'The old radio is broken.'

(28) De nieuwe tentoonstellingen zijn controversieel (*controversiële).
the.MASC/FEM.SG new.MASC/FEM.SG exhibition_{FEM.SG} be.PRES.3PL controversial.PRED

'The new exhibitions are controversial.'

(29) Het bruine <Nl> / bruin paard is snel(*le).
the.NEUT.SG brown.NEUT.SG horse_{NEUT.SG} be.PRES.3SG fast.PRED

'The brown horse is fast.'

2.4. NOMINAL AGREEMENT IN ENGLISH

English nouns do not have inherent gender, with the exception of nouns denoting human beings (*man, girl*) and some animals (*bull, ewe*) which have natural gender. English does not have grammatical gender. The plural affix *-(e)s* is added to the singular form of the word to mark plural on nouns ((30)- (33)).¹⁹ Some words have an irregular plural form (34).

(30) mountain - mountains
 star - stars

(31) witch - witches

(32) tomato - tomatoes

(33) cherry - cherries

(34) mouse - mice

¹⁹ Many nouns add *-s* (30); *-es* is used for words ending in a sibilant ([s], [ʃ], [tʃ], [ʒ] and [dʒ]), see (31) or in *-o* preceded by a consonant (32). Most words in *-y* form the plural by dropping *-y* and adding *-ies* (33). See Quirk, Greenbaum, Leech & Svartvik (1985) for a complete overview of the rules of English grammar.

Given that English nouns do not have grammatical gender, there can be no gender agreement between the noun, adjective and determiner. Some determiners, such as the indefinite article, distinguish between singular and plural, with the absence of an article (or *some*) marking indefinite plural²⁰.

Table 4. Definite and indefinite articles in English

	indefinite	definite
singular	a(n) ²¹	the
plural	-	the

Adjectives do not inflect for number, as illustrated in (35) for attributive adjectives and (36)a-b for predicative adjectives.

- (35) Indefinite DP Definite DP
- a red train the red train
- red trains the red trains

- (36) a. The red wine is expensive.
- the red wine_{SG} be.PRES.3SG expensive*
- b. Red wines are expensive.
- Red wines_{PL} be.PRES.3PL expensive*

2.5. NOMINAL AGREEMENT IN FRENCH

All French nouns are assigned inherent lexical gender, either feminine or masculine. Grammatical gender corresponds to natural gender for animate nouns denoting human beings and 'higher order' animals (37). Inanimate nouns are assigned grammatical gender randomly, although there are some phonological rules (with many exceptions) that can help the learner.²²

²⁰ Demonstrative determiners are also inflected for number (*this – these* and *that – those*), but will not figure in the empirical study.

²¹ The alternation between *a* and *an* is phonologically determined.

²² See Corbett (1999: 57-61) and Tucker, Lambert & Rigault (1977) for an overview of these largely phonological rules.

(37)	Masculine nouns (animate)	Feminine nouns (animate)
	père <i>father</i>	tante <i>aunt</i>
	frère <i>brother</i>	sœur <i>sister</i>
	chanteur <i>singer (male)</i>	chanteuse <i>singer (female)</i>
	toreau <i>bull</i>	vache <i>cow</i>

(38)	Masculine nouns (inanimate)	Feminine nouns (inanimate)
	cirque <i>circus</i>	couleur <i>colour</i>
	fromage <i>cheese</i>	bagnole <i>car</i>
	poivre <i>pepper</i>	mine <i>mine</i>

Plural nouns are marked by adding the plural affix *-s* or *-x* to the singular form of the noun ((39)-(42)). Most words add plural *-s* ((39)), except words ending in *-au* and *-eu* which take plural *-x* (40). Words ending in *-s*, *-x* or *-z* remain unchanged ((41)) and word-final *-al* becomes *-aux* ((42)). There are some irregular forms ((43)). Given that final consonants are generally not pronounced in French, number marking on nouns is largely lost in spoken language (but accompanying determiners will provide a clue about number).

- | | | |
|------|--------------------|-------------------------------|
| (39) | taxi – taxis | <i>taxi - taxis</i> |
| (40) | couteau – couteaux | <i>knife – knives</i> |
| | cheveu - cheveux | <i>hair – hairs</i> |
| (41) | nez - nez | <i>nose - noses</i> |
| (42) | journal - journaux | <i>newspaper - newspapers</i> |
| (43) | œil - yeux | <i>eye - eyes</i> |

French determiners are inflected for gender, number and definiteness, as detailed in Table 5 for articles.

Table 5. Definite and indefinite articles in French

	indefinite		definite	
	masculine	feminine	masculine	feminine
singular	un	une	le (l') ²³	la (l')
plural	des		les	

Both predicative and attributive adjectives agree in gender and number with the head noun. There is no inflection for definiteness on French adjectives. Feminine adjectives generally add *-e* to the masculine form of the adjective and plural *-s*²⁴ is added to the singular form of the adjective.

Table 6. Adjective suffixes in French

	masculine	feminine
singular	-	-e
plural	-s	-es

(44) illustrates the different combinations of gender and number within the French DP.

(44)	Masculine head noun		Feminine head noun	
	un / le chien noir	<i>a / the black dog</i>	une / la voiture noire	<i>a / the black car</i>
	des / les chiens noirs	<i>∅ / the black dogs</i>	des / les voitures noires	<i>∅ / the black cars</i>

(45)a-b provide examples of attributive and predicative adjectival agreement. Examples (44) and (45) also show that articles are pre-nominal in French, whereas attributive adjectives usually follow²⁵ the noun.

²³ Before a vowel.

²⁴ It should be noted that plural *-s* undergoes phonological elision when the DP is pronounced in isolation but can become audible if it is followed by another word beginning with a vowel.

²⁵ See Hawkins & Towell (2001) for a more comprehensive discussion of the placement of adjectives.

(45) a. Le vin français est cher.
the.MASC.SG wine_{MASC.SG} French.MASC.SG be.PRES.3SG expensive.MASC.SG

'The French wine is expensive.'

b. Les olives françaises sont chères.
the.FEM.PL olives_{FEM.PL} French.FEM.PL be.PRES.3PL expensive.FEM.PL

'The French olives are expensive.'

2.6. NOMINAL AGREEMENT IN SWEDISH

Swedish nouns are lexically specified for either common gender (a collapse of what used to be masculine and feminine categories) or neuter gender. Most animate nouns have common gender ((46)a), but for inanimate nouns gender is assigned largely arbitrarily (Andersson 1992: 35-39) and therefore needs to be learnt for each word individually ((46)b).

(46) a. Common gender nouns (animate)

man *man*
 moder *mother*

häst *horse*

b. Common gender nouns (inanimate)	Neuter nouns (inanimate)
bil <i>car</i>	hus <i>house</i>
cykel <i>bike</i>	äpple <i>apple</i>

In Swedish, nouns are marked for number and definiteness. Plural is marked by the suffix *-or*, *-ar*, *-(e)r*, *-n* or *-Ø*, depending on the noun's declension, as illustrated in (47). Some irregular plural forms do exist.

(47)	vecka - veckor	week - weeks
	dotter - döttrar ²⁶	daughter - daughters
	bok - böcker	book - books
	hjärta - hjärtan	heart - hearts
	hus - hus	house - houses

Singular nouns are marked for definiteness by adding *-(e)n* to common gender nouns ((48)a) and *-(e)t* to neuter gender nouns ((48)c).²⁷ The [+definite] suffix thus varies according to the gender of the noun. Plural nouns mark definiteness mostly through the suffixes *-na* ((48)b) and *-en* ((48)d), depending on how the plural of the noun is formed (see (47)). In other words, the plural [+definite] suffix does not make any distinction between the gender of the nouns. The examples below show that the definiteness suffix follows the plural suffix. Note that indefiniteness is not marked on singular or plural nouns.

(48)	Indefinite nouns	Definite nouns
a.	flicka girl	flicka- n girl-the.COM.SG.DEF
b.	flickor girls	flickor- na girls-the.PL.DEF
c.	hus house	hus- et house-the.NEUT.SG.DEF
d.	hus houses	hus- en houses-the.NEUT.PL.INDEF

In Swedish, indefinite articles are free pre-nominal morphemes, whereas definite articles are typically bound suffixes of the noun.

²⁶ For some nouns, the stem vowel undergoes umlaut in the plural.

²⁷ This definiteness suffix is considered to be the definite article, a bound morpheme. See Delsing (1993) for an analysis, but Kester (1996: 141-154) for an alternative approach.

Table 7. Definite and indefinite articles in Swedish

	indefinite (free morphemes)		definite (bound morphemes)	
	common	neuter	common	neuter
singular	en	ett	-(e)n	-(e)t
plural	-	-	-na / -en	

As detailed in Table 7, indefinite singular NPs are introduced by the indefinite article *en* for common gender nouns ((49)a) and *ett* for neuter gender nouns (50)a). There is no indefinite article to accompany plural indefinite nouns ((49)b & (50)b). As mentioned above, the bound definite article occurs as a suffix to the noun.

(49)	Indefinite DP (common gender)	Definite DP (common gender)	
a.	en bok <i>a.COM.SG.INDEF book</i>	bok-en <i>book-the.COM.SG.DEF</i>	[singular]
b.	böcker <i>books</i>	böcker-na <i>book-the.COM.PL.DEF</i>	[plural]
(50)	Indefinite DP (neuter gender)	Definite DP (neuter gender)	
a.	ett hus <i>a.NEUT.SG.INDEF house</i>	hus-et <i>house-THE.NEUT.SG.DEF</i>	[singular]
b.	hus <i>house</i>	hus-en <i>house-the.NEUT.PL.DEF</i>	[plural]

Attributive adjectives are inflected for definiteness²⁸, gender and number. Adjectives in definite DPs always take on the same form ending in *-a*, which does not distinguish between the different genders and numbers. This *-a* suffix is also used for the indefinite plural form of the adjective. Singular indefinite adjectives are marked by the suffix *-Ø* in the case of common gender, and *-t* in the case of neuter gender. Table 8 provides an overview of adjectival inflection within the Swedish DP.

²⁸ Traditionally, the indefinite paradigm is referred to as 'strong', the definite one as 'weak'.

(55) De röda bilarna / husen är stora.
the red.COM.PL.DEF cars-the / houses-the be. PRES big.COM.SG
 'The red cars / houses are big.'

(56) Röda bilar / hus är stora.
red.COM.PL.INDEF cars / houses be. PRES big.COM.PL
 'Red houses are big.'

2.7. SUMMARY

This chapter provided an overview of the characteristics of nominal agreement in the TL under examination (Spanish) and the L1s of the L2ers who participated in the empirical study (Dutch, English, French and Swedish). The way in which nominal agreement is overtly realised or absent in each of these languages is summarised in Table 9 below.

Table 9. The realisation of nominal agreement

	within DP (concord)					sentential (predicative adjectives)	
	articles		attributive adjectives			gender	number
	gender	number	gender	number	definiteness		
Spanish	√	√	√	√		√	√
Dutch	√	√	√	√	√		
English		(√)					
French	√	√	√	√		√	√
Swedish	√	√	√	√	√	√	√

'√' indicates that a feature is present in the L1. Cells are left blank if the feature is absent in the L1.

These properties will be relevant to the methodology of the empirical study (Chapters 4-5) and the interpretation of results (Chapters 7 and 9) for nominal agreement. The following chapter will describe verbal agreement in Dutch, English, French, Spanish and Swedish.

CHAPTER 3 THE REALISATION OF VERBAL AGREEMENT

3.1. INTRODUCTION

This chapter will provide an overview of verbal agreement¹ in TL Spanish, as well as in the L2ers' L1s (Dutch, English, French and Swedish), similar to the discussion of nominal agreement in the previous chapter. Target language Spanish is described first, and is followed (in alphabetical order) by the participants' L1s. The final section of this chapter will summarize the properties for both nominal and verbal agreement. The following chapter will then introduce the methodology of the empirical study.

3.2. VERBAL AGREEMENT IN SPANISH

3.2.1. NUMBER AND PERSON

All regular Spanish verbs belong to one of three possible categories, depending on the form of the infinitive marker (determined by the theme vowel): verbs ending in *-ar* (class I), *-er* (class II) or *-ir* (class III). The simple present tense² conjugation for these verbs is illustrated in Table 1:

Table 1. The present tense of regular Spanish verbs

	-ar (class I) e.g. <i>cantar</i> – 'to sing'	-er (class II) e.g. <i>comer</i> – 'to eat'	-ir (class III) e.g. <i>vivir</i> – 'to live'
1 SG	canto	como	vivo
2 SG	cantas	comes	vives
3 SG	canta	come	vive
1 PL	cantamos	comemos	vivimos
2 PL	cantáis	coméis	vivéis
3 PL	cantan	comen	viven

¹ The empirical study concerns present tense exclusively. This section on verbal agreement will therefore only provide an overview of present tense verbal agreement in the languages involved in the study.

² Henceforth simply referred to as 'present tense'.

As can be seen, Spanish makes use of portmanteau morphemes to represent number and person inflection on verbs. The only exception is the third person of the verb, where the plural is formed by adding *-n* to the singular form of the verb. In the case of 1st and 2nd person verbs, it is impossible to separate person and number morphology. These facts are relevant to the empirical study as the use of incorrect verbal morphology will not automatically reveal whether it is number and/or person morphology that is produced incorrectly.

3.2.2. VERBAL AGREEMENT

Finite verbs generally agree in person and number with the subject of the sentence.³ In example (1), the verb (*juega* - 'play.3SG') agrees in person and number with the subject (*el músico* - 'the musician'). In (2), the verb (*cantamos* - 'sing.1PL') agrees with the subject (*Ana y yo* - 'Ana and I').

(1) El músico juega con sus perros.
the.MASC.SG musician_{MASC.SG} play.3SG with his.MASC.PL dogs_{MASC.PL}
 'The musician plays with his dogs.'

(2) Ana y yo cantamos en un grupo de rock.
Ana and I sing.1PL in a rock band.
 'Ana and I sing in a rock band.'

Person and number features on verbs are considered to be uninterpretable⁴ features; person and number features on nouns are interpretable (Chomsky 1995, 2001). As discussed in Section 2.2.3, agreement ensures that the unvalued ϕ -features of the verb are valued by a category with matching but valued features under a closest c-command relationship.

It should be noted that Spanish allows null subjects (3) and so there may not be an overt subject in the sentence for the verb to agree with. The richness of verbal morphology allows the content of the null pronoun to be recovered. In the case of 3rd person morphology, the pragmatic context provides additional clues to help retrieve the content of the null noun.

³ Exceptions include sentences with non-nominative subjects and constructions with impersonal *se*, amongst others, (see Butt & Benjamin (2004), Zagona (2002)), but again, a careful design of the empirical study ensures that this need not concern us here.

⁴ See Holmberg (2005) for a discussion of interpretable vs. uninterpretable features.

- (3) Espero que vengas.
 hope.1SG that come.SUBJ.2SG
 'I hope that you'll come.'

3.3. VERBAL AGREEMENT IN DUTCH

All regular Dutch infinitives end in *-en*. As illustrated in Table 2, singular forms of the simple present tense verb distinguish between first versus second and third person by adding *-t* to the verb stem⁵ in the latter case. Plural forms do not make any distinction between the different persons and are identical to the infinitival form. Some verbs are irregular in their formation of the present tense (e.g. *hebben* – 'to have', *zijn* – 'to be', *kunnen* – 'can').

Table 2. The present tense of regular Dutch verbs

	e.g. <i>dansen</i> – 'to dance'
1 SG	dans
2 SG	danst
3 SG	danst
1 PL	dansen
2 PL	dansen
3 PL	dansen

Dutch verbs agree in person and number with the subject of finite sentences. In (4), the verb (*koopt*⁶ – 'buys.3SG') agrees in person and number with the subject (*de student* – 'the student'). In example (5), *zwemmen* ('swim.1PL') agrees with *Sarah en ik* ('Sarah and I'). Dutch does not allow null subjects.

⁵ Generally speaking, the verb stem is the infinitive (as it is *pronounced*) minus the *-en* ending. The stem of *lopen* ('to run') is *loop*, that of *zingen* ('to sing') is *zing*. The first person of the present tense corresponds to the verb stem (*ik loop* – 'I run'; *ik zing* – 'I sing') after the necessary spelling changes have been applied.

⁶ The reader is reminded that adding inflectional marking to Dutch words (such as verbs) may trigger spelling changes. Thus we write *koopt* ('buys') and not *kopt*, even though the infinitive is spelled *kopen*. See also fn. 14 in the previous chapter.

- (4) De student koopt vier CDs.
the.MASC.SG student_{MASC.SG} buy.3SG four CD_{MASC.PL}

'The student buys four CDs.'

- (5) Sarah en ik zwemmen voor het nationale team.
Sarah and I swim.1PL for the national team.

'Sarah and I swim for the national team.'

3.4. VERBAL AGREEMENT IN ENGLISH

The infinitival form of verbs (marked by the infinitival marker *to*) corresponds to the verb stem and is used for most forms of the simple present tense. English verbs display only very limited inflection in the present tense by adding *-s* to the verb stem to indicate third person singular (see Table 3 and examples (6)-(8)).⁷

Table 3. The present tense of regular English verbs

	e.g. <i>to climb</i>
1 SG	climb
2 SG	climb
3 SG	climbs
1 PL	climb
2 PL	climb
3 PL	climb

⁷ When the verb stem ends in a sibilant ([s], [v], [tə], [ɔ] and [dɔ]), the 3rd person singular suffix is *-es* (7). Word-final *-y* becomes *-ies* (8).

(6) to move – he moves
to burst – it bursts

(7) to catch – she catches

(8) to fly – she flies

As illustrated in Table 4, only the irregular verb *to be* makes more distinctions, distinguishing between 1st, 2nd and 3rd person singular and also between singular and plural in the case of 1st and 3rd person.

Table 4. The present tense of irregular *to be*

	<i>to be</i>
1 SG	am
2 SG	are
3 SG	is
1 PL	are
2 PL	are
3 PL	are

Modal auxiliaries (e.g. *can*, *may*) do not inflect at all for person or number:

Table 5. The present tense of modals

	e.g. <i>can</i>
1 SG	can
2 SG	can
3 SG	can
1 PL	can
2 PL	can
3 PL	can

English verbs agree in person and number with the subject of finite sentences. In (9), the verb (*swims*) agrees in person and number with the subject (*the elephant*). In example (10), 3rd person plural *love* agrees with the number and person of the subject (*Lucy and Glenn*). English does not allow null subjects.

(9) The elephant swims across the river.
 the.SG *elephant_{SG}* *swim.3SG* *across the river*

(10) Lucy and Glenn love baroque music.
 Lucy and Glenn *love.3PL* *baroque music.*

3.5. VERBAL AGREEMENT IN FRENCH

Regular French verbs belong to one of three categories, depending on the form of the infinitive marker: verbs ending in *-er* (group I), *-ir* (group II) or *-re* (group III). The simple present tense conjugation for these verbs is illustrated in Table 6:

Table 6. The present tense of regular French verbs

	-er (group I) e.g. <i>écouter</i> – ‘to listen’	-ir (group II) e.g. <i>sentir</i> – ‘to feel’	-re (group III) e.g. <i>entendre</i> – ‘to hear’
1 SG	écoute	sens	entends
2 SG	écoutes	sens	entends
3 SG	écoute	sent	entend
1 PL	écoutons	sentons	entendons
2 PL	écoutez	sentez	entendez
3 PL	écoutent	sentent	entendent

French makes use of portmanteau morphemes to reflect number and person on verbal forms. Even though spelling of the verbal inflection varies between the different persons of the singular forms, there is no audible distinction. The three plural forms have distinct endings for 1st, 2nd and 3rd person.

Finite verbs agree in person and number with the subject of the sentence. In example (11), the verb (*chante* - ‘sing.3SG’) agrees in person and number with the subject (*le père* - ‘the father’). In (12), the verb (*travaillent* - ‘work.3PL’) agrees with the subject (*Myriam et Luc* - ‘Myriam and Luc’). French does not allow null subjects.

(11) Le père chante une berceuse.
the.MASC.SG father_{MASC.SG} sing.PRES.3SG a lullaby.
 ‘The father sings a lullaby.’

(12) Myriam et Luc travaillent dans le même bureau.
Myriam and Luc work.PRES.3PL in the same office
 ‘Myriam and Luc work in the same office.’

3.6. VERBAL AGREEMENT IN SWEDISH

There is no verbal agreement in Swedish: the verb does not agree with the subject of the sentence in number or person ((13)-(15)). Verbs are only inflected for tense; the present tense form (*visar* – ‘show’) differs from the infinitive (*visa* – ‘to show’). Swedish does not allow null subjects.

- (13) Jag sitter vid min dator.
I sit.PRES by my computer.
 'I sit by my computer.'
- (14) Hon sitter vid sin dator.
She sit.PRES by her computer.
 'She sits by her computer.'
- (15) Studenterna sitter vid sina datorer
The students sit.PRES by their computer_{PL}.
 'The students sit by their computers.'

3.7. SUMMARY

In this chapter, agreement within the (present tense) verbal domain was discussed for target language Spanish and the participants' L1s (Dutch, English, French and Swedish). Table 7 summarises this overview.

Table 7. The realisation of verbal agreement

	person	number
Spanish	√	√
Dutch	√	√
English	√	√
French	√	√
Swedish		

√ indicates that a feature is present in the L1.
 Cells are left blank if the feature is absent in the L1.

The similarities and differences among these languages with respect to the different features that play a role in verbal and nominal agreement are reflected in Table 8 and will be relevant to the methodology of the study (see Chapters 4-6) and the interpretation of results (Chapters 7 and 8).

Table 8. Nominal and verbal agreement properties of test subjects' L1s and L2 Spanish

	<i>Spanish</i>	English	French	Swedish	Dutch
Nominal agreement	+	-	+	+	+ attributive - predicative
Verbal agreement	+	+	+	-	+

The following chapter will first introduce the main research questions that have occupied linguistic research into L2 acquisition and how findings in the field of IL agreement morphology can help us to answer these questions. It will then critically review previous studies into the L2 acquisition of nominal agreement. Chapter 5 will discuss existing research into the L2A of verbal agreement.

CHAPTER 4 SECOND LANGUAGE ACQUISITION OF NOMINAL AGREEMENT

4.1. INTRODUCTION

In the previous two chapters, the languages included in this study were discussed in terms of nominal and verbal agreement. This chapter will focus on issues related to second language acquisition (L2A)¹ research and will review previous studies that have examined the acquisition of nominal agreement in adult L2A.

Section 4.2 will present the main research questions and theories in the field of L2A relevant to the acquisition of agreement in L2 Spanish. Sections 4.3-4.5 will provide a critical overview of the existing research into the L2 acquisition of Spanish nominal agreement. These sections will also describe the implications for the theoretical issues in L2A surrounding the debate of L1 transfer and access to UG and include suggestions for further research that will form the corner stone of the empirical study presented in Chapters 6 and 7. Chapter 5 will review previous research into the L2A of verbal agreement.

4.2. L2A: RESEARCH QUESTIONS AND THEORIES

Over the past two decades, research into adult L2 acquisition of morphosyntax has been dominated by two key questions:

- (1) a. Are the principles and parameters of UG available and fully accessible to adult L2ers during the process of L2A?
- b. Do L2ers 'transfer' L1 parameter settings into the L2 initial state?

Many areas of syntax have been explored in L2 acquisition research, yet an undisputed answer to the above questions remains elusive. Building on earlier work by Tsimpli & Smith (1991) and Smith & Tsimpli (1995), Hawkins & Chan (1997), for instance, have proposed that functional categories and features unspecified in an L2er's L1 are no longer available in L2A such that L2 learners are restricted to L1 *parameter values*; the principles of UG, however, remain fully operative. They call this proposal the Failed

¹ Throughout this dissertation, the term L2A or 'L2 acquisition' or 'second language acquisition' will be used to refer to all non-native language acquisition, whether or not the L2 truly is a second language in the strictest sense of the word, or a third (or fourth, etc.) language. L2A will refer to adult (post-puberty) L2A unless stated otherwise.

Functional Features Hypothesis (FFFH). L2ers will never be able to acquire categories or features absent in their L1, leading to fossilized L2 grammars.

Schwartz & Sprouse's (1996) Full Transfer/Full Access theory, on the other hand, states that L2ers transfer their L1 grammar in full into the L2 initial state and have full access to all aspects of UG. Any L2 input not compatible with the IL grammar forces restructuring constrained by UG. All UG options in principle are available to L2ers, including parameter settings and values not instantiated in the L1.

Vainikka & Young-Scholten (1996) agree that L2ers have full access to UG, but claim that the L2 initial state consists only of L1 lexical categories and their headedness. According to Vainikka & Young-Scholten's Minimal Trees Hypothesis, functional categories need to be built up from scratch and in a bottom-up fashion, based on the TL input interacting with properties of UG.

The Valueless Features Hypothesis developed by Eubank (1993/1994) also assumes that the L1 grammar, including L1 functional and lexical categories, determines the L2 initial state. Unlike Full Transfer/Full Access, however, this approach claims that the feature strength of functional categories does not transfer; feature strength is 'valueless' at the onset of L2A and needs to be acquired through TL input.

When trying to answer question (1)a, however, it is important to bear in mind that the tasks used in linguistic research assess performance rather than competence (e.g. Cook 1990:595; White 2003:17; Duffield & White 1999:134). Any claims related to 'competence' are necessarily based on inference. It is thus difficult to establish whether or not L2ers have actually *acquired* the underlying TL agreement relations. Research data can underestimate the L2ers' actual knowledge of the TL (see following paragraph), but findings can equally easily overestimate the learners' IL knowledge, for instance if L2 participants rely on the conscious application of rules learnt in class. By combining a variety of tasks and methodologies (see Chapters 6-8), the current experiment aims to avoid these pitfalls to answer question (1)a.

In order to explain the issue of ultimate attainment, a number of studies have focussed on extra-syntactic factors which affect IL performance. Goad & White (2004, 2006), for instance, argue that it is L1 prosodic constraints and not only L1 syntactic representations that influence IL performance. Goad & White suggest that L2ers are not limited to syntactic representations of functional categories and features available in the L1, but that L1 prosodic structures in part determine performance (and possibly competence) in L2A. Even though L1 prosodic structures can be 'minimally adapted' in order to represent L2 functional morphology (2006:244-6), in certain cases L2ers will be (and remain) unable to represent L2 functional morphology in a native-like manner. This is their Prosodic Transfer Hypothesis.

Another approach relevant to the current research project evolves around the distinction between the acquisition of surface morphology and the acquisition of the underlying morphosyntactic representations. Haznedar & Schwartz (1997), Lardiere (1998) and Prévost & White (1999, 2000) have demonstrated that the fact that L2ers fail to produce correct overt (surface) morphology does not imply that these learners have

not acquired the abstract functional categories and features associated with it. The Missing Surface Inflection Hypothesis (MSIH) points out that other factors could be involved, such as problems with mapping formal features to the corresponding (morpho)phonological forms.

The lack of consensus over universally accepted theories of L2A indicates that more empirical data are needed to establish which of the above hypotheses² best represent the L2A process. The current research project aims to answer key questions (1)a and (1)b by examining the L2 acquisition of Spanish agreement morphology by L2ers whose L1 differs from or corresponds to Spanish in terms of nominal and verbal agreement.

As mentioned above, access to UG and L1 transfer in the development of IL are the two main issues underlying this study. In terms of agreement morphology, research questions (1)a and (1)b above can be reformulated as follows:

- (2) a. Are grammatical features not instantiated in the L1 in principle acquirable in (adult) L2 acquisition (over time)? And additionally: Are all features equally acquirable?

- b. Do L2ers 'transfer' the (non-)realisation of features ([GENDER], [NUMBER], [PERSON]) in their L1 to their IL? If so, do they transfer all of these features or only some of them?

Though newcomers to the language are taught both nominal and verbal agreement morphology explicitly within the first few weeks of L2 Spanish classes³ and are also exposed to negative evidence in class, language teachers agree that problems in this area persist during various stages of IL development, even amongst advanced learners. This discrepancy between grammatical rules that are focussed on in class and the difficulty in acquiring (or mastering) them makes agreement morphology an interesting issue to examine in the field of L2A and shows that direct negative and explicit evidence in itself is insufficient to guarantee successful L2A.⁴

² A more exhaustive and detailed overview of existing theories of second language acquisition falls outside the scope of this dissertation but can be found in textbooks such as White (1989, 2003), Archibald (2000) and Towell & Hawkins (1994).

³ This claim is based on personal communication with Spanish language teachers, an analysis of the contents of popular language learning materials for Spanish and my own teaching and learning experience of the language.

⁴ See Schwartz (1993), Schwartz & Gubala-Ryzak (1992) and White (1991) for the role of negative data and explicit evidence in parameter resetting in L2A. In the same paper White points out, however, that the long-term results of the follow-up study indicate that initial knowledge gains (short-term results) of adverb placement may have reflected a conscious application of rules. The L2ers seemed to have failed to acquire native-like adverb placement as part of their

With regards to question (2)b, Schwartz & Sprouse (2000:158) have pointed out that existing research in L2A has often been affected by changes in the linguistic theory surrounding the syntactic phenomenon under examination, rendering the theoretical basis and therefore also the conclusions invalid, redundant or contradictory. With respect to the issue of transfer, Schwartz & Sprouse (2000:181) suggest the following solution to this problem:

In the acquisition of some phenomenon *P* in a given Target Language, compare the developmental paths of L2ers whose L1s are, with respect to *P*, typologically distinct. If one finds divergence in developmental paths (regardless of the L2ers' potential ultimate attainment), one has evidence for transfer in that domain – because there is nothing in the L2ers' input [...] which could account for such divergence. If, on the other hand, one finds a uniform developmental path with respect to *P*, one has evidence against transfer.

Such comparative IL studies are affected only to a very limited extent by the latest changes in particular linguistic theories. Nominal and verbal agreement is a good testing ground for evaluating theories of L2A without relying too much on specific models of morphosyntax, as it is possible to choose L1s that are typologically distinct in terms of the presence or absence of agreement features (see Chapters 2 and 3).

The methodology of the present study will be discussed in the following chapter. In Sections 4.3-4.5, we will first take a closer look at the existing studies into the L2A of agreement and how they address research questions (2)a and (2)b with regards to agreement morphology. A critical analysis will point towards the lacunae in the existing research that need to be addressed, and will thus help to establish the aims of the current project.

4.3. L2A OF NOMINAL AGREEMENT: A CRITICAL REVIEW OF PREVIOUS RESEARCH

Section 4.2 introduced two of the main issues in current generative research into L2A of morphosyntax, i.e. L1 transfer and access to UG. Verbal agreement (3)⁵ has figured much more prominently in previous studies (e.g. Herschensohn 2001; Paradis, Le Corre & Genesee 1998 – see Chapter 5 for an in-depth discussion) than nominal agreement, both attributive (4)a and predicative (4)b.

In the domain of nominal agreement in particular, more research is needed to answer these questions as findings of existing studies are contradictory. Hawkins & Franceschina (2004), for instance,

underlying IL grammar (pp.151-153), the findings thus concurring with the language teachers' observations mentioned before.

⁵ From this chapter onwards, all examples are in Spanish unless stated otherwise. Gender, person and number markings are only included in the glosses were relevant or necessary for understanding.

conclude that UG features not instantiated in the L1 cannot be acquired in the L2, whereas White, Valenzuela, Kosłowska-Macgregor, Leung & Ben Ayed (2001) argue the opposite.

(3) La niña lee un libro.
The.FEM.SG girl_{FEM.SG} read.3SG a book
 'The girl reads a book.'

(4) a. La niña china / *chino lee un libro.
*The.FEM.SG girl_{FEM.SG} Chinese.FEM / *MASC.SG read.3SG a book*
 'The Chinese girl reads a book.'

b. La niña es china / *chino.
*The.FEM.SG girl_{FEM.SG} be.3SG Chinese.FEM / *MASC.SG*
 'The girl is Chinese.'

In the following sections, I will review some of the key articles that represent the existing literature on L2 acquisition of nominal agreement. The papers discussed in Section 4.4 will illustrate that of the few studies ostensibly investigating nominal agreement, most have failed to look at the *syntactic* relation of agreement (e.g. Bartning 2000; Bruhn de Garavito & White 2000; Gess & Herschensohn 2000, Hawkins & Franceschina 2004), instead making claims based on examples which in fact illustrate *lexical learning* issues, i.e. whether nouns have targetlike *inherent* gender. In Section 4.5, I discuss the few studies which avoided this pitfall (Gess & Herschensohn 2000; White 2001, 2002). A critical evaluation of these will contribute to a better design for the current research project.

4.4. SYNTACTIC AGREEMENT VERSUS LEXICAL GENDER LEARNING

4.4.1. BRUHN DE GARAVITO & WHITE (2000)

4.4.1.1. Research question and methodology

Bruhn de Garavito & White (BdG&W) studied the L2 acquisition of Spanish DPs to determine whether or not the IL representation of functional categories is *defective* in any way, and if not, whether features or feature values are restricted to L1 properties. In particular, they looked at the presence or absence of gender features and the strength (in the sense of Chomsky 1993) of the number features (NUM being the functional category between D and NP). The strength of the NUM feature is revealed in the

position of the noun in relation to the adjective⁶. Strong NUM features require the Spanish noun to raise overtly, resulting in the canonical N-Adj order.

Table 1. Gender & number features: English vs. Spanish & French

	English	Spanish / French
number features	weak → Adj N	strong → N Adj
gender features	absent	present: D & A agree with inherent N gender

Forty-two L1 French speakers at beginner (30) and intermediate (12) L2 Spanish levels took part in an elicited production task. The experimenter and the participants had duplicate sets of 4 almost identical pictures. Each participant was asked to describe one of the 4 pictures in such a way that the experimenter would be able to identify the corresponding picture in his/her own set. These data were complemented with results from Hawkins (1998) who looked at L1 English speakers learning French.

4.4.1.2. Results and conclusion

L2 Spanish learners did not appear to have significant problems with word order, producing (correct) Noun-Adjective sequences in more than 90% of cases. Even though French and Spanish both have strong NUM features, these findings contradict claims by Beck (1998) and Eubank, Bischof, Huffstutler, Leek & West (1997) that the IL grammar is unable to specify feature strength – regardless of the feature strength in the L1 – and therefore displays variable word order.

Performance on gender agreement, by contrast, was not as accurate for the L2 Spanish learners. A comparison between Table 2 and Table 3 reveals that there is a distinction between gender agreement on determiners (Table 2) and adjectives (Table 3); on average, L2ers make more gender errors on adjectives. Within the category of adjectival agreement, however, the difference between the two genders is significant (for both predicative and attributive adjectives): the masculine form of the adjective is incorrectly overgeneralised to contexts with a feminine noun, whereas adjectival gender errors with masculine nouns are much less common (Table 3).

⁶ Noun-adjective is the canonical word order within the Spanish NP. Some adjectives occur in pre-nominal position, often depending on meaning in a particular context (see Zagana 2002:90-91).

Table 2. Gender errors: def vs. indef D

def D	indef D
15%	< 25%

Table 3. Gender errors on adjectives: masc vs. fem N

masc N + *fem Adj	fem N + *masc Adj
10%	70%

With reference to determiners, it is interesting to note that gender agreement on definite D is more accurate than on indefinite D (Table 2), and that grammatical gender is more accurate (85.5% and 91% accuracy rates for definite and indefinite D, respectively) than natural gender (77% and 86%) even though the latter is obviously identical in both languages. Hawkins' (1998) L1 English, L2 French data reveal the same trend, which seems to indicate that the absence or presence of gender in the L1 does not play as big a role as expected. BdG&W ascribe lower performance on gender to 'mapping problems' between appropriate morphological surface forms and the abstract features they correspond to, as suggested by Lardiere (1999).

4.4.1.3. Discussion

The elicited production task focuses on communication rather than form, which results in more naturalistic data, and is set up in a way which makes it difficult for participants to avoid problems they are aware of. BdG&W's analysis of the data, however, is problematic in several ways. The first and probably most crucial issue is one that has recurred in almost all L2 studies which have looked at nominal agreement (e.g. Bartning 2000; Gess & Herschensohn 2000; Hawkins & Franceschina 2004). These studies have equated 'nominal gender agreement' with agreement between the gender of the Determiner or Adjective, on the one hand, and the *inherent* gender of the Noun, on the other.

(5) el coche * roja
the.MASC.SG car_{MASC.SG} red.FEM.SG
 'the red car'

(6) * la coche * roja
the.FEM.SG car_{MASC.SG} red.FEM.SG
 'the red car'

Under such a conception, examples such as (5) and (6) are therefore judged to be instantiations of incorrect gender agreement. In the research that I propose, however, although (5) would be analysed as

lacking agreement, (6) would not, because I will be looking at consistency in agreement marking between the Determiner and the Adjective, even if the gender marking produced does not correspond to the (target) inherent *lexical* gender of the Noun. Indeed, example (6) shows consistent gender (and number) marking within the DP if *coche* 'car' is represented as [+FEM] in the subject's IL lexicon (7).

(7) [Spanish IL]: coche → [FEM, SG] vs [Spanish]: coche → [MASC, SG]

Since this project aims to look at the *syntactic* operation of agreement and not lexical learning, (6) would thus be considered to display morphological agreement, though not targetlike. I will be looking at consistent gender marking on the Determiner and Adjective: $D_{FEM} N A_{FEM}$ or $D_{MASC} N A_{MASC}$, regardless of the Noun's inherent gender.

The second issue in this discussion relates to the comparison with Hawkins' (1998) spontaneous production experiments in which 30 advanced L2 French university students (L1 English) with at least 7 years exposure to French or French immersion in secondary school took part. BdG&W looked at beginners and intermediate learners of L2 Spanish (L1 French). When discussing gender marking on Determiners and Adjectives, they point to the similarities ('same general trend') between their and Hawkins' results to argue that 'presence or absence of gender in the L1 appears to be irrelevant' (2000:173).

Yet, when we look at the results in more detail, we can see that there are differences between the two groups. For instance, on average, Hawkins' participants overgeneralise feminine indefinite articles with masculine nouns more often than BdG&W's participants, whereas the situation is the reverse for masculine indefinite determiners with feminine nouns. Even though BdG&W's data seem to support the idea that L2ers can acquire features which are not present in the L1, it would be interesting to take a closer look at the exact role of L1 features in this context, particularly since the test results of BdG&W's beginners and intermediate (L1 French) participants are comparable to those of Hawkins' advanced (L1 English) participants.

Comparing the results of these two studies is not made any more transparent by the fact that we are looking at two different target languages: Spanish in BdG&W's study and French in Hawkins' study. Even though French and Spanish share strong Num features and agreement between D, N and A, there are other differences that could influence the way BdG&W analyse the data (i.e. gender marking on Determiners or Adjectives needs to match the Noun's inherent gender).

It could, for instance, be easier to correctly deduce (e.g. through phonological patterns) the gender of nouns in Spanish than it is in French – see the 'phonological gender rules' and word markers discussed in Harris (1991) and Koehn (1994). Accuracy rates on L2 Spanish DPs could consequently be higher than accuracy rates on L2 French DPs for participants with similar language learning backgrounds. This makes comparisons between data for different TLs less straightforward, since the TL is an additional variable which

is not controlled for. Also, as will be discussed below, there is no gender marking on French plural Determiners (*des.INDEF.PL / les.DEF.PL*) as opposed to Spanish plural Determiners (*unos.INDEF.MASC.PL vs. unas.INDEF.FEM.PL / los.DEF.MASC.PL vs. las.DEF.FEM.PL*).

The fact that L2ers did not have any significant problems with word order is probably not very surprising as the pattern of noun-adjective order is taught explicitly in class and is very easy in itself. Therefore metalinguistic knowledge could easily be at play here, rather than L2ers having acquired the required feature strength for the NUM feature.

Overall, however, Bruhn de Garavito & White's picture description task is a well-designed and suitable experiment. When analysing the data, the researchers took variables such as [\pm definite] into account. The main problem, however, is that the study only looks at agreement between the gender of the determiner or adjective and the inherent gender of the noun, which is in fact a matter of lexical learning, not syntactic agreement.

4.4.2. HAWKINS & FRANCESCHINA (2004)

4.4.2.1. Research question and methodology

Hawkins & Franceschina aim to explain why English speakers who learn French or Spanish as a second language show persistent inconsistencies in gender marking on determiners and adjectives. They examine the production data supplied in Hawkins (1998) and Bruhn de Garavito & White (2000), the online reaction times measured after grammatical and ungrammatical D-Adj-N sequences (Guillelmon & Grosjean 2000) and also collected their own spontaneous production data. Their test subjects are native speakers of English (no gender concord) or Italian (gender concord) learning French or Spanish as a second language.

4.4.2.2. Results and conclusion

Hawkins & Franceschina focused primarily on concord⁷ between nouns and determiners. They analysed the accuracy rate of masculine and feminine determiners in obligatory contexts in L2 learners' IL and found that native speakers of English with advanced French overgeneralise one member (feminine or masculine) of each pair of article forms (definite and indefinite). The overgeneralised definite form does not necessarily correspond to the overgeneralised indefinite form; e.g. a particular participant might overgeneralise the feminine definite article and the masculine indefinite article. In such cases, they argue, the masculine definite article and the feminine indefinite article would be learnt as irregular forms.

⁷ But see comments in the previous section and below for a discussion of 'concord' vs. 'inherent gender attribution'.

The same trend is found in Bruhn de Garavito & White's (2000) beginners and intermediate learners of Spanish (L1 French). When looking at highly proficient learners of Spanish, the researchers found that native speakers of Italian have a 100% accuracy rate for gender concord, whereas the native English speakers had an accuracy rate of 92%.

Hawkins & Franceschina consider these data to support the theory that L2 speakers whose L1 does not have gender concord (i.e. absence of an uninterpretable [*ugender*] feature) select the feminine or masculine form of D post-syntactically (on the basis of phonological patterns⁸) and will never be able to assign a [*ugender*] feature to D and therefore will not be able to acquire gender concord. L2ers whose L1 does have a [*ugender*] feature on D can also use this in the context of the IL, and perform like native-speakers. The L1 features transfer into the IL but new features cannot be acquired.

4.4.2.3. Discussion

The researchers studied obligatory contexts for masculine and feminine determiners and calculated the accuracy rates for each; it is interesting that they find that L2ers select one member of each pair of article forms as the default, i.e. that they do not necessarily select the masculine form. Also very informative is the separation of accuracy rates on masculine and feminine forms of the determiners in the analysis of the test results as many other studies have used a general measure of accuracy for determiners without separating the two genders. When only accuracy rates on determiners in general are considered, this does not reveal factors such as overgeneralisation of the masculine form in feminine contexts or vice versa. A 'determiner' accuracy rate of 65%, for instance, could hide the fact that 90% of forms in masculine contexts are correct as opposed to only 40% in feminine contexts.

As discussed for Bruhn de Garavito & White (2000) in Section 4.4.1, this study unfortunately does not look at consistent gender marking between the determiner and adjective either, but only whether the determiner or the adjective agree in gender with the noun; wrong gender is counted as an error against syntactic agreement rather than a matter of lexical learning.

A disadvantage of spontaneous production data is that it allows participants to avoid problems they might be aware of, or that participants might simply not use more problematic nouns. One of the examples that Hawkins & Franceschina quote for the English native speakers to illustrate that these L2ers assign gender on the basis of phonological patterns (e.g. *-o* is usually masculine), is the incorrect *la sistema*, (the.FEM.SG *system*_{MASC.SG}), an exception to the phonological rule. What the researchers do not tell us is

⁸ The gender of Spanish nouns referring to inanimate objects can often be deduced from the word ending. Butt & Benjamin (1988: 7-9), for instance, list the following as typical masculine endings: *-o*, *-aje*, *-or*, *-án* and *-ambre*, whereas words ending in *-eza*, *-ción*, *-sión*, *-dad*, *-tad*, *-umbre*, *-ie*, *-nza*, *-cia*, *-sis*, *-it* are usually feminine.

whether comparable Determiner + Noun combinations were produced by the Italian native speakers (rather than only nouns that comply with the 'phonological rules') and if so, what the corresponding gender in Italian is.

Similarly, for adjectives, if the masculine/feminine forms are indeed selected on the basis of phonological patterns (of the accompanying nouns) as the authors claim, it would have been interesting to look at the adjective agreement results broken down per phonological type of noun, in order to check whether L2ers perform better on certain types than on others (e.g. nouns ending in -o / -a vs. those ending in -e).

In terms of the comparison with L1 acquisition, Hawkins & Franceschina (2004:185-186) state that:

... for some years the grammar for D-N concord of the youngest speakers is different from that of older, mature speakers. It is located in the 'vocabulary' component. Young child speakers select forms of the definite article on the basis of probabilistic correlations with the phonological shape of Ns. By contrast, D-N gender concord in the mature native grammar is syntactic in nature, determined by an inherent [\pm fem] feature of N 'checking' the uninterpretable [*ugender*] feature of root Ds.

If this is indeed the case, it is unclear why we cannot say the same for L2ers at earlier and later stages of L2A. Hawkins & Franceschina claim that 'the features [...] are parameterized [...] and that their availability is subject to a critical period' (2001:199), but since the L1 facts are similar to the native English L2 Spanish results, the data can also be said to support the same explanation for the L2 data as was given for L1A, i.e. that the L2 grammar moves from phonological gender agreement to agreement based on an inherent gender feature. The remaining differences between the L1 English and L1 Italian results for agreement in Spanish/French could be due to transfer effects.

In sum, Hawkins & Franceschina's study revealed some interesting findings regarding the attribution of inherent gender marking, as reflected in the participants' use of masculine or feminine determiners. This article, however, also does not look at gender concord, but at gender attribution to the determiner. In the discussion of the data, the authors do not provide convincing arguments why L1 and L2 acquisition of gender are, in their opinion, fundamentally different, even though the facts are identical, other than invoking a 'critical period' explanation.

4.5. L2 ACQUISITION OF NOMINAL AGREEMENT

4.5.1. GESS & HERSCHENSOHN (2000)

4.5.1.1. Research question and methodology

Gess & Herschensohn aim to determine which theory, *Full Functional* (early L2 grammar can access all functional projections) or *Structure Building* (early L2 grammar only consists of lexical projections), best explains the acquisition of French DPs by native English speakers, given the following parametric variation between French and English DPs:

Table 4. Parametric variation between French and English DPs

	English	French
morphology	no gender feature number marking on some determiners, no other agreement marking	gender feature gender & number agreement percolate through entire DP
syntax	no N raising ± overt D	N raising overt D always required

They employed a 30-item written DP production task, where participants had to complete a Noun-Verb sequence with D, N and A to finish the sentence, as illustrated in (8). Adjectives are given in the masculine singular form, nouns in singular or plural as required.

- (8) Jean boit _____ (temperature: froid; drink: bière)
 Jean drinks _____ (temperature: cold ; drink : beer)

Table 5 details the errors Gess & Herschensohn examine and provides relevant examples:

Table 5. Errors under examination and examples

1	Absence of D	*Marie porte Ø jean bleu <i>Marie wears Ø jeans blue</i>
2	Incorrect placement of attributive adjective before N	*Jean boit une tiède bière (vs. une bière tiède) <i>Jean drinks a lukewarm beer</i>
3	Inconsistent percolation of gender / number marking through DP	*Jean mange la.FEM jambon.MASC canadien.MASC <i>Jean eats the ham Canadian</i>
4	Faulty lexical knowledge (mainly gender errors or irregular morphology)	*Marie porte des.PL chaussettes.FEM-PL violets.MASC-PL / *une chemise blanche (vs. violettes - blanche) <i>Marie wears [indef D] socks violet / a blouse white</i>

Four levels of L1 English university students, ranging from beginners to advanced, took part in the experiment.

4.5.1.2. Results and conclusion

Gess & Herschensohn found that determiners were present from the early stages onwards and that correct noun-adjective order is productive before correct gender morphology and lexical knowledge are. They conclude that the data support the *Full Functional* approach: L2ers are able to master TL functional features (and syntactic movement depending on these features), even when they are different from the L1 features.

4.5.1.3. Discussion

Since Gess & Herschensohn are *not* looking at whether or not the participants have the correct lexical knowledge of the nouns' inherent gender, non-targetlike gender assignment was crucially not counted as an error as long as D and A displayed agreeing morphology with the gender (be it targetlike or non-targetlike) of the noun in the L2ers' IL lexicon. The following example (9), for instance, is not counted as an error, even though it is ungrammatical in the TL grammar: This clearly differentiates Gess & Herschensohn's study from the ones discussed in Section 4.4 above.

- (9) *Jean mange un pomme américain
Jean eats a.MASC.SG apple_{FEM.SG} American.MASC.SG

Yet when looking more closely at their experiment, a few other questions arise with regard to the design of the study and data analysis. Firstly, in examples with plural D *les/des*⁹ (40% of the examples), there is no overt gender marking on the Determiner. It is therefore not clear how the researchers decided then whether there is (in)consistent gender marking between Determiner and Adjective in examples such as the following:

- (10) Marie porte des chaussettes violettes
Marie wears D.MASC/FEM.PL socks_{FEM.PL} violet.FEM.PL

Furthermore, 'errors' such as **blance* ('white') in Table 5 (error type 4) above could be argued to show the feminine gender marker -e: *blanc*(MASC)+ -e and therefore Agreement, even though the correct (irregular) form is *blanche*. It is not clear whether these examples were counted as errors against Agreement marking or not.

One could also argue that the task is too explicit: the instructions for the participants state that '[...] you will need to add any necessary changes such as agreement, articles, etc.' (2000:11). The written format of the task also promotes focus on form. On the other hand, L2ers, particularly beginners, might not be familiar with the conventions of written French and, for instance, assume that if you do not hear any difference between 'masculine and feminine' or 'singular and plural', there is no difference between the written forms as in (11):

- (11) espagnol espagnole
Spanish.MASC Spanish.FEM
/ɛspaŋol/ /ɛspaŋol/

Moreover, the masculine singular form of the adjective was supplied to the test subjects; this might bias test subjects to use the masculine form as a default. In addition, the fact that English is used for instructions and names of categories may result in interference from the L1.

In the data analysis, no distinction is made between examples where English does or does not require a Determiner (12). Making this distinction would have been interesting in order to study the possibility of transfer effects since 12 out of 30 cases (40%) require or allow a Determiner in English.

⁹ 'Les' is the plural form of the definite article, 'des' the plural form of the indefinite article in French.

- (12) John eats an American apple.
Jean mange une pomme américaine.
- vs. John eats Ø Swiss croissants.
Jean mange des croissants suisses.

The choice of Adjectives is also not felicitous: 27% (8/30) of the Adjectives used are ambiguous in written form between masculine and feminine gender marking in singular and plural forms (e.g. rouge – red.MASC/FEM.SG; rouges – red.MASC/FEM.PL). 5/30 (17%) adjectives are ambiguous between masculine singular and masculine plural marking (e.g. sérieux – serious.MASC.SG/PL). It is not clear how the researchers decided whether or not the participants have assigned the same gender and number to these Adjectives as to the corresponding Determiners in examples such as (13):

- (13) Jean boit une bière tiède (temperature: tiède; drink: bière)
Jean drinks a beer lukewarm (temperature: lukewarm; drink: beer)

If the occurrences of these adjectives are taken to have agreeing gender marking with the determiner, this could have given a higher accuracy rate than what the IL underlying analysis actually motivates. Given that the feminine form of French adjectives is often derived by adding –e to the masculine form, the choice of these particular adjectives also means that test subjects could avoid problems by combining adjectives already ending in –e in the masculine form provided (which are therefore ambiguous between MASC or FEM) with plural nouns whose gender they are not sure about, since there is no gender marking on the plural determiner.

In general, the design of this experiment and the choice of adjectives and nouns are not well considered and more variables should have been taken into account when analysing the data. The strong point of this study was not counting wrong gender marking as an error if agreement was correct (e.g. a masculine determiner with a masculine adjective is always correct, even if the noun's gender is feminine), which the studies discussed in Section 4.4 above failed to do.

4.5.2. WHITE, VALENZUELA, KOZLOWSKA-MACGREGOR, LEUNG & BEN AYED (2001); WHITE, VALENZUELA, KOZLOWSKA-MACGREGOR & LEUNG (2002)

4.5.2.1. Research question and methodology

The two White et al. studies intend to establish whether adult L2 learners can access features that are not instantiated in their L1 (contra FFFH, i.e. the Failed Functional Features Hypothesis). They look at the acquisition of the gender feature on nouns and gender agreement on determiners and adjectives in L2 Spanish by learners of an L1 which has gender (French) and one that does not have gender (English), as well as the acquisition of number, a feature which is present in all three languages. White et al. start out by making some specific predictions for the L2 Spanish learners (2002:160):

Table 6. White & al.'s predictions regarding accuracy on L2 gender and number agreement

Lower proficiency levels (coinciding with FFFH)
1 a) L1 = English: accuracy number agreement higher than accuracy gender agreement
1 b) accuracy gender agreement: L1 = French perform better than L1 = English
Advanced proficiency levels (different from FFFH):
2 a) gender agreement accuracy rates similar to number agreement accuracy rates for L1 = English
2 b) accurate gender agreement regardless of status of gender features in L1s

Thus, their predictions for the lower proficiency levels coincide with what FFFH would say: native speakers of English are expected to perform better on number agreement than on gender agreement in Spanish due to the presence of number and the absence of gender in their L1 (1a). In addition, native speakers of French are predicted to display higher accuracy on gender agreement in L2 Spanish than the English speakers because the former, but not the latter, have gender features in their L1 (1b). For the advanced proficiency levels White et al.'s predictions go against FFFH since they do not expect any differences between accuracy rates on gender vs. number agreement (2a) or between native speakers from different L1 backgrounds (2b).

White et al. use a comprehension task with null nominals (see Appendix 1) where selection of the correct picture depends on the correct interpretation of gender and number features on the Determiner and the Adjective. There is a separate vocabulary test to check whether the learners have the vocabulary and correct gender for the words used in the test, as well as two elicited production tasks. Their subjects consist of 48 native speakers of French and 68 native speakers of English taking Spanish courses as adults in a university setting, all post-puberty learners, representing three levels of proficiency. They also have a native speaker control group.

4.5.2.2. Results and conclusion

A) PRODUCTION DATA

White et al. examined their participants' word order accuracy rate (* D A N or * A N vs. correct D N A¹⁰) to determine whether L2ers have acquired the strong value of the NUM feature in Spanish¹¹. The word order error rate turned out to be very low: only 3.5% of all DPs exhibited non-targetlike word order. This indicates that almost all nonnative speakers have acquired the strong feature value of NUM in Spanish.

In terms of gender and number features, White et al. found that number was unproblematic and gender accuracy high for Determiner-Noun sequences as in (14). Number was also unproblematic for Determiner-Noun-Adjective sequences (15), although gender agreement proved to be less accurate for the intermediate and lower proficiency groups.

(14) el coche

the.MASC.SG car_{MASC.SG}

(15) el coche rojo

the.MASC.SG car_{MASC.SG} red.MASC.SG

They did not find any significant difference in agreement accuracy rates between the L1 French and L1 English learners of Spanish. There was a highly significant effect for feature however, with number more accurate than gender. The interaction between proficiency level and feature was highly significant, yet there was no interaction between L1 and feature. Interestingly, they also did not find any evidence of transfer from the L2 (French) to the L3 (Spanish) for those native English speakers who had started learning French before learning Spanish.

White et al. also point out that feminine gender was less accurate when the adjective was present (D-N sequences were more accurate than D-N-A). They point out that these results are consistent with predictions (2a) and (2b) as in Table 6 above. Prediction (1a) is also partially confirmed, although this is not only the case for the native speakers of English, as was stipulated. Prediction (1b) is contradicted, since no effects for L1 were found.

¹⁰ D N A is not the only word order permitted within the Spanish DP, but it is the canonical order (see also fn. 6).

¹¹ Again assuming that this superficial word order actually represents N-raising – see also Section 4.4.1.3.

B) COMPREHENSION DATA

The results from the picture identification task are consistent with those of the production task, although there was greater accuracy on feminine items.

C) VOCABULARY TASK

Subjects also completed a vocabulary task in order to determine whether they knew the relevant words and to check which gender they have assigned to these lexical items in their IL lexicon. Subjects performed less accurately on masculine items than on feminine items, but displayed greater accuracy on masculine gender when the form ends in *-o*.¹²

4.5.2.3. Conclusion

White et al. therefore conclude that adult L2 learners can access features that are not instantiated in their L1 - contra the Failed Functional Features Hypothesis. Interpretable gender features on nouns are acquirable, as are uninterpretable features on determiners and adjectives. Learning inherent gender, rather than acquiring gender agreement on nouns, is what is most problematic for L2 Spanish learners (p. 32). Accuracy rates on feminine nouns are lower than on masculine nouns, which means there is variability in gender assignment.

4.5.2.4. Discussion

The picture selection task is a well-designed experiment, since it is aimed at testing syntax without asking participants to focus on form (as in grammaticality judgement tasks). The idea behind this experiment is that:

the head noun in a Spanish DP does not have to be overtly realized, provided that its content can be in some way recovered from the context. Such DPs are referred to as null nominals [...]

White et al. (2002:8)

However, my own replication of White et al.'s experiment revealed that native speakers do not feel very comfortable with this task and often need to rely on very explicit metalinguistic strategies to select the correct answer, specifically looking at the endings of the adjective in order to determine the gender of the null noun. Further investigation of this problem is needed, but one probable explanation can be related to

¹² Words ending in *-o* in Spanish are almost always masculine with very few exceptions, whereas other endings such as *-e* could be either feminine or masculine.

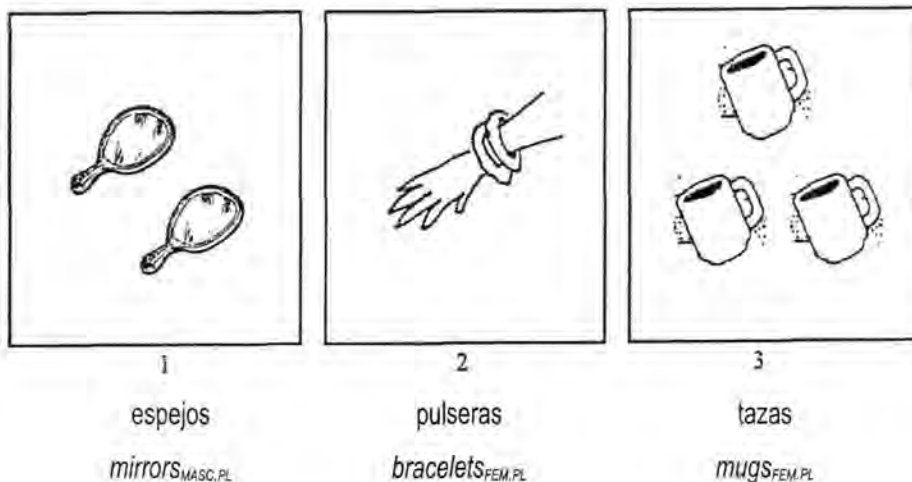
the identification of the null noun. The context preceding the test item does not supply an overt nominal which corresponds to the null nominal in the actual test item, since this would make the picture selection task pointless if the overt nominal were the only one used in the context (participants would not need to rely on gender or number clues but could simply select the correct picture on the basis of vocabulary knowledge). In order to identify the correct picture, native speakers therefore need to rely in part on pragmatic information.

In test items where colour is prominent, they expect to be able to select the correct picture on the basis of colour. The pictures which accompany test items containing adjectives relating to colour such as *roja* ('red'), however, are all shown in the same (red) colour - cf. White et al.'s example in Appendix 1. This seems to confuse the native speakers, and since the context does not provide them with any other clues, they resort to using metalinguistic knowledge to recover the content of the null nominal: *roja* ends in *-a*, so a feminine word is needed – which is exactly what this task was trying to avoid. In my replication study, native speakers often formulated this metalinguistic strategy aloud while processing the test item, others provided the same explanation when prompted to explain their choices at the end of the task.

During the replication of the task, it was also interesting to note that occasionally native speakers would abandon this metalinguistic strategy in favour of a more pragmatic approach, as in the test item, reproduced here as example (16):

- (16) En el museo, María se va a la librería porque tienen muchas cosas bonitas. Decide comprar unos caros.

In the museum, María goes to the bookshop because they have many nice things. (She) decides to buy [indef article.MASC.PL] expensive.MASC.PL (ones).



Picture 1 (*espejos*) corresponds in gender and number with the determiner and adjective provided in the test item, but one of the native speakers selected picture 3 which has opposite gender 'because you don't buy mirrors in a bookshop' (even though the picture was one of handheld small make-up mirrors). Thus, it seems that it would be better to include distractor pictures which differ from the targeted noun only in the quality described by the adjective which provides the gender and/or number clues for the picture selection task. In the case of the example cited in Appendix 1, this would mean including a picture of (for instance) a yellow suitcase, as well as the targeted red suitcase. It also requires the inclusion of a yellow and red picture of a noun that differs from the targeted noun in gender or number - depending on the feature under investigation – a yellow and red book for example.

It is also still not totally clear whether gender marking on determiner and adjective corresponds to the gender of the null nominal, since we do not know which gender the noun corresponds to in the L2ers' lexicon. White et al. have tried to avoid this problem by introducing the vocabulary task. It could be argued, however, that if gender is un(der)specified in the L2ers' IL lexicon, they may treat a particular Noun sometimes as masculine, sometimes as feminine. Each individual should therefore have been tested at least twice on each vocabulary item, to check whether they are consistent in assigning gender to a particular Noun.

As part of the picture selection task, White et al. include 2 test items containing Determiner-Possessive Pronoun sequences, rather than Determiner-Adjective ones (17):

(17) Durante la cena, María le dice a Paco: "Todavía tengo hambre, dame los tuyos." [test item 16]

During the meal, María says to Paco: "I'm still hungry, give me the.MASC.PL yours.MASC.PL"

Even though possessive pronouns in Spanish are also inflected for gender and number this means introducing an extra variable where it could have been avoided. Another 4 out of 32 test items contain sequences consisting of determiner-adjective-demonstrative/possessive pronouns (18), which are all 3 inflected for gender and number and therefore give the test subjects more clues than the other test items which only contain 2 such clues. Comparing these different types of test items should be avoided.

(18) A Paco y a María les gusta escuchar música y leer cuando viajan. Paco guardará los preferidos suyos en su mochila. [test item 10]

Paco and María like listening to music and reading when they're travelling. Paco will keep the.MASC.PL preferred.MASC.PL his.MASC.PL in his rucksack.

Even though White et al. briefly discuss agreement in determiner-noun sequences (2002:164-165), they later make the distinction between the acquisition of 'agreement' in D-N-A sequences and learning of 'inherent gender' in D-N sequences (2002:168). In the light of comments made in Section 4.4 above, it is interesting to note that they find that L2ers have more problems with the latter. When analysing the production data, however, White & al. do count examples such as ((19)a,b; White & al. 2002:167-168) as an instance of incorrect agreement marking, even though there was no vocabulary test to check which gender or number had been assigned to the vocabulary item in the IL lexicon. These examples show correct agreement marking if *pantalones* (obligatory plural in many varieties of Spanish, as is the English equivalent 'trousers') has the features [+MASCULINE,+SINGULAR] and *color* ('colour') has [+FEM,+SG].

(19) a.	un	pantalones	rojo	b.	una	color	roja
	<i>a.MASC.SG</i>	<i>trousers_{MASC.PL}</i>	<i>red.MASC.SG</i>		<i>a.FEM.SG</i>	<i>colour_{MASC.SG}</i>	<i>red.FEM.SG</i>

With reference to gender, it is also interesting to note (White et al. 2002:170) that participants are more likely to assign correct gender to masculine items ending in the typical masculine word marker *-o* than to masculine words ending in the more neutral ending *-e*. This means that it may be better to control for this variable and only include words ending in *-o* (masculine) and *-a* (feminine), rather than word endings which are ambiguous (such as *-e*).

White & al. (2002:166-167) also found that masculine gender marking was overgeneralised more often than feminine marking, which is consistent with findings from other studies (Bruhn de Garavito & White 2002; Dewaele & Véronique 2000; Franceschina 2001) but contra Bartning (2000). Knowledge of L2 French did not have any significant effect on the English-speaking participants' performance (2002:22) in the production task, indicating that there is no effect from the L2 to the L3.

Overall, White et al.'s experiment is the most robust study in terms of design and data analysis. They actually do look at *syntactic* agreement, not just lexical learning, and compare participants from L1s which differ in respect of the gender feature – French, unlike English, has gender features – and are similar in respect of the number feature – present in both French and English. White et al. analysed the production and comprehension data in a variety of ways which revealed the effects of different variables, yet their results may be slightly skewed because they counted certain cases of *syntactic* agreement as errors – cf. examples (19)a and b above.

4.6. CONCLUSION AND SUGGESTIONS FOR FURTHER RESEARCH

This chapter started with a brief overview of the research questions that have occupied the field of generative L2A over the last two decades and the principal theories that have been developed in response to these questions. Sections 4.3-4.5 critically evaluated previous research into the L2 acquisition of morphosyntactic nominal features.

The existing literature does not give a consistent picture with regards to native language transfer and access to Universal Grammar, even though the articles in Section 4.5 dealing with *syntactic* agreement do point towards a theory of Full Access in which L2 features can be acquired by post-critical age L2ers whose L1 does not instantiate these features.

The issue of transfer from the L1 to the L2 has been dealt with systematically only by White et al. (2001, 2002), who did not find any evidence for transfer from L1 French into L2 Spanish. Ideally, this aspect of the L2 debate would benefit from more data obtained from a wider variety of L1 backgrounds – with(out) gender and/or with(out) number features.

The tasks used also need to be refined and data need to be analysed consistently comparing like with like and not mixing results for lexical learning of gender with those that reflect the acquisition of actual syntactic agreement. Another area to be explored in more depth is the comparison between L2 acquisition of attributive vs. predicative nominal agreement, which none of the research cited here has dealt with.

The following chapter will discuss some of the existing studies into the L2A of verbal agreement. Insights gained from this critical evaluation will then help to develop an improved design of tasks to test the L2A of person and number features (described in Chapter 8).

CHAPTER 5 SECOND LANGUAGE ACQUISITION OF VERBAL AGREEMENT

5.1. INTRODUCTION

The previous chapter provided an overview of existing research into the L2A of nominal agreement with the aim of contributing to an improved research design for the present empirical study. This chapter will describe and critically evaluate previous L2A research in the field of verbal agreement. The research questions and theories of L2A presented in Section 4.2 of the previous chapter remain equally valid to the discussion here. The insights gained from these studies will lead to an improved design for the empirical study into the L2A of Spanish verbal agreement which will be described in Chapter 8.

5.2. L2A OF VERBAL AGREEMENT: A CRITICAL REVIEW OF PREVIOUS RESEARCH

5.2.1. INTRODUCTION

Many studies in L2A of morphosyntax have focused on verbal agreement when testing whether adult learners can access L2 functional projections, features and feature strength (e.g. Eubank 1993/94; Schwartz & Sprouse 1996; Vainikka & Young-Scholten 1996). Researchers agree that there is variability in the use of inflection in adult L2A, but do not agree on the causes. Haznedar & Schwartz's (1997) Missing Inflection Hypothesis (MIH) states that L2 learners have access to the functional projections and features involved in the process of agreement. They argue that variable use of inflection is due to problems with mapping these abstract features to surface morphology (see also Lardiere 1998; Prévost & White 1999). Non-finite forms do not exhibit the syntactic properties of the optional infinitives found in child L1A, but rather function as default forms with properties of finite verbs.

Others (Beck 1998; Eubank et al. 1997; Meisel 1991) disagree and claim that L2 grammars lack some or all of the functional projections and/or features required for accurate agreement processing. They argue that there is a direct link in L2A between the variability in use of verbal morphology and syntactic deficits. Both accounts give rise to testable predictions discussed below. A critical evaluation of the existing key studies into the L2A acquisition of verbal agreement will contribute to a better design for the current research project and indicate which methods to employ in the data analysis.

5.2.2. PRÉVOST & WHITE (2000)

5.2.2.1. Research question and methodology

Prévost & White (2000) study variability in the use of finite and non-finite verb forms in L2 French and German and compare this with the (at least superficially similar) variable use of inflectional morphology in L1A. They try to establish whether these incorrect L2 verb forms are due to problems with the mapping of abstract features and surface morphology - a phenomenon described as Missing Inflection by Haznedar & Schwartz (1997) - or whether they reflect some kind of impairment of functional categories in the IL grammar, as claimed by Eubank (1993/4) and Meisel (1997).

The authors make a number of testable predictions on the basis of these two theories. According to their Missing Surface Inflection Hypothesis (MSIH), finite forms in L2A are indeed finite and do not occur in non-finite positions. Non-finite forms, however, are non-finite or substitutes for finite inflection and can therefore surface in variable positions. With regards to agreement, the authors (2000:111) believe that:

where finite forms are used, the MSIH predicts agreement will be appropriate, since the relevant features and feature-checking mechanisms are assumed to be present.

The Impaired Representation Hypothesis (IRH), on the other hand, would expect to find finite and non-finite verbs to appear in both finite and non-finite contexts, since functional features or their feature strength are lacking. Since feature checking mechanisms are not operating properly, at least the strong form of IRH predicts that agreement can be incorrect.

Prévost & White re-examined longitudinal production data from the European Science Foundation Project on L2 acquisition by Adult Immigrants (Perdue 1984,1993) and the ZISA project (Meisel, Clahsen & Pienemann 1981). The L2 French data were obtained from 2 Arabic speakers of French over a period of 3 years after they had lived in France for one year. An L1 Spanish subject and an L1 Portuguese subject provided the L2 German data over 2 years, starting 3 months after their arrival in Germany.

5.2.2.2. Results and conclusion

Prévost & White found very few finite verb forms in non-finite contexts after auxiliaries, prepositions and other verbs. With regards to verb placement and negation, finite verbs were systematically placed before the negator, thus demonstrating that the features and feature strength involved in checking and raising verbs are active in IL, in accordance with the MSIH. They did, however, find variability in the placement of non-finite verb forms: they appeared both in non-finite contexts (after the negative element)

and in finite contexts (before the negative). The authors suggest that non-finite verbs are used as a substitute for finite forms in the latter case. The fact that non-finite forms in finite contexts (10.4-24.1%) occur much more frequently than finite verbs in non-finite contexts (1.3-8.4%) is problematic for the IRH.

For the L2 French learners, agreement is correct 94.5-95.8% of the time. Except for a few incorrect suppletive forms, most errors involved verbs of the third group (infinitive ending in *-ir*). The authors suggest that this could be due to phonological overgeneralization of inflection patterns of the 1st and 2nd group of verbs (2000:121). Clitic agreement in L2 French was mostly correct (86.33-90.97%), except for the overuse of 3rd person singular *il* ('he'), which seems to be used as a default marker. The L2 German subjects also displayed high accuracy on verbal agreement (88.1-87.8%) but produced a relatively high number of incorrect 1st person singular *-e* forms, possibly due to a regional variant of the infinitival marker *-en* or to the use of this form as a default.

To sum up, the data show that non-finite forms are found in both finite and non-finite contexts, that finite forms do not usually occur in non-finite contexts and that, if agreement is present, it is mostly correct. Prévost & White (2000:127) argue that these results support the Missing Surface Inflection Hypothesis and contradict the Impaired Representation Hypothesis since

... L2 learners have abstract features for finiteness and agreement in their interlanguage representation, as evidenced by the syntactic and morphological behavior of finite verbs. They do, however, exhibit problems with the surface morphological realization of particular forms, sometimes resorting to default forms; in other words, there are what Lardiere (2000) calls 'mapping problems' between surface forms and abstract features.

In order to uncover the mechanism that gives rise to default forms, Prévost & White (2000: 127) turn to Distributed Morphology (DM) (Halle & Marantz 1993):

In DM, each inflected form is assumed to be associated with a bundle of features, such as tense, person, number and gender. For lexical insertion to take place, the features of the vocabulary item must be consistent with the features of the terminal node in the syntax where it is to be inserted. [...] The features of the lexical item do not need to exactly match all the features of the hosting node: it is sufficient that they form a proper subset of the feature bundle of that node. In the absence of an exact match, there is a competition between potential candidates for insertion, the winner being the form with the most features that match those of the terminal node.

It is possible that non-finite forms are underspecified for finiteness [\pm finite] in the IL grammar and can therefore be inserted in a [+finite] node. The fact that non-finite forms alternate with finite forms even in advanced IL could be due to a high processing load sometimes blocking access to more fully specified lexical items (2000:129).

5.2.2.3. Discussion

With respect to the L2 French data, Prévost & White explain that verb forms are 'considered non-finite in the absence of clear evidence to the contrary' (2000:113). This allows them to make a distinction between non-finite verb forms, on the one hand, and certain homophonous finite verb forms on the other. The authors have almost no other option when analysing the data since so many forms have homophones that excluding such forms would leave only a small amount of data. Yet, it should be noted that this decision may influence any conclusions drawn regarding the use of finite and infinite forms, however unlikely it may seem in the context.

A closer look at the accuracy rates of verbal agreement for L2 French also reveals that more than 97% of correct forms are homophonous between 1st, 2nd and 3rd person singular (and in the case of the first verb class, also 3rd person plural). It is therefore not clear whether these forms correctly mark person on the verb – it is possible that a test subject uses 3rd person singular *chante* ('sings') for 2nd person singular *chantes* without the researcher being able to tell the difference. These verb forms seem correct at the surface level, yet it is possible that their underlying analysis is incorrect. The L2 German data analysis is not as problematic since there are only 3 forms which are homophonous, viz. 1st and 3rd person plural and the infinitive. Ideally, it would be interesting to look at a language such as Spanish, where all present tense forms as well as the infinitive have different inflectional markers.

As mentioned above, Prévost & White expect finite verb forms to display correct agreement 'since the relevant features and feature-checking mechanisms are assumed to be present' (2000:111), whereas non-finite verb forms can be [\pm finite] and can thus occur in both finite and non-finite contexts. The authors do not provide any theoretical reasons why finite forms cannot be equally underspecified. It is not clear why, for instance, the least marked verb form cannot be underspecified, even if this form does not correspond to the infinitive. Theoretically, it is possible, for instance, that the German *-e* form is a [+finite] default form, underspecified for at least [\pm person] and possibly also [\pm number]. Finite forms underspecified for number or person can then still be inserted in a lexical node which requires a finite verb, since the verb form's features are a proper subset of the lexical node's features. There is no reason why a verb bearing an infinitival marker should be the preferred choice to fulfil the role of a default form which exhibits syntactic properties of finite verbs, rather than the least marked verb form if different.

Prévost & White actually mention a related proposal for French L1A by Ferdinand (1996) where the 3rd person singular form functions as a finite 'elsewhere' form. Yet, Prévost & White still do not seem to be convinced by this argument (2000:128):

Now suppose that in adult L2 acquisition, non-finite forms are underspecified with respect to finiteness [...]. If so, then non-finite forms may be inserted into a node involving the feature [+finite]. This would explain the appearance of non-finite forms in finite positions. Finite forms, on the other hand, are not underspecified, hence cannot be inserted into non-finite positions. The same argument applies to the German *-e*-form and the French clitic *il*, which we assume to be underspecified for agreement features [...].

The status of the German *-e*-form and the French clitic *il* is left in limbo. If the underspecified form corresponds to the least marked morphological one, languages may differ as to the choice of this default form. Comparing different TLs should therefore provide interesting data, especially for languages where there are no homophonous forms in the present tense paradigm and infinitive – Spanish for instance. Even though we would not expect the L2ers' L1 to determine the choice of default form if this depends on morphological marking in the IL, it would be interesting to look at speakers of different L1s to exclude this possibility.

Prévost & White's results are based on verb forms in both root and non-root contexts and are collapsed across all interviews. Individual participants' development is only briefly discussed in the final section, which does not allow us to make a comparison between different stages of L2A with regards to the use of non-finite or default forms. The authors have included suppletive forms, following Lardiere (2000), since

suppletive forms are endowed with features that need to be checked. They are thus indicative of knowledge of agreement and it is appropriate to examine accuracy in production of suppletive forms. (Prévost & White 2000:120)

This is an interesting point to make – many studies do not include suppletive forms. Results involving regular affixation and suppletive forms were separated in their analysis. However, the fact that subjects with different L1s – Arabic, Spanish and Portuguese – are acquiring different TLs – French and German – makes it difficult to draw comparisons as there is not enough data to differentiate between these potential influencing variables.

The way in which the results for accuracy in use of verbal agreement are presented could give rise to some confusion. Prévost & White did not look for subjects and then check whether the verb showed appropriate agreement marking in this context; instead, they only looked at inflected verb forms and checked whether these show correct agreement marking. Presumably, this means that the results for accuracy of verbal agreement (2000:120-121, Tables 8 and 9) do not include any non-finite forms used in finite contexts. Absolute error rates are therefore higher than what these tables may lead one to believe.

The French results are collapsed for person and number, probably because so many (but not all) forms in French are homophonous. The German results do separate the three persons in the singular paradigm, but do not give any results for plural forms or a breakdown showing the context in which the forms were used erroneously. This means that it is clear which inflected singular form is overused, but not how this compares with the overuse of non-finite forms in finite contexts, a result which would clearly contribute to an insight into default forms.

Finally, Prévost & White point out that non-finite forms still appear in later stages of L2A and suggest (2000:129) that:

access to the more fully specified lexical entries is sometimes blocked. [...] We speculate that this might be due to processing reasons or to communication pressure, in which case one might expect the problem to affect different kinds of language use differentially. For example, L2 learners might be expected to perform more accurately on an untimed grammaticality judgement task (where they have time to access the relevant representation) than in spontaneous production or in timed tasks.

In general, even though Prévost & White's way of analysing the production data clearly reveals which finite forms are overused, some other crucial details such as the context in which these forms are overused and the comparison with non-finite forms are not easy to infer from their presentation. All results were collapsed, thus not allowing a look into the possible development of IL agreement morphology.

The fact that the authors are comparing participants with different L1s as well as different TLs does not make it easy to reach more general conclusions since there are too many variables at play. Worth noting is the theoretical explanation they suggest for the mechanism underlying agreement – most other studies do not look into this aspect (but see Lardiere & Schwartz (1997) on using the Distributed Morphology framework for deverbal compounds).

5.2.3. HERSCHENSOHN (2001)

5.2.3.1. Research question and methodology

Herschensohn (2001) examines verb forms in L2 French to shed light on the question of whether the development of syntax and morphology in L2A run parallel or independently. She examines the use of non-finite verbs to determine whether the distribution and licensing of finite and non-finite forms differ in L1A and L2A. She also looks at other instances of incorrect verbal morphology in the intermediate IL of 2 American high school students in order to establish whether these are due to defective syntax or deficiencies in morphological mapping. The spontaneous production data are taken from three interviews, before, during and after the study abroad period of the second participant.

5.2.3.2. Results and conclusion

The results show that person and number agreement is in place before tense marking, similarly to what Paradis et al. (1998) observed. Emma's results show a big discrepancy between present and nonpresent forms which is not found in Chloe's data during and after her time spent in France.

Table 1. Correct suppliance in obligatory context as a percentage

Interview	I	II	III	Interview	I	II	III
<i>Emma</i>				<i>Chloe</i>			
Present	88	86	96	Present	74	89	98
Nonpresent	45	56	79	Nonpresent	10	88	97
<i>Total</i>	<i>78</i>	<i>71</i>	<i>89</i>	<i>Total</i>	<i>59</i>	<i>89</i>	<i>98</i>

Errors consisted of incorrect use of tense – mostly present tense for past and future – and inflection errors such as the use of non-finite forms, as well as person and/or number errors and problems with irregular verb morphology. In some cases, the data contained sentences with missing subjects or missing verbs.

Based on evidence related to the use of verb placement (nominative clitic subjects and postverbal negation), the author concludes that incorrect L2 non-finite forms are not VP-internal root infinitives as in L1A. Rather, French IL non-finite forms are examples of defective inflection due to IL processing difficulties (see Haznedar & Schwartz 1997; Lardiere 1998; Prévost & White 2000) and are thus similar to incorrect

inflection marking such as the use of 3rd person for 2nd person. Self-correction and mastery of suppletive present tense agreement are quoted as additional arguments for this explanation.

According to Herschensohn (2001:297), both types of incorrect verbal morphology can be accounted for by the Missing Surface Inflection Hypothesis which assumes that the acquisition of morphology is not directly dependent on the acquisition of syntax or vice versa. Functional categories seem to be available early in L2 French and learners have access to the appropriate value of parameter settings, even if this is different from their L1, findings which fit in with the Full Transfer/Full Access model of L2A.

5.2.3.3. Discussion

The author looks at different types of errors, but does not present the data in a systematic way which inhibits a straightforward comparison of the data. Herschensohn frequently refers to an increase in 'tokens', but using this as the only way to analyse results is invalid. It is unavoidable that a spontaneous production task results in different numbers of tokens per participant or per session (interview). However, an increase in the raw number of tokens with correct morphology does not necessarily correspond to a higher percentage of correct morphology in the total number of obligatory contexts. If, for instance, a subject produces 5 tokens of correct inflection out of a total of 10 obligatory contexts (50%) in the first session and 10 out of 50 (20%) in the second session, this would actually indicate a decrease of correct inflection.

Similarly, it is crucial to have a more detailed breakdown of the types of errors covered by the term 'incorrect morphological form'. The author mentions that infinitival forms (16/37) and morphological errors (14/37) are comparable in frequency (2003:289), but does not give us a breakdown per session. There is no way of deciding whether these two types of errors were distributed evenly across the sessions or whether, for instance, participants produced the 16 infinitival forms in the first session and the 14 morphological errors during the last. Such details obviously influence the validity of any theories under consideration.

Herschensohn (2003: 286-7) informs us that:

A number of verb errors are transcribed as infinitives, although the infinitival form is homophonous with the past participle and the *vous* form of the present tense in most cases. [...] The author has interpreted Emma's interlanguage forms *ouvrer* ([uvre]) and *prendre* ([prøne]) as the regularization of the irregular infinitives *ouvrir* ('to open') and *prendre* ('to take'), rather than as the imperfect *ouvrait* ('it was opening') or *prenait* ('it was taking'). In these and other cases where the [-e] form is transcribed as an infinitive, the other options (*vous* form, past participle) are excluded by contextual information.

Even though the imperfect form could be excluded for different reasons, as the author mentions in fn. 3 (p. 286), 'contextual information' on its own is not a valid reason to analyse these forms as infinitives. This study looks at instances of incorrect verb morphology and should therefore not analyse these verb forms as infinitives a priori.

In sum, like most studies examining verbal agreement, Herschensohn relies on spontaneous production data. She makes some interesting observations regarding the independence between syntax and the development of morphology in L2A, but her data analysis should be more stringent in order to be able to support or contradict the theories under examination.

5.2.4. BRUHN DE GARAVITO (2003)

5.2.4.1. Research question and methodology

In her paper Bruhn de Garavito (2003) examines whether the mental representation of agreement in the L2 grammar is deficient, as claimed by Hawkins & Chan (1997) and Franceschina (2001), amongst others. Bruhn de Garavito compares L2 Spanish production and recognition data, looking at the types of errors L2ers make and at the possible differences between production and recognition results.

The first of 4 tasks consisted of a multiple choice vocabulary task to check whether L2ers knew the meanings of the verbs used. This was followed by a recognition task where test subjects were asked to select the missing subject as in (1):

(1) Ernesto, Pablo y yo nadamos todos los días, pero solamente _____ juega tenis.

(a) Pablo (b) Pablo y Ernesto (c) yo (d) Pablo y yo (e) NA

'Ernesto, Pablo and I swim[.1PL] every day, but only _____ plays[.3SG] tennis.'

Eighteen verbs were each used 4 times to give a total of 80 sentences including 8 fillers.

For task 3, the L2ers first read a story in English using verbal forms in different persons and were then asked to retell the story in Spanish, resulting in 61 sentences. Finally, test subjects were presented with 72 pairs of sentences to examine word order preference, the results of which are discussed in Bruhn de Garavito (to appear). Subjects consisted of 22 English L1 learners of Spanish who had been studying four hours of Spanish per week for approximately 10 months at university; most had also taken some French at school. In order to determine the level of the participants, they also completed a cloze test and vocabulary test. Fourteen Spanish L1 speakers made up the control group.

5.2.4.2. Results and conclusion

A) PRODUCTION TASK

The author only counted verb forms with incorrect agreement inflection as errors, not verb forms with the wrong thematic vowel or 'uninterpretable' forms (see below). These errors only amounted to 6.7% of the total number of verb forms produced by the L2ers.

Table 2. Percentage of total number of errors for each type (2003:19)

Type of error	Percentage
Infinitive used for a conjugated verb	13.5% (12 errors)
Third person to replace another person	66.3% (59 errors)
First person to replace another person	12.4% (11 errors)
Second person to replace another person	7.9% (7 errors)

From Table 2, it is clear that the most common type of error is the use of 3rd person singular in other contexts. According to Bruhn de Garavito, this result is not unexpected if we assume that L2ers generalise the verbal form which is not overtly inflected – 3rd person singular in the case of Spanish, rather than the overtly inflected infinitive. It is also interesting to note that learners produced significantly fewer errors with irregular verbs.

B) RECOGNITION VS. PRODUCTION TASK

Bruhn de Garavito ascribes the difference in error rates between the recognition (4.45%) and production (10.12%¹) tasks to the smaller processing load involved in recognizing (or identifying) the correct

¹ This error rate (10.12%) is different from the error rate quoted before (6.7%). It is not clear why these figures differ.

form without having to access it. An analysis of the individual results revealed that 15 out of 22 test subjects produced 0-10% errors and that 6 out of 22 L2ers produced 11-45% errors. Given that all test subjects were beginners, the author believes this indicates that verbal person agreement is acquired at an early stage of L2A of Spanish, at least in a formal setting.

Errors with regular verbs amount to almost double the number of errors with irregular verbs, yet verb class in Spanish did not seem to play a role (infinitive ends in *-ar*, *-er*, or *-ir*) even though more verbs in the experiments belong to class I (*-ar* verbs), the verb class which also occurs more frequently in the input. This argues against frequency input as a determining factor for error rates.

c) CONCLUSION

Bruhn de Garavito argues that the low error rate for verbal morphology in beginning L2 learners of Spanish suggest that there is no impairment in the L2A of verbal agreement morphology and that the problems L2ers are faced with must be due to other factors. The L2A of verbal morphology in Spanish may take place at a faster pace than suggested in previously studied L2s such as French and English; Spanish L2A also seems to display less variability between non-finite and inflected forms.

5.2.4.3. Discussion

As Bruhn de Garavito points out, previous research into the L2A of verbal agreement has often focussed on production data, which possibly underestimates the learner's L2 competence due to an increased processing load (see White et al. 2001). Collecting recognition data therefore provides an interesting comparison as the processing load is assumed to be lower (but see comments below). Unfortunately, the author does not present any analysis of the errors in the recognition task: we do not find out whether the L2ers made the same kind of errors as they did in the production task. It would have been interesting to know, for instance, whether the participants overgeneralised the third person singular form to other contexts.

Likewise, the infinitive was not included in the test items for the recognition task, which makes it more difficult to compare the two tasks. It is also not clear why the author uses the figure of 6.7% agreement errors when discussing the production task and then uses the figure 10.12% when comparing the error rates for the production and recognition tasks – even if we include the 'uninterpretable' verb forms in the production task, this still only adds up to 8.31% errors (110/1,324).

There are two comments to be made about the actual methodology of the recognition task. Firstly, it should be noted that the task is very explicit. L2ers are not asked to select the correct answer on the basis of comprehension of the sentence's meaning, i.e. with a focus on meaning rather than form. Test subjects

have to make explicit use of metalinguistic strategies to 'recognise' the correct form by first analysing the form of the verb as, for instance 2nd person singular, before studying the possible answers and deciding which subject (if any) corresponds to this verb form in person and number. (It is worth noting in this context that fillers only made up 8 out of the total of 80 test items.) Bruhn de Garavito included the recognition test 'because it could be argued that recognition may be a better indication of competence' (2003:18). Given the comments above, it seems however more likely that this recognition task tests metalinguistic knowledge rather than acquired L2 competence.

Secondly, even though participants 'were asked to identify the missing subjects as quickly as possible' (2003:18), this probably covers a wide range of shorter and longer time periods during which the experiment was completed, thus making a comparison between different L2ers problematic. This problem could have been avoided by limiting the time the participants were exposed to the test item and giving them a limited amount of time to select the correct answer, for example by providing aural stimuli to the L2ers with a fixed pause length to provide an answer.

Finally, with regards to the production task, it is difficult to determine the extent of interference from English since the stories were read out in English before the subjects retold them in Spanish. This means that the participants were engaged in their L1 at various points throughout the task (although error rates were low). It is also not clear whether the author's choice to exclude 21 uninterpretable verb forms from the error count is justified (the only example given consists of the use of 3rd person singular past *servió* instead of 1st person singular present *sirvo* - both forms end in the same vowel). These 'uninterpretable' forms make up 19.09% of the total number of errors and it would therefore have been interesting to have a closer look at a few more examples.

By way of summary, we can say that the inclusion of a recognition task in these experiments has provided welcome data to complement the many production tasks that have assessed the L2A of verbal agreement. More care in the recognition task should have been applied in choosing the test items (by including infinitives) and in providing a breakdown of errors to allow a consistent comparison with production data. The inclusion of less advanced as well as more advanced L2 learners could have shed more light on the development of verbal agreement in the IL, possibly strengthening Bruhn de Garavito's findings.

5.2.5. CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

As the above discussion shows, the debate surrounding the different accounts of the L2A of verbal agreement is ongoing. Much of current generative research into the L2A of verbal agreement has relied mainly on spontaneous production data, and while these studies have generated a wealth of interesting

results, there is much need for research that looks at different ways of measuring L2ers' competence and performance.

The issue of transfer from the L1 to the L2 would benefit from a comparison of adult learners from various L1 backgrounds – with(out) verbal agreement marking – acquiring the same TL. Looking at learners in different stages of L2A should yield more information about the development of L2 morphology.

A systematic and detailed analysis of the data obtained should show which forms are overgeneralised in which contexts, thus providing more information on the appearance of default forms. Spanish may turn out to be a very valuable tool in this research, since none of the forms in the present tense paradigm are homophonous with each other or the infinitive.

5.3. CONCLUSION

Even though an exhaustive treatment of all previous research into the L2A of agreement is impossible within the limits of this dissertation, the studies discussed and critically analysed in this chapter and the previous one have provided an insight into the main achievements and shortcomings of the existing body of research.

The discussion of these studies included practical suggestions in terms of methodology and lacunae in the data which need to be filled to produce a solid body of evidence to support or disprove the various theories on offer. The insights gained in these two chapters will help to formulate very specific research questions with reference to the acquisition of nominal and verbal agreement in L2 Spanish and an improved design of tasks to be employed in this study which will be described in detail in the following chapters.

CHAPTER 6 THE EMPIRICAL STUDY: GENERAL ISSUES

6.1. INTRODUCTION

The previous two chapters provided an overview and critical evaluation of the existing research into the second language acquisition of nominal and verbal agreement in Spanish and its implications for the theoretical issues surrounding the debate of L1 transfer and access to UG in L2A. This chapter and the two following chapters will describe how these critical observations concerning the methodology employed in previous studies have contributed to the design of the present study.

This chapter will first describe the different groups of participants and present an overview of the test procedure. The following two sections will provide information on the cloze test and the background questionnaire. Section 6.6 will then discuss the results of the cloze test and the answers to the background questionnaire. The final section of this chapter will consider the benefits of using results from different tasks in L2A research.

The two chapters following this one will describe the different tasks used to assess nominal agreement and verbal agreement, respectively, and how they aim to evaluate the research hypotheses relevant to nominal and verbal agreement.

6.2. PARTICIPANTS

This research examines both determiner-noun-adjective agreement and subject-verb agreement in L2 Spanish. In order to obtain an accurate picture of the role of the L1, the experiments were carried out amongst L2ers of Spanish whose L1 differs from or corresponds to Spanish in terms of nominal and verbal agreement. As schematised in Table 1, this included native speakers of Dutch, English, French and Swedish:

Table 1. Nominal and verbal agreement properties of L2 Spanish and the participants' L1s

	Spanish	Dutch	English	French	Swedish
Nominal agreement	+	+ ¹	- ²	+	+
Verbal agreement	+	+	+	+	-

¹ In Dutch, only attributive adjectives agree with the head noun in gender and number (see Chapter 2).

² English does display nominal number agreement on some determiners (see Chapter 2).

In the present study, all participants¹ were first exposed to Spanish after the age of 15, long after the critical or sensitive period for language acquisition. The participants were university students of Spanish matched for at least two levels of Spanish proficiency on the basis of a cloze test and a background questionnaire (see Sections 6.4-6.6).

The beginners were first-year university students with little or no previous exposure to Spanish. The advanced group consisted of final-year university students or recent graduates, most of whom had lived in a Spanish-speaking country as part of their degree. All near-native speakers have lived in a Spanish-speaking country for a considerable amount of time and have been living with a partner who is a native speaker of Spanish, using the language on a daily basis.

All participants took part on a voluntary basis and could withdraw from the experiment at any time. In total, there were 9 groups of non-native speakers of Spanish, as detailed in Table 2. The control group was made up of native speakers of Spanish from mainland Spain. The data collection procedure for the native speakers was identical to that of the L2ers.

Table 2. Number (#) and country of origin of participants (total number = 91)

	L1 Spanish	L1 Dutch	L1 English	L1 French	L1 Swedish
# beginners	-	10	12	9	9
# advanced	-	9	10	9	8
# near-native	-	-	5	-	-
# native	10	-	-	-	-
country of origin	Spain	Belgium	UK	Belgium	Sweden

6.3. THE TEST PROCEDURE

The test battery² for the empirical study consisted of six different tasks: an acceptability judgement task (AJT), two production tasks ('Daily Routine' and 'Five Differences'), a comprehension task, a cloze test and a vocabulary task. The most comprehensive task covering most features is listed first. Participants were also asked to fill in a background questionnaire with biographical details. In line with regulations, they all received information about the research project and signed an ethical consent form (see Appendix 10)

¹ Special thanks (in alphabetical order) go to the participating students at Durham University (UK), Lund University (Sweden), the University of Leuven (Belgium), the University of Louvain-la-Neuve (Belgium) and VLEKHO (Brussels, Belgium), and also to Kris Buyse, Marcela Cazzoli-Goeta, Lola Chamorro, Paula Lorente and Danny Masschelein for encouraging their students to take part in this experiment.

² The different tasks were piloted with L1 English and L1 Spanish speakers at Durham University.

approved by the Ethics Advisory Committee at Durham University. Table 3 provides an overview of the different tasks. All participants carried out all tasks.

Table 3. Overview of tasks and features tested

		Nominal agreement		Verbal agreement	
		gender	number	person	number
Acceptability Judgement		+	+	+	+
Production	Five Differences	+	+	-	+
	Daily Routine	-	-	+	+
Comprehension		+	+	-	-
Additional tasks: Vocabulary task, Cloze test, Background questionnaire					

+ = feature tested; - = feature not tested

In total, the experiment lasted between 50 minutes and 1 hour 15 minutes, depending mostly on the amount of time needed to complete the production tasks. In order to eliminate overtiredness as a factor affecting the participants' performance, the experiments were carried out in two separate sessions on different days of the same week. In the first session, the two production tasks were carried out first and were followed immediately by the comprehension task and the vocabulary test.

In the second session, participants completed the acceptability judgement task, the cloze test and the background questionnaire. Participants were given practice test items for each task to familiarise themselves with the task at hand and were given the opportunity to ask questions after the practice items (see the task descriptions below). The acceptability judgement task was reserved for the second session given that such tasks are more likely to promote the use of metalinguistic knowledge and might therefore provide participants with clues as to which linguistic properties are being examined.

At the end of the second test session, participants were asked whether they could guess what the purpose of the experiment was, but only one out of all (91) participants in this study managed to guess which language aspects the current project aimed to investigate. The failure on behalf of the other participants to establish this, probably partly due to the large number of distractor items included in the tasks, indicates that the participants are unlikely to have monitored their performance specifically in terms of Spanish agreement features. One such type of distractor focused on the contrast between *ser* and *estar* in Spanish (both translated as 'to be') and was most frequently cited by the participants as the presumed subject of investigation.

In contrast with previous studies, the four main tasks were designed in such a way that the results for agreement in gender and in number (for nominal agreement) and in person and in number (for verbal

agreement) could be isolated in the data analysis (see Chapters 9 and 10). This facilitates a systematic analysis of access to UG and the role of transfer in L2A.

The tasks used to assess nominal agreement and verbal agreement will be described in more detail in the following two chapters in the order in which they were administered. This chapter will continue with a description of the cloze test and the background questionnaire, as these tasks are aimed at assessing the participants' general level of proficiency and do not provide us with data for nominal or verbal agreement specifically.

6.4. CLOZE TEST

6.4.1. AIMS

The cloze test is a measure of proficiency and is thus used to compare the participants and divide the non-native speakers into different groups depending on their level of Spanish.

6.4.2. PROCEDURE

The cloze test was a fill-the-blank exercise, as used by other L2A researchers (e.g. Montrul 1997, Slabakova 2001). The text was taken from the Spanish text book *Dos Mundos* (Terrell et al. 1998), a Spanish course book used at university, and consisted of a letter written by a student to her tutor describing her travels in Peru. An introductory paragraph explained what the text was about and was included without any blanks.

The first 13 words of the actual letter were supplied, after which every seventh word was deleted. Participants were asked to complete each gap with exactly one word. There were 40 blanks in total. Each blank that was filled with a word suitable to the context in terms of word choice and grammar was assigned one point. If no answer or an inappropriate word (form) was provided, no points were given. The cloze test is included in Appendix 2.

6.5. BACKGROUND QUESTIONNAIRE

6.5.1. AIMS

The participants' answers to the background questionnaire are taken into account when assigning the participants to groups based on different levels of proficiency and L1. The information provided may also be useful to explain differences in the individual or group results (e.g. knowledge of other languages).

6.5.2. PROCEDURE

All participants completed a questionnaire with their biographical details. Students were asked questions about their L1 background and knowledge of other languages, including their age at onset of L2A and potential residencies abroad. A copy of the background questionnaire can be found in Appendix 3.

6.6. RESULTS OF THE CLOZE TEST AND BACKGROUND QUESTIONNAIRE

The results of the cloze test for the different language groups are given in Table 4 (and Figure 1). The results of this test, in combination with participants' answers on the background questionnaire, were used as the basis to divide the L2 learners into different levels: beginners (B; cloze score between 18 and 29 out of a total of 40) and advanced (A; cloze score between 30 and 36) learners, as well as a group of L1 English near-native speakers (NNS; cloze score of 37 minimum). There was also a control group of native speakers (NS).

Figure 1. Correct answers – cloze test (mean per group; max = 40)

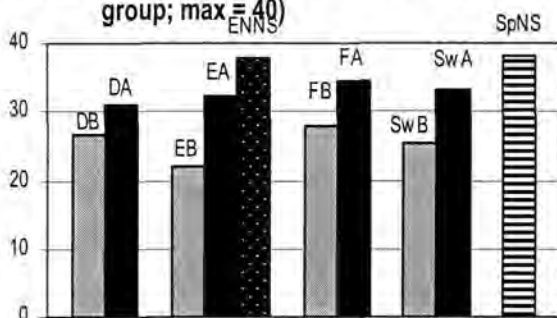


Table 4. a. Correct answers – cloze test (mean per group; max = 40)

	Dutch	English	French	Swedish	Spanish
Beg	26.60	22.00	27.78	25.33	-
Adv	32.11	32.40	34.33	33.25	-
NNS	-	37.80	-	-	-
NS	-	-	-	-	38.10

The beginner groups have a mean cloze score between 22 and 26.60, and learners in these groups have been studying Spanish intensively for a few months at university level. The advanced groups consisted mainly of final year university students of Spanish who have spent some time in a Spanish-

speaking country³ and obtained cloze test scores between 31 and 34.33. The range of cloze scores per group are given in Table 4b.

Table 1.b. Correct answers – cloze test (range of scores per group; max = 40)

	Dutch	English	French	Swedish	Spanish
Beg	23-29 (n=10)	18-29 (n=12)	25-29 (n=9)	19-29 (n=9)	-
Adv	30-34 (n=9)	30-36 (n=10)	31-36 (n=9)	30-36 (n=8)	-
NNS	-	37-39 (n=5)	-	-	-
NS	-	-	-	-	37-40 (n=10)

The cut-off point for the L1 English group labelled 'near-native speakers' (NNS) corresponds to the lowest native speaker score on the cloze test (37). All NNS learners have spent a considerable amount of time in a Spanish-speaking country (2-5.5 years) have been living with a partner who is a native speaker of Spanish (1-4 years) and use the language in their home environment. More detailed information for each test subject can be found in Appendix 4.

The data show that within the L1 groups, there is a significant difference for all L1s between the beginner and advanced levels (e.g. between L1 Dutch beginners and L1 Dutch advanced learners) [Independent t-tests: D(utch): $t(12.33) = -6.16, p < .001$; E(nglish): $t(20) = -8.42; p < .001$; F(rench): $t(16) = -8.24, p < .001$; Sw(edish): $t(15) = -6.20, p < .001$].

Post-hoc (Scheffé) tests show that the only significant differences amongst the beginners groups are between the English beginners and both the Dutch and French beginners at 0.05 significance level, with the L1 English beginners weakest in terms of the cloze test. The difference between the English and Swedish L1 groups approaches significance for this test ($p = .055$). In ascending order, the ranking amongst the beginners groups is as follows: L1 English, Swedish, Dutch and French.

There are no significant differences amongst the advanced groups. All advanced groups differ significantly from the L1 English near-native speakers and the native speakers at .05 significance level. There is no significant difference in cloze test score between the near-native speakers and the Spanish native speakers.

Comparable performance on the cloze test of course does not guarantee identical learning paths, with L2 learners receiving different types of input, language instruction and practice. Due to its nature, research into L2A necessarily involves human beings with different backgrounds and aptitudes for language.

³ Three learners in the Dutch advanced group have not lived in a Spanish-speaking country for more than 4 weeks, but the results of the cloze test still place them within this group. They are also final-year students of Spanish and have spent 4 years at university studying Spanish intensively as part of their Translation and Interpreting degree.

Participants were, however, selected in such a way that they were as matched as possible (obviously with the exception of their L1) given the above constraints and the limits of the researcher's short term visits to the countries involved. The answers the participants provided on the background questionnaire helped to ensure that all groups were as homogeneous as possible and comparable to the other groups of L2 learners at the same level but with a different L1, as described below.

In order to be assigned to a beginners group, the L2ers had to meet the following requirements, as well as falling within the 18-29 range for the cloze test:

- be in their first year of Spanish at university
- not have studied Spanish for more than 60 hours before the start of their present language course
- not started learning Spanish before the age of 16
- not started learning any other Romance language (such as French) before the age of 11
- not be bilingual
- never lived in Spain

L2ers were allocated to an advanced group if they scored between 30 and 36 for the cloze test and also:

- were in their final (fourth) year of Spanish at university
- were not bilingual
- lived in Spain for a few months or demonstrated an equivalent level of Spanish in the cloze test

The L1 English near-native speakers of Spanish have all lived in a Spanish-speaking country for a minimum period of 3 years and are living with a partner who is a native speaker of Spanish, using the language on a daily basis. The native speakers were Spanish exchange students at Durham University.

6.7. TRIANGULATION OF DATA

Various researchers have observed that linguistic competence can only be measured indirectly through tasks that, by their nature, assess performance (e.g. Cook 1990:595; White 2003:17). Duffield and White (1999:134) point out that it is therefore important to design

... a variety of different tasks looking at the same issue, on the assumption that converging evidence from different performance measures will allow one to make reasonable inferences about linguistic competence in a particular domain. [...] [D]ifferent methodologies can complement each other in helping us to understand the properties [...] in the interlanguage grammar.

For this reason the present test battery included five different tasks (in addition to the cloze test and the background questionnaire): an acceptability judgement task, two production tasks, a comprehension task and a vocabulary task. These tasks will be described in more detail in Chapters 7 and 8. Using a range of methodologies ensures that possible weaknesses of one particular task are compensated for by another task examining the same phenomenon.

Comparing data from different types of tasks can also shed light on the morphology-before-syntax or syntax-before-morphology debate:

According to the former, in the absence of surface inflection, functional categories, features or feature strength are not represented in the grammar. [...] [D]ata from other tasks (acceptability judgments, comprehension tasks, [...] etc.) should parallel production data. [...] According to the syntax-before-morphology view, on the other hand, task differences are conceivable. (White 2003:200)

If problems with morphology are not due to a lack of linguistic knowledge of the underlying syntax but to mapping problems between syntactic features and their lexical forms, we would, for instance, expect better performance on the acceptability judgement and comprehension tasks than on the production task, because in the latter task L2ers actually have to retrieve and produce the appropriate morphological forms rather than merely judge or interpret morphological endings.

6.8. CONCLUSION

This chapter presented an overview of the test procedure and participants. The cloze test and background questionnaire were discussed in detail, as these two tasks provide details about the participants' level of proficiency in L2 Spanish. The benefits of employing different data collection techniques were discussed in Section 6.7. The different tasks that were used to assess nominal and verbal agreement will be discussed in Chapters 7 and 8, respectively.

CHAPTER 7 NOMINAL AGREEMENT: METHODOLOGY

7.1. INTRODUCTION

The previous chapter discussed general methodological issues for the empirical study and described the cloze test and the background questionnaire. The results from these proficiency measurement tasks were used to divide the participants into different groups.

This chapter will focus on the tasks that are carried out to assess the L2ers' acquisition of nominal agreement features. First, I will provide a detailed description of the acceptability judgement, production, comprehension and vocabulary tasks (Sections 7.2-7.5).

In Section 7.6, I will then present the hypotheses for nominal agreement based on the research questions introduced in Chapter 4 and explain them in terms of the variables and methodologies used in the empirical investigation. I will also show how the tasks aim to answer the research questions. The next chapter will then describe the different tasks used to assess verbal agreement and how they aim to evaluate the research hypotheses relevant to verbal agreement.

7.2. AURAL ACCEPTABILITY JUDGEMENT TASK¹

7.2.1. AIMS

The acceptability judgement task tests L2ers' ability to accept correct agreement morphology and reject incorrect agreement morphology for nominal agreement. Note, however, that the fact that L2ers can make correct judgements may not be sufficient to ascribe to them knowledge of syntactic agreement (and hence of the relevant functional features), for rote learning could be the source. The question of whether L2ers' targetlike performance on agreement morphology means they have indeed *acquired* the L2 agreement relation - or are instead using local, linearly determined strategies - has not been tackled in previous work.

In order to test this directly, the experiments incorporated 'long distance' agreement. The difference is linear (rather than hierarchical) and resides in whether there is an intervening constituent - compare 'short distance' (1)a with 'long distance' (1)b. The intervenor (in **bold**) has feature value(s) identical to or different from those of the constituents targeted for agreement (underlined). So, for instance, if

¹ Thanks to N. Hyams (09.11.01) for her feedback on types of test sentences and variables. Responsibility for the final decisions on which variables and types to include and any resulting issues rest with the author.

participants are relying on linear closeness to judge agreement morphology, an intervenor of the opposite gender as in (1)b should be more likely to trigger agreement errors.

- (1) a. La niña china / *chino lee un libro.
*The.FEM.SG girl.FEM.SG Chinese-FEM / *MASC.SG read-3SG a.MASC.SG book.MASC.SG*
 'The Chinese girl reads a book.'
- b. La niña con el libro es china / *chino.
*The.FEM.SG girl.FEM.SG with the.MASC.SG book.MASC.SG be.3SG Chinese-FEM / *MASC.SG*
 'The girl with the book is Chinese.'

Demonstrations of only 'short distance' agreement or a significant difference in accuracy rates (favouring the former) between test items with an intervenor with identical versus different features to the head noun would suggest reliance on linear order and hence general cognitive learning, whereas demonstrations of 'long distance' agreement would suggest (hierarchical) structure dependency and hence acquisition that is specific to Language.

7.2.2. METHODOLOGICAL ISSUES

Acceptability judgement tasks allow researchers to determine whether L2ers can correctly identify grammatically correct and incorrect forms in the target language (TL). Even though this type of task has been criticised frequently, mainly for reflecting metalinguistic knowledge rather than linguistic competence (e.g. Birdsong 1989), there are advantages to including it in the test battery in order to establish whether results from this task converge with those obtained through the other tasks.

The main benefit of using this experimental technique is that it is the only way of getting at ungrammaticality as there is no other way to find out what participants take to be ungrammatical. Another benefit is that the researcher can manipulate sentences in such a way that the participant is forced to consider the linguistic phenomenon being examined through sentences that include all the experimental conditions (e.g. test items containing a plural head noun and an intervening constituent with non-agreeing gender features) the researcher wishes to test. If an acceptability judgement task had not been included, it would have been impossible to obtain a complete picture of the L2ers' linguistic competence in terms of agreement, as participants may not have produced (a sufficient number of) certain combinations of variables spontaneously in the production task.

Murphy (1997:54) examined how the modality of the AJT affects results and concluded that L2 participants were less accurate (in the case of ungrammatical sentences) and took longer to respond when test items were presented aurally than with visual input in writing. In other words, auditory processing presents more problems for participants.

Given that agreement in Spanish is taught explicitly (and repeatedly) in the classroom, L2ers carrying out an acceptability judgement task may be prone to resort to learnt metalinguistic knowledge as soon as the processing of the test item allows them. In order to minimise this possibility and for reasons of validity mentioned in the paragraph above, the sentences in the present AJT were presented aurally with a limited time frame (a pause of 3 seconds) to answer them.

7.2.3. PROCEDURE

The acceptability judgement task was administered aurally, by means of the recorded speech of a native speaker on a CD, to reduce the focus on 'written grammar rules'. The participants received a 12-page booklet² with numbered pictures; these pictures provided context for the sentences and were intended to make the task seem less metalinguistic.

For each picture there were two sentences.³ Each sentence was repeated once (i.e. read out twice); participants were not provided with the sentence in its written form (see example (2)). The pairs of sentences which accompanied the pictures could consist of 2 correct sentences, 2 incorrect sentences (as in the example below) or 1 correct and 1 incorrect sentence, and included items testing nominal or verbal agreement, as well as distractors.

² A copy of the test materials for the acceptability judgement task can be found in Appendix 5.

³ The decision was taken to accompany each picture with two aural sentences rather than just one to make the test appear more manageable. Including twice the number of pictures might have made the task seem too long and daunting.

(3) Could you tell me whether this sentence sounds OK in Spanish or not?

If you think the answer is:

'yes' then please write: √
'no' X

If you're really **not sure** about the answer, then please write '?'

If the sentence was too difficult because you **didn't understand** the words used, just leave it **blank**.

The required judgement falls within the correct-incorrect dichotomy, since a larger scale would not have been an appropriate way of assessing agreement features. Detailed task instructions (in English)⁴ as well as an overview of all test items and pictures can be found in Appendix 5. This part of the experiment took approximately 25 minutes.

7.2.4. ACCEPTABILITY JUDGEMENT TYPES

When carrying out experiments, care should be taken not to tire out participants too much as this could influence the results. If participants become too tired, the language processing load may become too high towards the end of the task and can thus influence the results significantly. In order to reduce the impact of this variable, the experiment needs to achieve a balance between the number of different types of test items, the number of tokens for each test type and the length of the experiment.

For this reason, the present experiment consisted of 66 items testing nominal and verbal agreement and 54 distractors. Due to the number of variables involved, not all possible combinations could be tested. This section provides more details about the types of test items that have been included or excluded for nominal agreement, as well as an explanation of how these decisions were made. The variables for the test sentences are given in Table 1 below:

Table 1. Variables for the nominal agreement test items

syntactic feature	possible values
[GENDER]	masculine vs feminine
[NUMBER]	singular vs plural

⁴ All instructions were provided in Spanish as well as the participants' L1, if necessary. In the appendices, all instructions are provided in English for the benefit of the reader.

A total of 19 different types of test sentences is included to test L2 knowledge of nominal agreement (see Table 4 below). Given that there were two tokens for each test type, the total number of items testing nominal agreement is 38. The 54 sentences not testing agreement included correct and incorrect distractors as detailed in Table 2 and exemplified in (4):

Table 2. Distribution of test sentences and distractors

test items	total	total correct	total incorrect
nominal agreement	38	14	24
verbal agreement	28	8	20
total agreement	66	22	44
distractors balance [#]	22	22	0
distractors task	32	16	16
total distractors	54	38	16
TOTAL	120		

[#] These distractors are included to obtain an equal number of correct (✓) and incorrect (*) test items

(4) a. Los libros en la mesa *están (→ son) blancos.

The books on the table be.3PL (→ be.3PL) white.

'The books on the table are white.'

(incorrect use of *estar* 'to be' instead of *ser* 'to be')

c. El gato no *se come (→ come) nada.

The cat not REFL eat.3SG (→ eat.3SG) nothing.

'The cat doesn't eat anything.'

(incorrect use of reflexive)

Not all possible combinations of number and gender have been included, as can be seen in Table 4 below. The following restrictions have been applied to the total number of possible combinations of variables:

predicative A₁ and intervening DP₂ should at least share one of the following = [x]

[NUMBER] or [GENDER]

AND predicative A₁ and main DP₁ should at least share one of the following = [y]

[NUMBER] or [GENDER]

AND [x] = [y]

to exclude test items such as (5):

- (5) El niño con las manzanas es cansado.
The boy with the.FEM-PL apples.FEM-PL be tired.MASC.SG
 'The boy with the apples is tired.'

An overview of possible but excluded combinations is given in Table 3:

Table 3. Possible combinations of test variables excluded from the acceptability judgement task

main DP ₁	intervening DP ₂	V	predicative A ₁
X*	FEM PL	X**	MASC SG
FEM PL	X	X	MASC SG
X	MASC PL	X	FEM SG
MASC PL	X	X	FEM SG
X	FEM SG	X	MASC PL
FEM SG	X	X	MASC PL
X	MASC SG	X	FEM PL
MASC SG	X	X	FEM PL

* X indicates any DP – gender or number features are not relevant

** x indicates any V – person or number features are not relevant

Table 4 provides an overview of the types of nominal agreement test sentences included in the acceptability judgement task. Test items contain zero (correct gender and number), one (incorrect gender or

number) or two (incorrect gender and number) morphological errors. The verb form is always 3rd person – either singular or plural – when testing nominal agreement. Table 5 provides an example of how a test item would be coded using the categories described in Table 4.

Table 4. Test types: nominal agreement combinations included in the acceptability judgement task

Type	Error	Feature	main DP ₁	intervening DP ₂	verb V	predicative Adj ₁
1	-	GEN & NUM	MASC SG	MASC SG	SG	MASC SG
2	*	GEN	MASC SG	MASC SG	SG	*FEM SG
3	-	GEN	MASC SG	FEM SG	SG	MASC SG
4	*	GEN	MASC SG	FEM SG	SG	*FEM SG
5	-	GEN	FEM SG	FEM SG	SG	FEM SG
6	*	GEN	FEM SG	FEM SG	SG	*MASC SG
7	-	GEN	FEM SG	MASC SG	SG	FEM SG
8	*	GEN	FEM SG	MASC SG	SG	*MASC SG
9	*	NUM	MASC SG	MASC SG	SG	MASC *PL
10	**	NUM	MASC SG	MASC SG	*PL	MASC *PL
11	-	NUM	MASC SG	MASC PL	SG	MASC SG
12	*	NUM	MASC SG	MASC PL	SG	MASC *PL
13	**	NUM	MASC SG	MASC PL	*PL	MASC *PL
14	-	NUM	MASC PL	MASC PL	PL	MASC PL
15	*	NUM	MASC PL	MASC PL	PL	MASC *SG
16	**	NUM	MASC PL	MASC PL	*SG	MASC *SG
17	-	NUM	MASC PL	MASC SG	PL	MASC PL
18	*	NUM	MASC PL	MASC SG	PL	MASC *SG
19	**	NUM	MASC PL	MASC SG	*SG	MASC *SG

Error = number of errors (0, 1 or 2); **Feature** = feature tested (GEN=gender, NUM=number)

Table 5. Example of coding of test item using the categories described in Table 4

Type	Error	Feature	main DP ₁	intervening DP ₂	verb V	predicative Adj ₁
3	-	GEN	El cuadro	en la casa	es	bonito.
			MASC SG	FEM SG	SG	MASC SG
			'The picture	in the house	is	pretty.'

The total number of test items for nominal agreement was 38 (19 types of test sentences x 2 tokens of each type). The gender of the determiner was always correct, in order to reduce the number of variables and test items, whereas the gender assigned to the predicative adjectives varied. One reason for choosing adjectives as the variable, rather than determiners, is the observation that L2ers are less accurate on gender agreement in adjectives than in determiners (Dewaele & Véronique 2000:221-222).

Again for reasons of task duration, gender is targeted as a variable only in test items with [+SG] DPs (types 1-8). In other words, to test participants on nominal agreement of number, only [+MASC] D, N and Adj were used (types 1 and 10-19). The obvious disadvantage of this decision is that a comparison of gender agreement in [+PL] test items cannot be made. Theoretically speaking, it is possible that gender agreement is more or less accurate in [+PL] than in [+SG]. This possibility will have to be tested in future experiments. In terms of number agreement, this decision is not expected to affect results in a significant way, as Spanish marks plural by adding -s to the singular form of the adjective; there is no portmanteau morpheme that marks gender and number simultaneously.

If L2ers have not acquired the syntactic process of agreement and are using linear closeness strategies instead, an intervening verb with number marking different from the adjacent adjective (as in (6)b) is likely to trigger rejection of the test item – having a [+PL] verb immediately followed by a [+SG] adjective seems to be too obviously wrong to be ignored, even for L2 beginners (even though this test type will still need to be included – see following paragraph). In order to solve this problem, test items where the verb incorrectly agrees in number with the predicative adjective ((6)a) were included in the AJT (test types (10), (13), (16) and (19)).

- | | | | | | |
|--------|---------------------------|---------------------------|--------------|-------------------|----------------|
| (6) a. | Los niños | con el perro | *es | *chino. | test type (19) |
| | <i>The.PL children-PL</i> | <i>with the.SG dog.SG</i> | <i>be.SG</i> | <i>Chinese.SG</i> | |
| b. | Los niños | con el perro | son | *chino. | test type (18) |
| | <i>The.PL children-PL</i> | <i>with the.SG dog.SG</i> | <i>be.PL</i> | <i>Chinese.SG</i> | |
- 'The children with the dog are Chinese.'

A resulting problem, however, is that test items such as (6)a now contain two ungrammatical elements: an adjective with incorrect nominal agreement and a verb form with incorrect verbal agreement. Participants might reject test items such as (6)a because the main DP₁ and the verb do not agree in number, rather than because DP₁ and the predicative adjective do not agree. Yet, it would be impossible for the researcher to determine why the L2ers are rejecting this particular test item. Therefore, test types (9), (12), (15) and (18) along the lines of example (6)b were also included. If L2ers reject both sets of test items, we can be confident that they do not reject items such as (6)a purely because of incorrect verbal agreement.

This means that for test items testing number where [NUM]_{Adj} differs from [NUM]_{DP1}, there will be two versions: one with $V_{[+SG]}$ and one with $V_{[+PL]}$.

7.3. PRODUCTION – FIVE DIFFERENCES

7.3.1. AIMS

The production tasks provide the opportunity to collect data relating to agreement features using an alternative methodology. The Five Differences production task is designed to elicit nominal agreement morphology as well as verbal agreement morphology. These data will supplement the data obtained from the acceptability judgement and comprehension tasks. For nominal agreement, the production task is described in more detail in the sections that follow. The following chapter will provide a detailed description of the production task designed to test L2ers' acquisition of verbal agreement.

7.3.2. METHODOLOGICAL ISSUES

It will be interesting to compare the data from the production task with the results of the acceptability judgement task and comprehension task to establish the degree to which the results correlate across the different tasks.

Production tasks differ from acceptability judgement tasks in that the participants decide which language structures are used; the researcher has much less control over the task. A major disadvantage of this type of task relevant to the present study is that L2ers may not produce the particular construction the researcher is interested in, through either deliberate avoidance of problematic language forms or unintentional use of alternative forms to express the same idea. In practice, this means that the researcher often has to collect large amounts of data to obtain a sizable sample of the constructions under examination.

In order to minimize this problem, this experiment used elicited production tasks where participants were asked to describe a series of differences between sets of pictures as well as pictures depicting a daily routine. Elicited production tasks allow the researcher to steer the participants' production in the direction of the language forms at issue, although there is still no guarantee that the learners will indeed produce the desired constructions. A well thought-out and tested⁵ design of the pictures is needed to elicit language structures that are similar to the ones employed in the acceptability judgement task.

⁵ The tasks employed in this empirical study were piloted with L1 Spanish and L1 English students at Durham University.

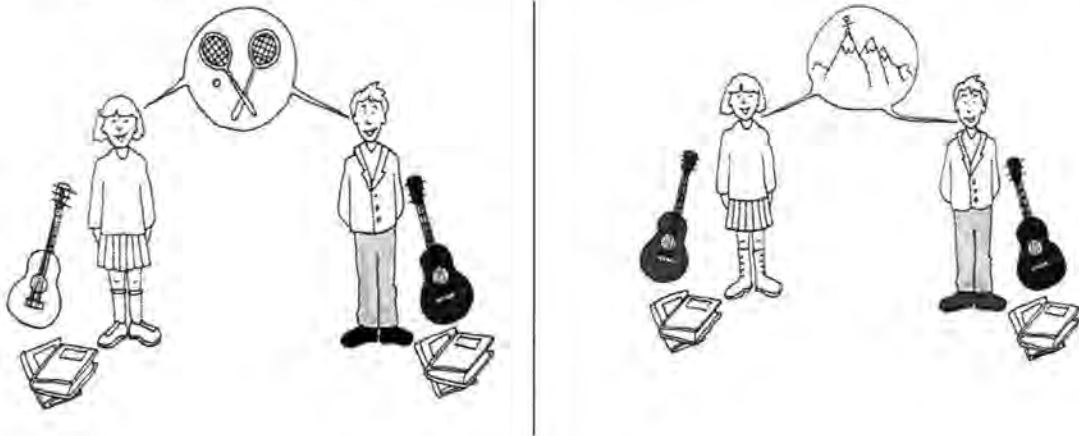
7.3.3. PROCEDURE

Five Differences task

The Five Differences task consisted of 10 sets of 2 pictures (in colour – see Appendix 7). There were 5 differences between the two pictures in each set. Three of these differences were aimed at eliciting nominal agreement, the remaining two at verbal agreement. Participants described the pictures in random order. Task instructions are given in (7). An example for nominal agreement is given below. Participants were asked to describe these 5 differences in their own words. This task was designed to elicit DPs containing a PP which ‘intervenes’ between the noun and its corresponding predicative adjective ((8)a)⁶. Data containing intervening PPs can be used to contrast (non)agreement in contiguous contexts (‘short distance’) and non-contiguous contexts (‘long distance’) as described in Section 7.2.1. The determiner(s), noun(s) and adjective all display agreement morphology.

(7) SPOT THE 5 DIFFERENCES

Now we’re going to look at sets of two pictures. There are exactly *five* differences between the two pictures. I’ll give you some time to look at the pictures and circle the differences. Then I would like you to describe them to me.



- (8) a. Aquí la guitarra de la chica es amarilla.
Here the.FEM.SG guitar_{FEM.SG} of the.FEM.SG girl_{FEM.SG} be.3SG yellow.FEM.SG.
 ‘Here the guitar of the girl is yellow.’

⁶ The second part of the comparison ((8)b) was not included in the data analysis, as it is a (partial) repetition of the first sentence.

- b. Aquí (la guitarra) es roja.
 Here ((the.FEM.SG guitar_{FEM.SG}) be.3SG red.FEM.SG
 'Here [the guitar] is red.'

Participants first described one of the routines (aimed at verbal agreement; see Chapter 8), followed by the differences between 5 sets of pictures. They then repeated this order with the second half of each task, viz. the other routine and the differences between the 5 remaining sets of pictures, in order to vary the tasks. Detailed task instructions as well as an overview of all test items and colour pictures can be found in Appendix 7. Both tasks were recorded onto mini-disk and the data were transcribed and coded for gender, number and person agreement.

7.4. COMPREHENSION – PICTURE SELECTION TASK

7.4.1. AIMS

The picture selection task examined participants' interpretation of overt gender and number agreement morphology on determiners and adjectives. These data will complement the acceptability judgement and production data described in the previous two sections.

7.4.2. METHODOLOGICAL ISSUES

The picture selection task tested participants on syntax without relying on production data or focussing on form as is the case in acceptability judgement tasks. L2ers could, however, still use explicit metalinguistic knowledge to carry out this task (see the discussion in Section 4.5.2.4). If this was the case, the results would not reveal anything about the L2ers' 'internalised' IL. Careful design of the present experiment aimed to eliminate or at least minimise this problem (see Section 7.4.3 below).

7.4.3. PROCEDURE

The picture selection task was an adaptation of White et al.'s (2003) reading comprehension task but differed from it in some crucial points. The idea underlying this experiment is that:

[...] the head noun in a Spanish DP does not have to be overtly realized, provided that its content can be in some way recovered from the context. Such DPs are referred to as null nominals [...]

White et al. (2003:157)

Examples of Spanish constructions with N-drop are given in (9) (these examples differ from the actual test items which will be described below):

(9) a. La chica tiene una guitarra amarilla y una *pro* roja.
the.FEM.SG girl.FEM.SG have.3SG a.FEM.SG guitar.FEM.SG yellow-FEM.SG and a.FEM.SG red-FEM.SG
'The girl has a yellow guitar and a red one.'

b. La falda que quiere comprar es la roja.
the.FEM.SG skirt.FEM.SG that want.3SG buy.INF be.3SG the.FEM.SG red-FEM.SG
'The skirt (s)he wants to buy is the red one.'

The existence of null nominals in Spanish allows the researcher to establish to what extent L2ers are able to process gender and number information encoded in Spanish determiner and adjective endings.

In the current empirical study, participants listened to a recording of a story about two people going on holiday. Each sentence was accompanied by a set of six pictures, all of which fit the context of the story. The aural test items contained null nominals. Participants had to select the correct picture (denoting the null nominal) by correct interpretation of the agreement morphology on the overt determiner and adjective.

An example of a test item targeting number is provided in (11)a below with its translation in (11)b, and is preceded by the task instructions in (10). The story contained two trainer sentences and 40 test items, 24 of which targeted gender or number. There were 16 distractors, some of which included null nominals (see examples (12) and (13) below). Detailed task instructions as well as an overview of all test items and colour pictures can be found in Appendix 8.

(10) **PICTURE TASK**

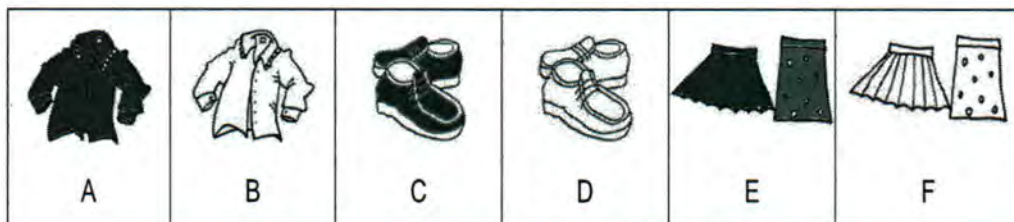
In this exercise you will read and listen to a story about Nico and Ana. The story is accompanied by sets of six pictures. Your task is to choose the picture that corresponds to the last sentence you hear, by circling the appropriate letter (A, B, C, D, E, F). This last sentence is not printed – it is a listening exercise. Please choose only one picture from each set. The following two are examples:

[This instruction was followed by two training items that did not make use of null nouns, i.e. which included all lexical items relevant to the selection of the picture.]

(11) a. [The two people have been talking about which items of clothing to pack in their suitcase.]

[Aural input] ¿También te vas a llevar la [Ø] blanca?

[Written input] ¿También te vas a _____?



b. ¿También te vas a llevar la [Ø] blanca?

Also you.REFL go.2SG to take.INF the.FEM.SG white-FEM.SG?

'Are you also going to take the white one?'

The DP '*la blanca*' contains a null nominal; the agreement morphology on the determiner and the adjective shows that this null nominal is feminine and singular. Participants should select picture B (*la blusa* or *la camisa* – 'the blouse' or 'the shirt') if they have access to gender and number features in their IL as outlined in (11)c. Even though pictures D and F are also white, picture F (*las faldas* – 'the skirts') differs with respect to the number feature, and picture D (*los zapatos* – 'the shoes') is a distractor with both opposite gender and number. Pictures A, C and E are distractors since the colour of the objects is incorrect.

(11) c.

A	B	C	D	E	F
la blusa roja 'the red blouse'	la blusa blanca 'the white blouse'	los zapatos rojos 'the red shoes'	los zapatos blancos 'the white shoes'	las faldas rojas 'the red skirts'	las faldas blancas 'the white skirts'
FEM.SG <i>*red</i>	FEM.SG white	*MASC *PL <i>*red</i>	*MASC *PL <i>white</i>	FEM *PL <i>*red</i>	FEM *PL <i>white</i>
distractor	correct choice	distractor	number & gender incorrect	distractor	number incorrect

Non-native speakers may not have acquired the relevant functional categories or features (yet) and therefore make errors when selecting pictures, particularly during the early stages of L2A. If L2ers do not have access to the relevant gender and number features, as the FFFH claims, they will not be able to identify the correct null nominal and therefore randomly, or at least inconsistently, select pictures. Native speakers do not experience any problems identifying the correct picture in the test items, as the gender and number clues encoded in the overt agreement morphology exclude all given pictures except one.

One of the crucial differences with White et al.'s (2003:161-162) study is that in the current experiment, participants read along while listening to the story, *except* for the last three words of each test item which were deleted on their answer sheet and were thus only provided aurally. Participants then had three seconds to select the picture which corresponds to the test sentence. They were not allowed to pause or rewind the recording.

In White et al.'s experiment, on the other hand, participants read the whole story, including the N-drop phrases. This gives participants the opportunity to take as much time as they like to access metalinguistic knowledge while examining morphological clues. This was impossible in the current experiment, as participants could not re-read or re-analyse the relevant words (including agreement morphology) and needed to concentrate on the remainder of the story after three seconds.

This also meant that participants only had three seconds to select the correct picture on the answer sheet after listening to the phrase containing the null noun and before the recording continues with the next test item. This significantly reduced the amount of time available to access and apply metalinguistic knowledge of overt agreement morphology. Allowing participants to read along with the story reduced the processing and memory load.

None of the vocabulary items corresponding to the null nouns was used in the test before they appeared in a test item. Since the relevant test phrases were administered aurally, it did not matter whether such vocabulary items were used later on in the experiment – participants were not allowed to rewind and listen to previous test items.

Another difference between the present experiment and White et al.'s (2003) study relates to the type of distractors included in the comprehension task. White et al. did not include distractors containing null nominals. In the current experiment, there were instances of test items with (12) and without (13) N-drop.

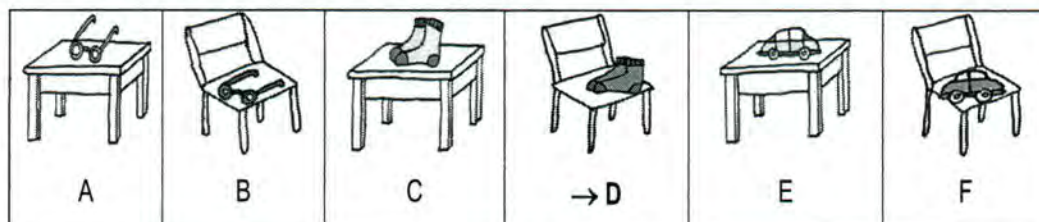
(12) Example of a distractor sentence (test item 35) containing a null nominal:

[Previous sentence:] Ana le dice: "¡Mira en el armario!" También hay unos calcetines negros bajo la cama y unos [Ø] azules en la silla.

Ana tells him: 'Look in the wardrobe! There are also some black socks under the bed and some blue [ones] on the chair.'

(35) Nico le pregunta: "¿Dónde están los [Ø] azules?"

Nico asks her: 'Where are the blue [ones]?'

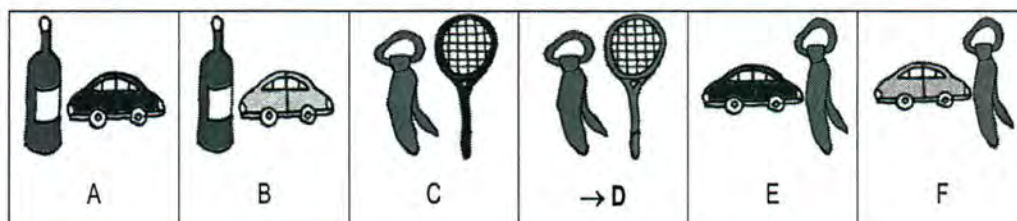


In this case, participants use the corresponding overt nominal (name of the object) in the preceding context in combination with the clues as to location and colour of the object to determine which picture is the correct one. The agreement morphology is redundant. For the distractor items not containing a null nominal, selection of the intended picture did not depend on correct interpretation of overt agreement morphology but rather on a correct understanding and recollection of the preceding sentences, as illustrated here in (13):

(13) Example of a distractor sentence (test item 27) not containing a null nominal:

(27) También le compran una raqueta de tenis verde y una corbata azul.

'They also buy him a green tennis racket and a blue tie.'



One final difference between White et al.'s study and the current experiment concerns the number of pictures for each test item. White et al.'s test sentences were accompanied by 3 pictures, whereas my participants were faced with 6 pictures to choose from for each test sentence. As discussed in Section 4.5.2.4, my own replication of White et al.'s task as part of a pilot study for the current experiment revealed

that many native speakers were confused when confronted with White et al's picture identification task (3 pictures per test item).

In order to identify the null noun, i.e. the correct picture, in this task, native speakers relied on pragmatic and morphological information. In test items where colour is prominent, they expected to be able to select the correct picture partly on the basis of colour. The pictures which accompany test items containing adjectives relating to colour such as *roja* ('red'), however, were all shown in the same colour - cf. White et al.'s example in Appendix 1. This seemed to confuse the native speakers who therefore resorted to using metalinguistic knowledge to recover the content of the null nominal: *roja* ends in *-a*, so a feminine word is needed which is exactly what this task was trying to avoid. Native speakers often formulated this metalinguistic strategy aloud while processing the test item, others provided the same explanation when prompted to explain their choices at the end of the task.

In order to solve this pragmatic problem, the test items used in the current experiment contained additional distractor pictures which differed from the targeted noun in the quality described by the adjective which provides the gender and/or number clues for the picture selection task. This is illustrated in pictures A, C and E in example (11) above. In this case, this meant including a picture of a red blouse (A), as well as the targeted white blouse. It also required the inclusion of red pictures of the nouns that differ from the targeted noun in gender and/or number (C and E). An additional advantage of having 6 pictures instead of 3 is that participants have less time to apply metalinguistic strategies to identify the correct picture.

7.5. VOCABULARY TASK

7.5.1. AIMS

As described in Section 7.4, the picture selection task examined participants' interpretation of overt agreement morphology on determiners and adjectives in DPs with a null nominal. In order to accurately analyse the results of the comprehension task, the researcher needs to know:

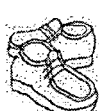
- (a) the lexical items (Spanish words) participants use to label the pictured objects
- (b) the gender assigned to these lexical items in the L2ers' IL lexicon.

For this reason, a vocabulary task is needed as part of the current research project. The following examples show the importance of this task. Test items can generate different responses depending on the lexical item participants use to label pictures, either because of a different interpretation of the picture as in (14)a or because of (regional) variations in language use ((14)b and (14)c).

(14)



(a)



(a')



(b)



(b')



(c)

- (14) a. Le compran unos blancos.
He.DAT.3SG buy.3PL some.MASC.PL white-MASC-PL
'They buy him some white ones.'

If participants use the Spanish word *zapatos* (MASC-PL – 'the shoes') to describe picture (14)a, they will select the picture intended to be the correct one by the researcher. If, however, participants use the Spanish word *zapatillas* (FEM-PL – 'the trainers'), they will choose a different picture or fail to select a picture at all.

- b. Decide llevarse los blancos.
Decide.3SG wear.INF-REFL the.MASC.PL white-MASC-PL
'He decides to wear the white ones.'

If participants use the Spanish word *pantalones* (MASC-PL – 'the (pair of) trousers') to describe picture (14)b, they will select the picture intended to be the correct one by the researcher. If, however, participants use the (equally correct) Spanish word *pantalón* (MASC-SG – 'the (pair of) trousers'), they will choose a different picture or fail to select a picture at all.

- c. Llevo estas amarillas?
Take.1SG these-FEM-PL yellow-FEM-PL
'Do I take the yellow ones?'

If participants use the word *gafas* (FEM-PL – 'glasses' [Spain]) to describe picture (14)c, they will select the picture intended to be the correct one by the researcher. If, however, participants use the (equally correct) *lentes* (MASC-PL – 'glasses' [Latin-America]), they will choose a different picture or fail to select a picture at all.

In the present experiment, these difficulties were side-stepped by using a picture such as (14)a' instead of (14)a (where the object was identified as the more general *zapatos* by all participants); (14)b'

instead of (14)b (where the picture of two pairs of trousers was labelled as *pantalones* by all participants), regardless of the form they used to describe one pair of trousers; and by not using pictures such as (14)c. Not all difficulties related to the choice of lexical items can be anticipated, however, and therefore the vocabulary task remains a necessary component of the experiment.

7.5.2. PROCEDURE

The vocabulary task is an adaptation of White et al.'s (2003) written vocabulary task. White et al.'s (2003:163) task

consisted of a set of 47 pictures (corresponding to the pictures used in the picture identification task), [...]. Below each picture was a blank space preceded by a choice of masculine or feminine form of the article (*el/la*). Participants had to insert a lexical item corresponding to the picture and circle the appropriate article.

In the present study, participants were each given 2 sets of pictures (see Appendix 9); the second set of pictures was identical to the first set, with the exception that the test items were given in a different order. Each set of pictures contained all the vocabulary items used in the test items of the picture selection task; it did not include the pictures used in the distractors of the picture selection task.

Participants were asked to name the object and its colour orally. Example (15)a and b were provided as a model (note that the model adjective *azul* – 'blue' is ambiguous in terms of gender in Spanish; it could either be masculine or feminine). For the first set of pictures, participants were asked to describe pictures such as (16) following the example provided in (15)a (i.e. including the colour of the object):

(15)



a. el avión azul
the.MASC.SG plane.MASC.SG blue.SG
 'the blue plane'

b. el avión
the.MASC.SG plane.MASC.SG
 'the plane'

(16)



a. el libro blanco
the.MASC.SG book.MASC.SG white.MASC.SG
 'the white book'

b. el libro
the.MASC.SG book.MASC.SG
 'the book'

For the second set of pictures, participants were asked to describe pictures such as (16) following the example provided in (15)b, i.e. as a combination of a determiner and a noun, without the adjective. An overview of all test items and pictures can be found in Appendix 9.

The data corresponding to the first set of pictures (e.g. (16)a) – DPs consisting of a determiner, noun and adjective – allow the researcher to determine:

- i) whether the L2ers have the relevant vocabulary to be able to carry out the picture selection task (noun);
- ii) which gender has been assigned to the vocabulary item in the IL lexicon (determiner);
as well as providing evidence of
- iii) whether or not the L2ers have acquired the correct positioning of adjectives in relation to the noun (and therefore successful acquisition of noun raising) and DP-internal adjectival (short-distance) agreement

The data corresponding to the second set of pictures – combinations of a determiner and a noun – are required to establish which vocabulary items are specified for gender in the IL lexicon. If a test subject uses the same determiner (*el* – the.MASC or *la* – the.FEM) with a particular vocabulary item in both parts of the task, this gender is considered to be the gender assigned to the noun in the IL lexicon, regardless of its 'correctness' in terms of native-like gender assignment. If, on the other hand, a test subject uses a different determiner with the same vocabulary item in the two parts of the task, it is assumed that the gender for this word is unspecified in the IL lexicon.

Test items containing these vocabulary items with 'unspecified' IL gender (types (c) and (f) in Table 6 below) should not be included in the data analysis since it is impossible to ascertain which gender (if any) has been assigned to the word during the picture selection task. Test items containing pictures that participants were unable to label during the vocabulary task were also eliminated from the data analysis of the comprehension task.

Table 6. Gender assignment in the IL lexicon: possible results from the vocabulary task

type	1 st picture set	2 nd picture set	gender in IL lexicon	target gender	include test item in data analysis?
(a)	el	el	[MASC]	[MASC]	yes
(b)	el	el	[MASC]	[FEM]	yes
(c)	el	la	[unspecified]	[MASC] / [FEM]	no
(d)	la	la	[FEM]	[FEM]	yes
(e)	la	la	[FEM]	[MASC]	yes
(f)	la	el	[unspecified]	[MASC] / [FEM]	no

White et al. used only one set of pictures (2003:163) and excluded test items containing words that participants were unable to provide or where they supplied non-targetlike gender (2003:172). This means that types (b) and (e) would be eliminated in their data analysis, whereas types (c) and (f) are included – a choice which obviously influences the data analysis.

This task was carried out after the acceptability judgement, production and comprehension tasks, to avoid priming of gender clues. For the same reason, the task was administered aurally. The data were recorded onto mini-disk and transcribed and coded for gender and number agreement.

7.6. RESEARCH QUESTIONS AND SPECIFIC HYPOTHESES

In this section, the general research questions raised in Chapter 4 will be developed into testable hypotheses. I will then show how the different tasks described above can help to validate or reject these hypotheses.

Access to UG and L1 transfer in the development of IL are the two main issues underlying this study. As discussed in Chapter 4, these issues can be reworded in terms of research questions 1) and 2).

RQ 1: Are TL grammatical features not instantiated in the L1 in principle acquirable in (adult) L2 (over time)? And additionally: Are all features equally acquirable?

RQ 2: Do L2ers 'transfer' features ([GENDER], [NUMBER], [PERSON]) from their L1 to their IL? If so, do they transfer all of these features or only some of them?

On the basis of these general research questions and the range of potential answers, the following general hypotheses can be formulated for research into the L2A of nominal agreement (assuming Schwartz & Sprouse's 1996 FT/FA model):

General hypotheses based on research question 1:

GH 1: L2ers whose L1 lacks nominal agreement features will (eventually) come to acquire them, implicating the acquisition of the relevant functional features.

GH 2: There will be differences in performance between the different tasks for lower level learners, suggesting problems with mapping syntactic features to the appropriate overt agreement morphology rather than representational problems of agreement features.

GH 3: All features ([GENDER], [NUMBER]) should be equally acquirable.

General hypotheses based on research question 2:

There will be a difference in L2ers' performance with respect to agreement features depending on the participants' L1, at least at the initial stages of L2A. In other words:

GH 4: Participants whose L1 overtly realises specific agreement features will perform better on Spanish agreement of these features than L2ers at the same level of proficiency whose L1 does not overtly realise these agreement features.

GH 5: Participants will perform better on Spanish agreement for features overtly realised in their L1 in comparison with features not realised in their L1.

These general hypotheses are not yet sufficiently explicit in terms of variables included in the present experiment. Table 8 below contains very specific testable hypotheses and the tasks that will be used to support or refute these hypotheses, taking into account the properties of the participants' L1 (repeated here in Table 7).

Table 7. Nominal agreement properties of L2 Spanish and the participants' L1s

	Spanish	Dutch	English	French	Swedish
Nominal agreement	+	+ ¹	- ²	+	+

¹English does display nominal number agreement on some determiners (see Chapter 2).

²In Dutch, only attributive adjectives agree with the head noun in gender and number (see Chapter 2).

Table 8. Specific hypotheses for nominal agreement and tasks used to test these hypotheses

	Specific hypotheses underlying the empirical study		Tasks employed to test the specific hypotheses		
			AJT	PROD	COMP
N1	All advanced L2ers will perform at a high level of accuracy for nominal [GENDER] and [NUMBER] agreement.	GH1	+	+	+
N2	Accuracy rates for nominal [NUMBER] agreement will be similar to nominal [GENDER] agreement accuracy rates for all groups, except for the L1 English beginners.	GH3	+	+	+
N3	At lower proficiency level, results from the comprehension and acceptability judgement tasks will be better than results from the production tasks.	GH2	+	+	+
N4	At lower proficiency level, L1 Dutch, French and Swedish L2ers of Spanish will perform better than L1 English learners of Spanish on nominal agreement.	GH4	+	+	+
N5	a) At lower proficiency level, L1 English speakers will perform better on L2 Spanish verbal agreement than on nominal agreement. b) At lower proficiency level, L1 Dutch and French speakers will perform equally well on L2 Spanish nominal and verbal agreement. c) At lower proficiency level, L1 Swedish speakers will perform better on L2 Spanish nominal agreement than on verbal agreement.	GH5	+	+	+
N6	At lower proficiency level, L2ers will be better at test tokens where the intervener matches the head noun in features than at test tokens where the head noun and intervener have opposite features.	GH1	+	+	-

AJT = acceptability judgement task (see Section 7.2); **PROD** = description of five differences between sets of pictures (see Section 7.3); **COMP** = picture selection task (see Section 7.4)

Most of these hypotheses follow from the Full Transfer/Full Access model of L2A, except for Hypotheses N2 and N5. These hypotheses are also based on the assumption that, syntactically, there does not seem to be a difference between nominal gender and number agreement (there has been very little – if any – research into this issue). We would therefore not expect a difference in acquisition rate between these two features for the Dutch, French and Swedish L1 groups as both features are also instantiated in their L1.

Since English does not have nominal gender agreement, it is possible that this feature is more difficult for L1 English speakers to acquire in L2 Spanish than nominal number (which is realised on some determiners in English). With these assumptions in mind, Hypotheses N5(a-c) follow from the Full Transfer/Full Access Hypothesis (see also Section 8.4).

7.7. CONCLUSION

This chapter presented an overview of the methodologies and research hypotheses the current empirical study is based upon, with reference to nominal agreement. The acceptability judgement, production, comprehension and vocabulary tasks were described in detail. The tasks and research hypotheses relevant to verbal agreement will be discussed in the following chapter.



CHAPTER 8 VERBAL AGREEMENT: METHODOLOGY

8.1. INTRODUCTION

The previous chapter provided an overview of the tasks that were carried out to assess the L2ers' acquisition of nominal agreement features. This chapter will do the same for verbal agreement. The acceptability judgement task will be described in Section 8.2. This will be followed by a description of the two production tasks (Section 8.3): the Daily Routine and Five Differences tasks.

Many of the issues discussed in Sections 7.2 and 7.3 for nominal agreement will also be relevant to verbal agreement. Key observations will be summarised here and the reader will be referred to the corresponding sections in the previous chapter for a more detailed description.

In Section 8.4, the specific research hypotheses for verbal agreement will be presented. I will also show how the different tasks aim to answer the research questions. The following two chapters will provide the results for nominal agreement and verbal agreement, respectively.

8.2. AURAL ACCEPTABILITY JUDGEMENT TASK

8.2.1. AIMS

The acceptability judgement task described in Chapter 7 also tests L2ers' ability to accept correct agreement morphology and reject incorrect agreement morphology for verbal agreement. In order to distinguish between strategies based on linear order rather than hierarchical structure (see Section 7.2), test items focussing on verbal number incorporated 'long distance' agreement between the verb and a complex subject consisting of a head noun and intervener. The intervening DP has matching or opposite number features to the head noun, as illustrated in example (1).

- (1) Los niños con el perro *come / comen / *comer muchas hamburguesas.
*The.PL children.PL with the dog. SG eat.3*SG/3PL/ *INF many hamburgers*
'The children with the dog eat lots of hamburgers.'

If participants are relying on linear closeness to judge agreement morphology, we would expect them to achieve higher accuracy rates when the head noun and intervener have identical features. Items such as (1), where head noun and intervener have opposite number features, should be more likely to trigger agreement errors.

Items aimed at testing verbal person (such as (2)) only included (head and intervening) nouns denoting a third person, as a combination of a head noun and intervening noun with [+1P] or [+2P] features would have appeared very unnatural in the context of this acceptability judgement task (cf. a sentence such as *I with the bike eat an ice cream*).

- (2) El niño con el gato *como / *comes / come / *comer patatas fritas.
*The.SG boy.SG with the cat.SG eat.*1SG/*2SG/3SG/*INF chips*
'The child with the cat eats chips.'

8.2.2. METHODOLOGICAL ISSUES

The methodological issues concerning acceptability judgement tasks raised in Section 7.2.2 for nominal agreement also apply to verbal agreement test items. As discussed before, there are some clear advantages to including an acceptability judgement task in the test battery in order to establish whether the results converge with those obtained in the comprehension and production tasks. An acceptability judgement task, for instance, is the only way of testing L2ers' knowledge of ungrammaticality. The researcher can also choose exactly which syntactic features to include, whereas a production task would not allow for this amount of control.

Given that verbal person and number agreement in Spanish is taught explicitly (and repeatedly) in the classroom, L2ers may resort to metalinguistic monitoring as soon as the processing of the test item allows them. This problem was minimised in the current acceptability judgement task by presenting the test items aurally rather than in written form and by limiting the time frame for the judgement to three seconds.

8.2.3. PROCEDURE

The test items for verbal agreement were part of the same acceptability judgement task as the items testing nominal agreement and the procedure was therefore identical. Participants listened to the test items while looking at the corresponding pictures (which provided a context for the sentences) in the 12-page booklet. There were two sentences for each picture and each sentence was repeated once. These sentences could either be both correct, both incorrect or could consist of 1 correct and 1 incorrect sentence. An example is provided in (3):

Table 1. Test types: verbal agreement combinations included in the grammaticality judgement task

Type	Error	Feature	main DP ₁	intervening DP ₂	verb V		DP ₃
21	-	NUM	SG	SG	3	SG	SG
22	*	NUM	SG	SG	3	*PL	SG
23	*	PSN	SG	SG	*1	SG	SG
24	*	NUM/PSN	SG	SG	-	*INF	SG
25	-	NUM	SG	PL	3	SG	SG
26	*	NUM	SG	PL	3	*PL	SG
27	*	NUM/PSN	SG	PL	-	*INF	SG
28	-	NUM	PL	PL	3	PL	PL
29	*	NUM	PL	PL	3	*SG	PL
30	*	NUM/PSN	PL	PL	-	*INF	PL
31	-	NUM	PL	SG	3	PL	PL
32	*	NUM	PL	SG	3	*SG	PL
33	*	NUM/PSN	PL	SG	-	*INF	PL
34	**	PSN	PL	SG	*1	*SG	PL

Error = number of errors (0,1 or 2); *Feature* = feature tested (NUM=number, PSN=person)

Table 2. Example of coding of test item using the categories described in Table 1

Type	Error	Feature	main DP ₁	intervening DP ₂	verb V	DP ₃
26	-	NUM	El niño	con las gafas	*comen	una manzana.
			3SG	3PL	*3PL	SG
			'The child	with the glasses	eats	an apple.'

8.3. PRODUCTION – DAILY ROUTINE AND FIVE DIFFERENCES

8.3.1. AIMS

The data from the production tasks described in the following sections will supplement the verbal agreement data obtained from the acceptability judgement task in order to establish whether the same trends can be found across different tasks.

8.3.2. METHODOLOGICAL ISSUES

As pointed out in Section 7.3.2, using a (spontaneous) production task may mean that L2ers do not produce the syntactic structures the researcher is interested in, either unintentionally or through avoidance of problematic language. The tasks in this experiment were designed to minimise this problem by including pictures which participants were asked to describe. Using elicited production tasks allows the researcher to steer the participants' production towards language structures that are relevant to the syntactic issues being studied.

8.3.3. PROCEDURE

Verbal agreement was tested by means of two elicited production tasks. In the Daily Routine task, participants were asked to describe a daily routine illustrated by pictures of activities. In the Five Differences task, also used for nominal agreement, participants were asked to describe a series of differences between sets of pictures.

8.3.3.1. Daily Routine task

The Daily Routine task focuses on verbal agreement morphology. The pictures were designed to elicit verb forms which differ in terms of [NUMBER] – singular or plural – and [PERSON] – first, second or third person – features. Participants are shown pictures of a daily routine and asked to describe this routine in their own words. They are also asked questions about their own routine (to elicit first person responses) or the researcher's routine (to elicit second person responses).

This task is aimed at generating verbs with the following features: 1SG, 2SG, 3SG or 3PL. An example is given in (5) (P = participant; R = researcher; the names of the people depicted were introduced during the training session) and is preceded by the task instructions in (4):

(4) DESCRIBING A DAILY ROUTINE

I'm going to ask you to describe the daily routine of two people. I'll also ask you some questions about your routine and mine.



P: Patricia se despierta a las ocho. [3SG]
Patricia wake up.3SG at 8.
'Patricia wakes up at 8.'

Inés se despierta a las siete y media. [3SG]
Inés wake up.3SG at 7.30.
'Inés wakes up at 7.30.'

R: ¿Y tú?
And you?
'And you?'

P: (Yo) me despierto a las ocho y media. [1SG]
(I) wake up.1SG at 8.30.
'I wake up at 8.30.'



P: Las dos desayunan a las ocho y media. [3PL]

The two have breakfast.3PL at 8.30.

'The two have breakfast at 8.30.'

R: ¿Y yo? [researcher shows clock indicating time she has breakfast]

And I?

'And I?'

P: (Tú) desayunas a las nueve. [2SG]

(You) have breakfast.2SG at 9.

'You have breakfast at 9.'

Participants described the weekday and weekend routine of two people and some aspects of their own and the researcher's routine. Each routine consisted of 12 activities. Detailed task instructions as well as an overview of all test items and pictures can be found in Appendix 6. The participants were randomly assigned one of two possible orders; half in each L1 group first described the weekday routine, the other half started with the weekend routine.

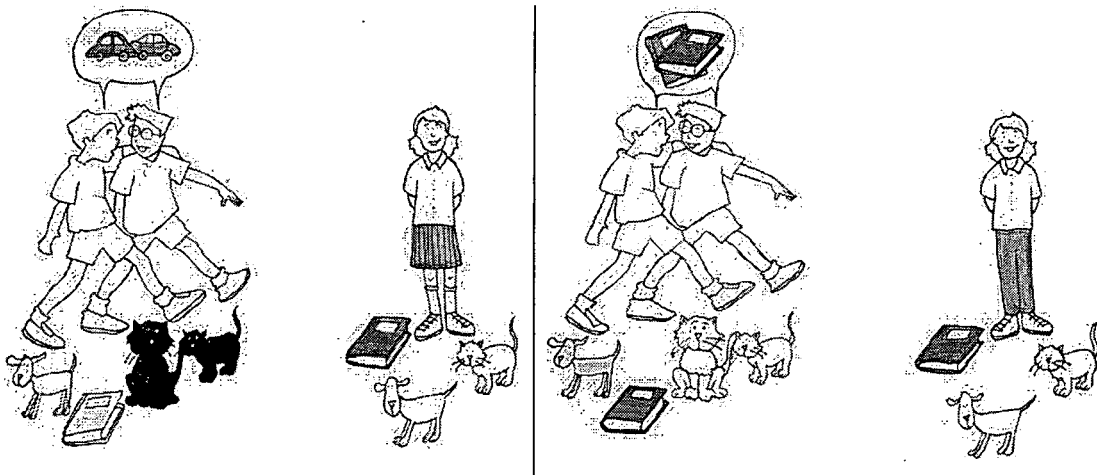
Within each routine, there was an equal distribution of 3SG or 3PL pictures as well as an equal number of situations where the participant was asked to describe their own (1SG) or the researcher's (2SG) routine. Across the two routines, each of these four feature combinations was targeted by 12 situations, resulting in a (targeted) total of 48 verbal forms¹ per participant. A short training session ensured that participants became familiar with the task.

¹ For the purposes of this study, only thematic verbs were included in the data analysis. Verbal forms with a non-target theme vowel were not counted as incorrect.

8.3.3.2. Five Differences task

The Five Differences task, described in Section 7.3 for nominal agreement, was also used to test verbal agreement. The materials consisted of 10 sets of 2 colour pictures. Participants were asked to describe the 5 differences between the two pictures in each set. They described the pictures in random order. An example (see (6)) is given below for the two differences per picture set relevant to verbal agreement, resulting in 20 items containing verbal agreement per participant for this task. The use of *es/son* ('is/are') in the items related to nominal agreement was not included in the results for verbal agreement.

Sometimes participants produced subject DPs containing a PP which 'intervenes' between the noun and the verb ((6)b), on other occasions there was no such intervener ((6)a). Data containing intervening PPs can be used to contrast (non)agreement in contiguous contexts ('short distance' – (6)a) and non-contiguous contexts ('long distance' – (6)b) as described in Section 7.2.1.



- (6) a. Aquí la chica lleva (una) falda.
 Here the.SG girl.SG wear.3SG (a) skirt.
 'Here the girl wears a skirt.'

Aquí (la chica) lleva pantalones.
 Here (the.SG girl.SG) wear.3SG trouser.PL
 'Here (the girl) wears trousers.'

- b. Aquí los chicos (con los gatos negros) hablan de coches.
 Here the.PL child.PL (with the.PL black.PL cat.PL) talk.3PL about cars.
 'Here the children (with the black cats) talk about cars.'

Aquí (los chicos) hablan de libros.
 Here (the.PL child.PL) talk.3PL about books.
 'Here (the children) talk about books.'

Participants first described one of the routines (see Section 8.3.3.1 above), followed by the differences between 5 sets of pictures. They then repeated this order with the second half of each task, viz. the other routine and the differences between the 5 remaining sets of pictures, in order to vary the tasks. Detailed task instructions as well as an overview of all test items and colour pictures can be found in Appendix 6. Both tasks were recorded onto mini-disk and the data were transcribed and coded for number and person agreement.

8.4. RESEARCH QUESTIONS AND SPECIFIC HYPOTHESES

In Chapter 4, two research questions were formulated, based on the main issues underlying this study into the L2A of nominal and verbal agreement: access to UG and L1 transfer in the development of IL:

RQ 1: Are TL grammatical features not instantiated in the L1 in principle acquirable in (adult) L2 (over time)? And additionally: Are all features equally acquirable?

RQ 2: Do L2ers 'transfer' features ([GENDER], [NUMBER], [PERSON]) in their L1 to their IL? If so, do they transfer all of these features or only some of them?

In Section 7.6, these general research questions were developed into general research hypotheses, which are repeated below for verbal agreement (assuming Schwartz & Sprouse's 1996 FT/FA model):

General hypotheses based on research question 1:

GH 1: L2ers whose L1 lacks verbal agreement features will (eventually) come to acquire them, implicating the acquisition of the relevant functional features.

GH 2: There will be differences in performance between the different tasks for low proficiency learners, suggesting problems with mapping syntactic features to the appropriate overt agreement morphology rather than representational problems of agreement features.

GH 3: All features ([PERSON] and [NUMBER]) should be equally acquirable.

General hypotheses based on research question 2:

There will be a difference in L2ers' performance with respect to agreement features depending on the participants' L1, at least at the initial stages of L2A. In other words:

GH 4: Participants whose L1 overtly realises specific agreement features will perform better on Spanish agreement of these features than L2ers at the same level of proficiency whose L1 does not overtly realise these agreement features.

GH 5: Participants will perform better on Spanish agreement for features overtly realised in their L1 in comparison with features not realised in their L1.

These general hypotheses will now be developed into testable hypotheses for verbal agreement, taking into account the properties of the participants' L1 (repeated in Table 3).

Table 3. Verbal agreement properties of L2 Spanish and the participants' L1s

	Spanish	Dutch	English	French	Swedish
Verbal agreement	+	+	+	+	-

Table 4 below contains very specific testable hypotheses for verbal agreement and indicates which tasks will be used to validate or contradict these hypotheses. Hypotheses V2 and V5 may need some extra motivation, as they are not based solely on the Full Transfer/Full Access model, but also on the assumption that, syntactically, there is no reason to assume a difference between the two features involved in verbal agreement.² With regards to Hypothesis V2, we would thus not expect a difference in acquisition rate between person and number agreement, as both features (Dutch, English, French) or neither (Swedish) are instantiated in the participants' L1s.

If the L2ers transfer features from their L1 into the initial stages of L2A, we would not expect the Dutch, English or French learners to have more problems with one agreement feature than with the other feature. The Swedish L2ers cannot transfer any of the two features involved as neither person nor number agreement are instantiated in their L1. Consequently, we would also not expect a difference in acquisition rate between these two features for the Swedish learners. Assuming that all agreement features are indeed equally acquirable, Hypotheses V5(a-c) follow from the Full Transfer/Full Access Hypothesis.

² But see Sigurdsson & Holmberg (to appear) in Section 8.4.

Table 4. Specific hypotheses for verbal agreement and tasks used to test these hypotheses

	Specific hypotheses underlying the empirical study		Tasks employed to test the specific hypotheses		
			AJT	PROD1	PROD2
V1	All advanced L2ers will perform at a high level of accuracy for verbal [PERSON] and [NUMBER] agreement.	GH1	+	+	+
V2	Accuracy rates for verbal [NUMBER] agreement will be similar to verbal [PERSON] agreement accuracy rates for all groups.	GH3	+	+	-
V3	At lower proficiency level, results from the comprehension and acceptability judgement tasks will be better than results from the production tasks for lower proficiency L2ers.	GH2	+	+	+
V4	At lower proficiency level, L1 Dutch, English and French L2ers of Spanish will perform better than Swedish learners of Spanish on verbal agreement.	GH4	+	+	+
V5 =N5	a) At lower proficiency level, L1 English speakers will perform better on L2 Spanish verbal agreement than on nominal agreement. b) At lower proficiency level, L1 Dutch and French speakers will perform equally well on L2 Spanish nominal and verbal agreement. c) At lower proficiency level, L1 Swedish speakers will perform better on L2 Spanish nominal agreement than on verbal agreement.	GH5	+	+	+
V6	At lower proficiency level, L2ers will be better at test tokens where the intervener matches the head noun in features than at test tokens where the head noun and intervener have opposite features.	GH1	+	-	+

AJT = acceptability judgement task (see Section 8.2); *PROD 1* = picture description of a daily routine (see section 8.3.3.1); *PROD 2* = description of five differences between sets of pictures (see Section 8.3.3.2).

8.5. CONCLUSION

This chapter provided a description of the different tasks that were used to test the L2A of verbal agreement amongst L2ers from various L1 backgrounds. The chapter first described the acceptability judgement and production tasks in detail. In the final section, research hypotheses were formulated specifically for verbal agreement. The results of the empirical study for verbal agreement will be discussed in Chapter 10, as Chapter 9 will be concerned with the results for nominal agreement.

CHAPTER 9 NOMINAL AGREEMENT: RESULTS

9.1. INTRODUCTION

The previous three chapters described the methodology of the empirical study. As discussed in Chapter 7, the L2A of nominal agreement was tested by means of acceptability judgement, production, comprehension and vocabulary tasks. This chapter will present the results of these various tasks, carried out to find an answer to the research questions listed at the end of Chapter 7.

The structure of the chapter will reflect the order of the research hypotheses as presented in Table 8 of Chapter 7. Results of the various tasks will be discussed where they are relevant to the issues raised by the hypotheses, with the aim of making it easier for the reader to link the data with the relevant research questions. The following chapter will present the results for verbal agreement.

9.2. PRESENTATION OF THE DATA

Most of the data in the graphs in this chapter will be presented as percentages (%) correct or incorrect usage out of the total number of tokens. It should be pointed out that L2ers' tokens were judged 'correct' if they displayed agreement in gender and number between determiners and adjectives, regardless of whether this corresponded to the target inherent lexical gender of the noun (see Section 4.4.1.3).

The reason for using percentages correct or incorrect usage is obvious for production data: L2 learners produce different numbers of tokens, so providing percentages of (in)correct usage is the only possible way of accurately comparing these data. Items where participants were unfamiliar with the vocabulary (for the comprehension and acceptability judgement tasks) or demonstrated insufficient knowledge of the gender of nouns used (for the comprehension task) were excluded from this individual's data analysis. Therefore, the use of percentages is also the only way to discuss the data of the comprehension and acceptability judgement tasks. The (absolute) number of tokens analysed will also be provided to inform the reader of the magnitude of the test.

Whenever data for a particular group, rather than individual learners, are discussed, this will be the means (average) of the individuals' results. When calculating the test statistics, the more powerful (sensitive) parametric tests (Anova, t-tests and Scheffe) will be used unless this is impossible for statistical reasons, in which case their non-parametric counterparts (Mann-Whitney, Wilcoxon, Kruskal-Wallis) that make fewer assumptions about the data will be employed.

9.3. VOCABULARY TASK

The results of the vocabulary task are only relevant to the comprehension task. Test items were excluded from a participant's comprehension results if L2ers:

- were unable to label the pictured object
- used two different names for the same object in the first versus the second part of the task
- assigned two different genders to the object in the first versus the second part of the task.

We do not need to concern ourselves with individual or group results here, as these data are not relevant to the research hypotheses. The results are, however, reflected in the number of tokens that will be provided when the data of the comprehension task are being discussed. The vocabulary data also showed that noun raising had been acquired 100% successfully by all participants.

9.4. HYPOTHESIS N1: ALL ADVANCED L2ERS WILL PERFORM AT A HIGH LEVEL OF ACCURACY FOR NOMINAL GENDER AND NUMBER AGREEMENT.

The first hypothesis aims to shed light on the issue of access to Universal Grammar in L2A. If L2 learners who started learning the L2 after the end of the critical period still have access to UG, they should be able to achieve high levels of accuracy for both features, regardless of the presence or absence of this feature in their L1.

9.4.1. ADVANCED L2ERS

9.4.1.1. Acceptability judgement task

Table 1 (and Figure 1) provide the data for nominal gender and number agreement for the acceptability judgement task.

Figure 1. % Incorrect answers – Acceptability judgement (Adv, NNS & NS)

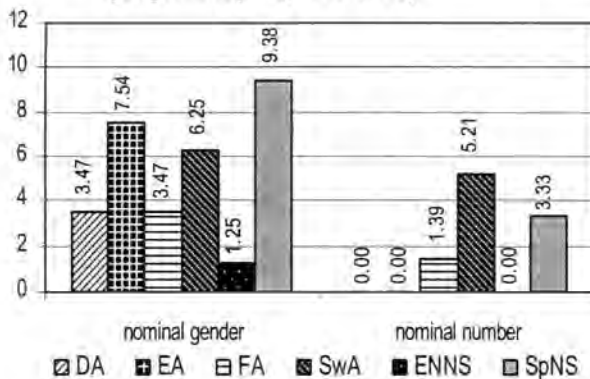


Table 1. Incorrect answers – Acceptability judgement (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
Nom Gen	5/144	12/159	5/144	8/128	1/80	15/158
Nom Num	0/216	0/240	3/216	10/191	0/120	8/240

All advanced L1 groups perform highly accurately on the acceptability judgement task, with error rates not exceeding 7.54%. The L1 English near-native speakers perform almost 100% accurately on both features. The native Spanish speakers' accuracy rates are lower for this task, especially for gender agreement.¹

9.4.1.2. Five Differences and Daily Routine – Production

For the production task, the data in Table 2 (and Figure 2) show that all advanced L2 learners perform highly accurately on nominal number agreement (maximum error rate 0.85%). L2ers also perform well on nominal gender agreement (3.75%-10.26% error rates), although there is a difference with nominal number agreement for the L1 Dutch, English and Swedish advanced learners (see Section 9.5).

It is interesting to note that these latter groups consists of L2ers whose L1 realises nominal gender agreement overtly (Dutch and Swedish) and learners whose L1 does not (English). Nominal gender is also realised in French, and the L1 French learners of Spanish perform highly accurately on nominal gender agreement (3.75% error rate). Again, the most advanced group of L2 learners, the L1 English near-native speakers of Spanish have very low error rates for both features, including nominal gender (2.36% error rate), even though this feature is not instantiated in their L1.

¹ See Section 9.6.2 for more details on why native speakers seem to have more difficulties with the acceptability judgement task than the most advanced non-native speakers.

Figure 2. % Incorrect answers – Production (Adv, NNS & NS)

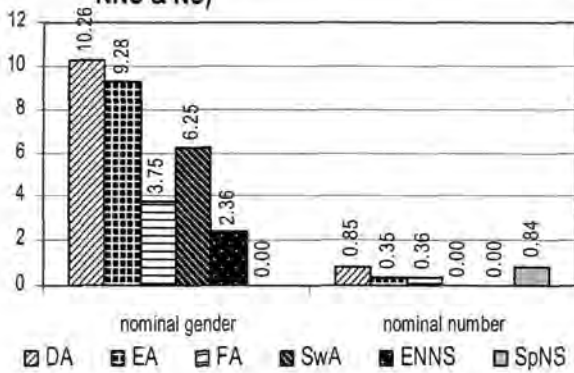


Table 2. Incorrect answers – Production (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
Nom Gen	24/234	27/291	10/267	8/128	3/127	0/238
Nom Num	2/236	1/283	1/275	0/197	0/129	2/238

9.4.1.3. Comprehension

The results for the comprehension task, which tested L2 learners on the interpretation of nominal gender and number agreement morphology, are given in Table 3 (and Figure 3). All advanced learners, regardless of their L1, score highly accurately for the two features under examination, with a maximum error rate of 2.50%. Correctly interpreting nominal agreement morphology does not seem to pose any difficulties for the advanced L2 groups.

Figure 3. % Incorrect answers – Comprehension (Adv, NNS & NS)

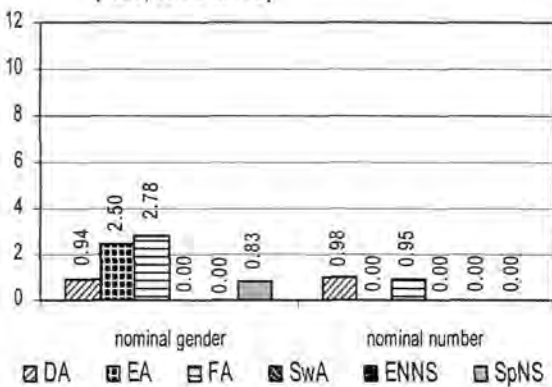


Table 3. Incorrect answers – Comprehension (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
Nom Gen	1/106	3/120	3/108	0/96	0/60	1/120
Nom Num	1/102	0/117	1/105	0/93	0/60	0/120

9.4.1.4. Conclusion advanced L2ers and near-native speakers

From the data presented in Table 1-Table 3 (and Figure 1-Figure 3) it is clear that all advanced L1 groups perform highly accurately on L2 Spanish agreement, with error rates not exceeding 10.26% for nominal gender and number agreement for the acceptability judgement, comprehension and production tasks.

The English NNS data are particularly interesting as they provide us with a picture of an even more advanced stage in IL development. The percentages for these near-native speakers of Spanish do not differ significantly from the native speakers' results for any of the features even though there is no nominal gender agreement in their L1 English.

9.4.2. BEGINNER VS. ADVANCED L2ERS

Given that all advanced learners display high levels of accuracy (> 89.74%) for all tasks and features individually, we also need to test that there is a difference with the results at the earlier stages of L2A. If the advanced results do not differ from the beginner results, this could mean that the features under examination were never problematic for L2ers even at beginner level and therefore high levels of accuracy at advanced level would not constitute evidence for access to UG.

If, however, the beginners and advanced results differ, this shows that the advanced L2ers have made progress in terms of grammatical features which are not present in some of the learners' L1, which would be consistent with the view that learners still have full access to UG. The following three sections will compare the beginner and advanced results per task. Only percentages incorrect usage will be given here and not tokens as this makes it easier to compare the different groups; the reader is referred to Section 9.5 for the exact number of tokens for the beginners.

9.4.2.1. Acceptability judgement task

Table 4 (and Figure 4a and b) show that accuracy rates are very high for the acceptability judgement task, both for the beginner groups (13.19% maximum error rate) and for the advanced groups (7.54% maximum). Nevertheless, there is a numerical difference between the stronger advanced L2ers and the weaker beginner group within each language group (e.g. between Dutch beginners and Dutch advanced L2ers). The only exception are the French beginners who perform marginally (0.46%) better on nominal number than the advanced group. The English near-native speakers of Spanish have improved further in comparison with the L1 English advanced group for nominal gender (and both perform 100% accurately on nominal number agreement).

Figure 4. a. % Incorrect answers AJT - nominal gender

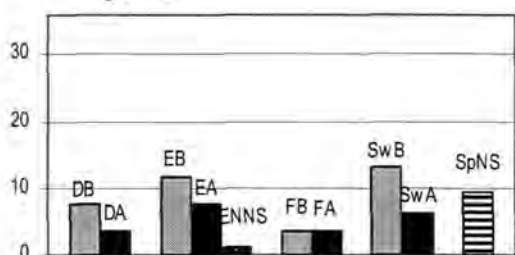


Figure 4.b. % Incorrect answers AJT – nominal number

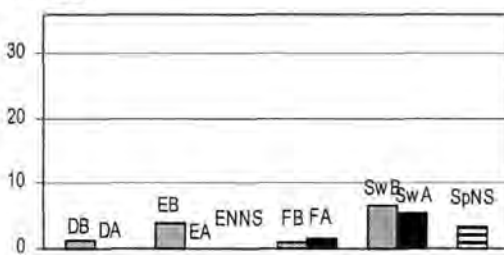


Table 4. % Incorrect answers AJT – nominal gender and nominal number

	DB	DA	EB	EA	ENNS	FB	FA	SwB	SwA	SpNS
Nom Gen	7.50	3.47	11.60	7.54	1.25	3.47	3.47	13.19	6.25	9.38
Nom Num	1.25	0.00	3.86	0.00	0.00	0.93	1.39	6.48	5.21	3.33

Due to the very high accuracy rates even at beginner level, none of these differences are statistically significant (independent t-test), except for the difference between the two levels of Dutch L2ers for nominal gender and the two Swedish groups for the same feature.

9.4.2.2. Five Differences and Daily Routine – Production

The differences between the beginner and advanced levels within each language group are much clearer for the production task, especially for nominal gender, as can be seen in Table 5 (and Figure 5a and b). This discrepancy in error rates between groups with the same L1 varies between 12.46% for the French groups and 26.41% for the L1 English speakers. L2ers produce very few errors against nominal number and even though all beginner groups perform worse than the advanced groups, there is not much variation. The English near-native speakers show a numerical improvement compared to the English advanced group.

Figure 5. a. % Incorrect answers Production - nominal gender

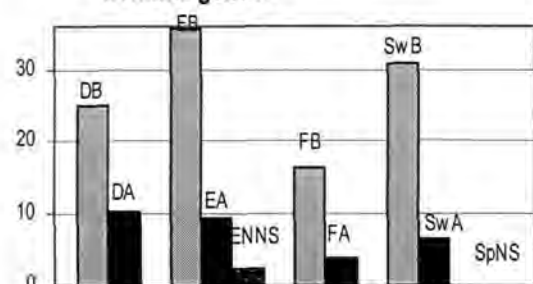


Figure 5.b. % Incorrect answers Production – nominal number

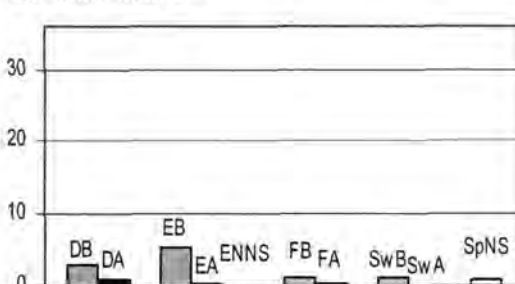


Table 5. % Incorrect answers Production – nominal gender and nominal number

	DB	DA	EB	EA	ENNS	FB	FA	SwB	SwA	SpNS
Nom Gen	24.91	10.26	35.69	9.28	2.36	16.21	3.75	30.63	6.25	0.00
Nom Num	2.84	0.85	5.10	0.35	0.00	1.18	0.36	1.24	0.00	0.84

For this feature, all advanced groups differ significantly at .05 level from their beginner counterparts. Only the English advanced group differs significantly from the English beginners for nominal number (5.10% vs. 0.35%). The difference in acquisition rates between gender and number agreement will be discussed in more detail in Section 9.5.

9.4.2.3. Comprehension

Error rates for the comprehension task are generally very low (see Table 6 and Figure 6a and b). The advanced groups are numerically better at gender than their beginner counterparts, but this difference is only significant for the Swedish L2ers. For nominal number, most groups are 100% accurate. The English near-native speakers are 100% accurate for both features.

Figure 6. a. % Incorrect answers Comprehension - nominal gender

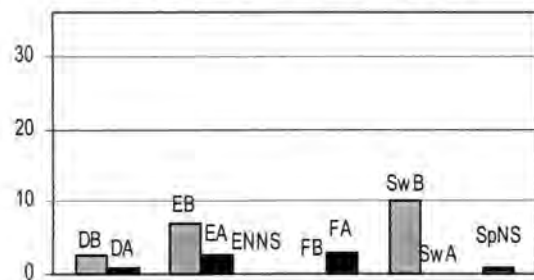


Figure 6. b. % Incorrect answers Comprehension – nominal number

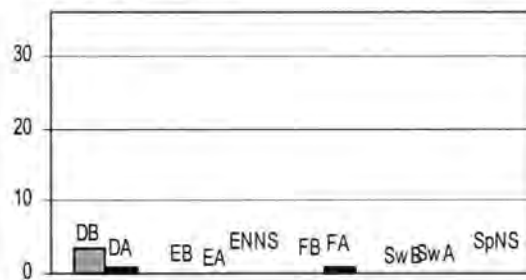


Table 6. % Incorrect answers Comprehension – nominal gender and nominal number

	DB	DA	EB	EA	ENNS	FB	FA	SwB	SwA	SpNS
Nom Gen	2.54	0.94	6.92	2.50	0.00	0.00	2.78	10.10	0.00	0.83
Nom Num	3.45	0.98	0.00	0.00	0.00	0.00	0.95	0.00	0.00	0.00

9.4.2.4. Conclusion beginner vs. advanced L2ers

From the results in Sections 9.4.2.1-9.4.2.3, it is clear that error rates are higher for the beginner groups than they are for their advanced level counterparts, especially for nominal gender agreement. The

advanced L2ers have, in other words, made progress with reference to the acquisition of nominal agreement, a finding which will be confirmed later in Section 9.9.

9.4.3. CONCLUSION HYPOTHESIS N1

The data clearly show that all advanced groups have improved in comparison with the corresponding beginner groups of the same L1 even though the margin for improvement for nominal number is limited by the initial very low percentage of incorrect answers at beginners level. All advanced groups achieve very high accuracy rates for nominal gender and number agreement for all tasks, regardless of whether or not these features are present in the L1.

From the results in this section, we can conclude that Hypothesis N1 is supported. The advanced L2 learners' results, and especially the L1 English NNS results, show that it is possible for non-native speakers of a language to acquire features not present in their L1. This is consistent with the view that they have access to UG during the course of L2A.

9.5. HYPOTHESIS N2: ACCURACY RATES FOR NOMINAL NUMBER AGREEMENT WILL BE SIMILAR TO NOMINAL GENDER AGREEMENT ACCURACY RATES FOR ALL GROUPS, EXCEPT FOR THE L1 ENGLISH BEGINNERS.

As L1 children acquire different features at different times (and rates) (Marrero & Aguirre 2003, Hernández Pina 1984), this raises the question of whether these differences also occur in L2A, and if so, whether the acquisition order of the different features in L1A and L2A is comparable. We will start by analysing the beginners' results.

9.5.1. BEGINNER L2ERS

9.5.1.1. Acceptability judgement task

Figure 7 (and Table 7) show that all beginners groups perform better on nominal number than on nominal gender agreement in the acceptability judgement task. The difference between the two features is largest for the L1 English group (3.86% vs. 11.60% error rate), followed closely by the L1 Swedish (6.48% vs. 13.19%) and L1 Dutch (1.25% vs. 7.50%) learners. All these differences are significant at .05 level. The discrepancy between number and gender agreement is not significant for the L1 French Beginners (0.93% vs. 3.47%).

Figure 7. % Incorrect answers AJT – nominal gender vs. number (Beginners)

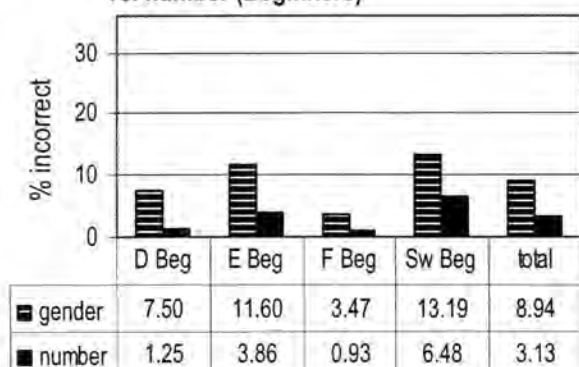


Table 7. Incorrect answers AJT – nominal gender vs. number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9	total n=40
gender	12/160	22/191	5/144	19/144	58/639
number	3/240	11/286	2/215	14/216	30/957

9.5.1.2. Five Differences – Production

All L2 beginners are much more accurate on number than gender agreement for the production task (see Table 8 and Figure 8). Given the higher error rates on the production task in general (see Section 9.6 for a more in-depth analysis), it comes as no surprise that the differences between nominal number and gender are higher for this task than the two other tasks amongst the beginners groups.

Figure 8. % Incorrect answers Production – nominal gender vs. number (Beginners)

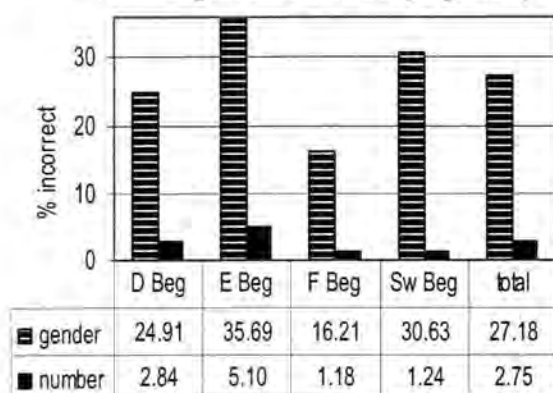


Table 8. Incorrect answers Production – nominal gender vs. number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9	total n=40
gender	70/281	111/311	41/253	68/222	290/1067
number	8/282	16/314	3/255	3/241	30/1092

The discrepancy in error rates for the production of nominal agreement is again smallest for the L1 French group (1.18% vs. 16.21%) and largest for the L1 English group (5.10% vs. 35.69%, i.e. a difference of more than 30%). Similarly to the acceptability judgement task, the L1 Dutch (2.84% vs. 24.91%) and Swedish (1.24% vs. 30.63%) groups take up an intermediate position. The differences between gender and number agreement are significant for all L1 groups ($p < .001$).

9.5.1.3. Comprehension

Figure 9. % Incorrect answers Comprehension – nominal gender vs. number (Beginners)

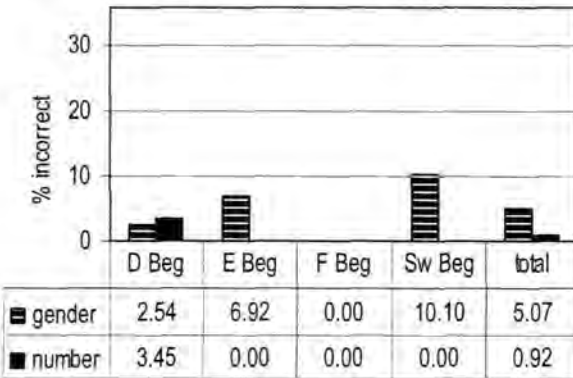


Table 9. Incorrect answers Comprehension – nominal gender vs. number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9	total n=40
gender	3/118	9/130	0/87	10/99	22/434
number	4/116	0/135	0/85	0/98	4/434

The data from the comprehension task (Table 9 and Figure 9) confirm that the L1 English and Swedish beginners have more difficulty with nominal gender than number agreement (6.92% vs. 0% and 10.10% vs. 0% error rate, respectively and both significantly different at .05 level). The Dutch data actually show a marginally better result for nominal gender agreement (3.45% vs. 2.54%), against all other trends but not significant ($t(9)=.13$; $p > .05$) given the low percentage of incorrect answers for this group. The L1 French beginners performed 100% accurately on this task.

9.5.1.4. Conclusion L2 beginners

The results for the three individual tasks, show that L2 learners at beginners level perform less accurately on nominal gender than nominal number agreement, regardless of the absence or presence of gender agreement in their L1. It should be noted however, that they perform extremely well on both features.

9.5.2. ADVANCED L2ERS

9.5.2.1. Acceptability judgement task

Figure 10. % Incorrect answers AJT – nominal gender vs. number (Adv, NNS, NS)

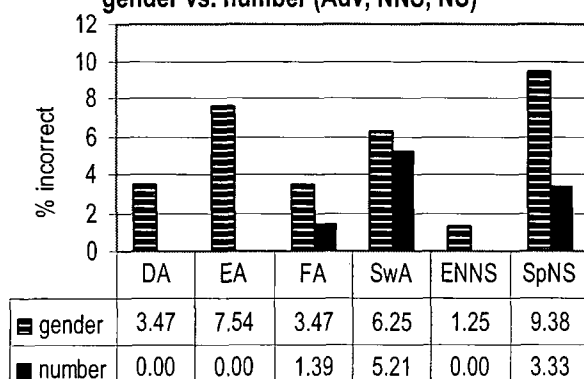


Table 10. Incorrect answers AJT – nominal gender vs. number (Adv, NNS, NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
gender	5/144	12/159	5/144	8/128	1/80	15/158
number	0/216	0/240	3/216	10/191	0/120	8/240

Table 10 (and Figure 10) show that all advanced groups have fewer problems with nominal number than with nominal gender agreement in the acceptability judgement task. The discrepancy between the two features is again largest for the L1 English group (0% vs. 7.54% error rate - statistically significant $t(9)=-2.84$; $p < .05$) but is smaller than 4% (and not significant) for all other advanced groups.

The difference between number and gender agreement for the L1 English near-native speakers (1.25%) has decreased considerably in comparison with the L1 English advanced group, and has become statistically not significant. The Spanish native speakers perform worse on gender agreement (9.38%) than any of the advanced or near-native groups and also incorrectly judge 3.33% tokens testing number agreement for this task. The difference between the two features is statistically significant ($t(9)=-2.49$; $p < .05$) for the native speakers.

9.5.2.2. Five Differences – Production

Figure 11. % Incorrect answers Production – nominal gender vs number (Adv, NNS, NS)

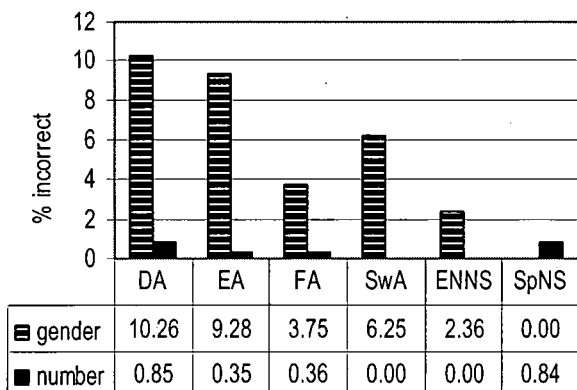


Table 11. Incorrect answers Production – nominal gender vs. number (Adv, NNS, NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
gender	24/234	27/291	10/267	8/128	3/127	0/238
number	2/236	1/283	1/275	0/197	0/129	2/238

The largest discrepancy between the two features is again visible in the results for the production task (Table 11 and Figure 11). Nominal gender is still more difficult than nominal number agreement for the advanced learners. The discrepancy between the two features is reduced to 3.39% for the French advanced learners and 8.93% for the L1 English group and none of the L1 groups produce more than 0.85% against number agreement. This means that the discrepancies between the two features are half to almost 5 times smaller for the advanced learners than for their L1 beginners peers, even though they are still statistically significant ($p \leq .002$ for all groups).

The L1 English near-native speakers do not have significantly ($t(4)=-2.44$; $p > .05$) more difficulty with nominal gender (2.36%) than number (0%) agreement for this task. The Spanish native speakers perform almost 100% accurately for these features.

9.5.2.3. Comprehension

The difference in (the very low) error rates for the two features is smallest for the comprehension task, as can be seen in Table 12 (and Figure 12). In this case, the discrepancy between gender and number agreement only ranges from 0% to 2.50% (not significant at .05 level) for the advanced groups and is non-existent for the near-native speakers. Advanced L2 learners of Spanish also do not have significantly more problems with the interpretation of nominal gender than number agreement.

Figure 12. % Incorrect answers Comprehension – nominal gender vs. number (Adv, NNS,NS)

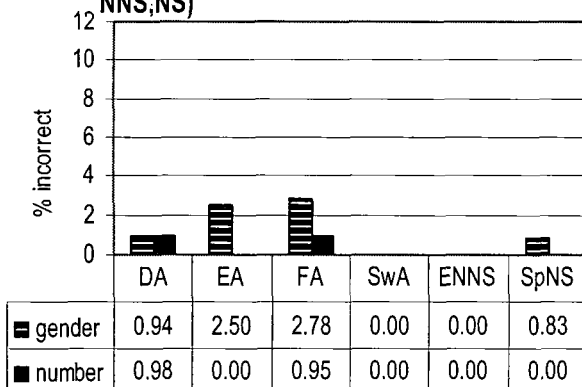


Table 12. Incorrect answers Comprehension – nominal gender vs. number (Adv, NNS, NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
gender	1/106	3/120	3/108	0/96	0/60	1/120
number	1/102	0/117	1/105	0/93	0/60	0/120

9.5.2.4. Conclusion advanced L2ers and near-native speakers

As discussed in Section 9.4, error rates for all features are much lower for the advanced learners than they are for the corresponding beginners groups. However, nominal gender agreement still presents more problems than nominal number agreement for all tasks, regardless of the presence or absence of these features in the participants' L1. These differences are, however, two to five times smaller than the differences between the features for the beginners groups.

Bearing in mind that the comparison between advanced learners and near-native speakers in Section 9.4 showed that the advanced group have not yet reached the L2A end state, there is reason to believe that the advanced groups will improve further and that the differences between nominal gender and number agreement will decrease accordingly. A comparison between the different levels of the English participants for the production task, for instance, confirms this: while the difference between the two features was 30.59% for the beginners and dropped to 8.93% for the advanced group, in the case of the near-native speakers this difference is further reduced to 2.36%.

9.5.3. CONCLUSION HYPOTHESIS N2

Hypothesis N2 is contradicted by the data in this section: in the nominal domain, Spanish L2ers experience more problems with nominal gender than nominal number agreement at beginners' level. This discrepancy is reduced significantly for the advanced groups and almost disappears for the near-native speakers.

9.6. HYPOTHESIS N3: AT LOWER PROFICIENCY LEVEL, RESULTS FROM THE COMPREHENSION AND ACCEPTABILITY JUDGEMENT TASKS WILL BE BETTER THAN RESULTS FROM THE PRODUCTION TASK.

This hypothesis aims to establish whether morphology is in place before syntax in L2A or vice versa (see also Section 6.7) by comparing the results between the different data collection tasks. If L2 learners have fewer problems with the acceptability judgement and comprehension tasks than the production task, this shows that they are able to correctly interpret or judge agreement morphology and thus that the syntactic features and feature strengths are present in their IL grammar. If there is no difference by task, this would suggest that L2ers have problems with the syntactic features themselves.

High accuracy rates on the acceptability judgement and comprehension tasks combined with a higher rate of incorrect answers in the production task would suggest that L2 learners, rather than experiencing syntactic problems, have problems *producing* the correct agreement morphology. If L2 morphology is in place before L2 syntax, a difference between the various tasks would not be expected.

9.6.1. BEGINNER L2ERS

9.6.1.1. Nominal gender

There is a clear difference between the different tasks in terms of nominal gender, as illustrated in Table 13 (and Figure 13). All L1 groups perform worse on the production task (16.21%-35.69% error rate) than on the acceptability judgement (3.47%-13.19%) or comprehension (0%-10.10%) tasks.

The difference between the production task and the acceptability judgement task is significant at .05 level for all groups. The same also applies to the difference between the production task and the comprehension task, as L2ers have even fewer problems with the comprehension task than the acceptability judgement task. This discrepancy between the acceptability judgement and comprehension task is not statistically significant at .05 level for any of the L1 groups. These data clearly show that learners have more problems producing correct surface inflection for nominal gender agreement than interpreting or judging gender agreement morphology.

Figure 13. % Incorrect answers per task – nominal gender (Beginners)

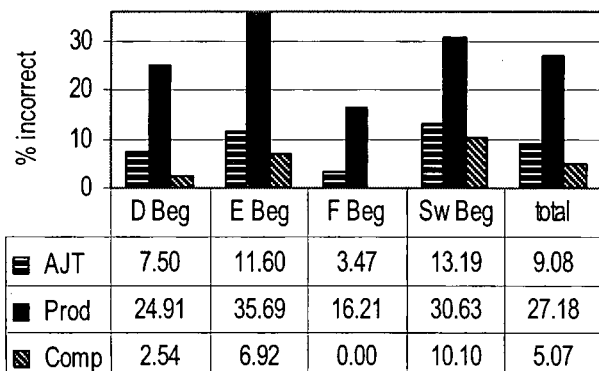


Table 13. Incorrect answers per task – nominal gender (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9	total n=40
AJT	12/160	22/191	5/144	19/144	58/639
Prod	70/281	111/311	41/253	68/222	290/1067
Comp	3/118	9/130	0/87	10/99	22/434

Table 14 (and Figure 14) provide details of the number of correct items that were incorrectly judged to be incorrect, as well as the number of incorrect items that were incorrectly judged correct for the acceptability judgement task. The largest difference can be ascribed to the English beginners; incorrect items that are incorrectly accepted make up 63.64% of the total number of errors against nominal gender in the acceptability judgement task.

Figure 14. Incorrectly judged items AJT – nominal gender: correct vs. incorrect items (Beginners)

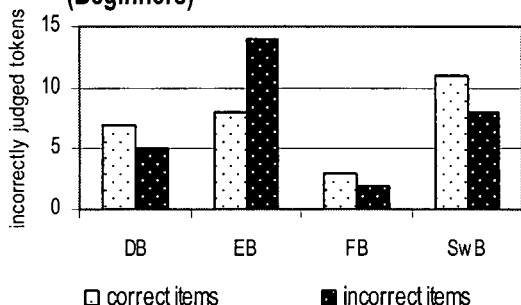


Table 14. Incorrectly judged items AJT – nominal gender: correct vs. incorrect items (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
Correct items	7/12	8/22	3/5	11/19
Incorrect items	5/12	14/22	2/5	8/19

9.6.1.2. Nominal number

As can be seen in Table 15 (and Figure 15) inaccuracy rates for nominal number only vary between 0% and 6.48% across all tasks. This extremely good performance on number agreement makes it difficult to compare the various tasks in a meaningful way for most L1 groups. There is very little variation between the different tasks, especially for the L1 Dutch, English and French beginners.

The largest difference can be found for the L1 Swedish group, who actually perform slightly better on the production task than on the acceptability judgement task for nominal number agreement (a difference of 5.24%).

Figure 15. % Incorrect answers per task – nominal number (Beginners)

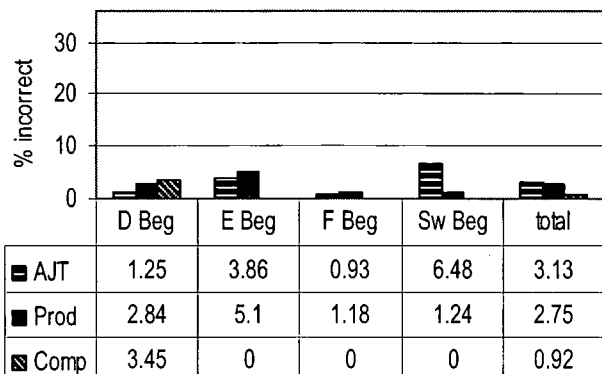


Table 15. Incorrect answers per task – nominal number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9	total n=40
AJT	3/240	11/286	2/215	14/216	30/957
Prod	8/282	16/314	3/255	3/241	30/1092
Comp	4/116	0/135	0/85	0/98	4/434

For the acceptability judgement task, the number of correct items that were incorrectly rejected, as well as the number of incorrect items that were incorrectly accepted are detailed in Table 16 (and Figure 16). The largest difference again can be ascribed to the English beginners for whom the proportion of incorrectly accepted items is 72.73% of the total number of errors.

Figure 16. Incorrectly judged items AJT – nominal number: correct vs. incorrect items (Beginners)

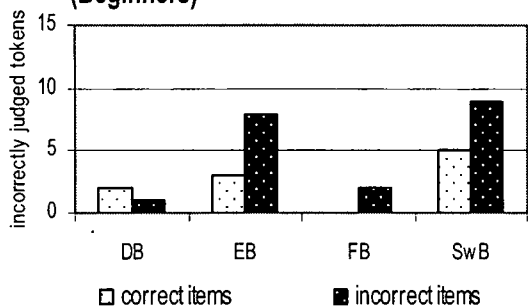


Table 16. Incorrectly judged items AJT – nominal number: correct vs. incorrect items (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
Correct items	2/3	3/11	0/2	5/14
Incorrect items	1/3	8/11	2/2	9/14

9.6.1.3. Conclusion beginner L2ers

Error rates for nominal number are generally too low to draw any conclusions regarding the relative difficulty of the different tasks for L2ers. The data for nominal gender in Section 9.6.1.1, however, show that all beginners, regardless of their L1, have least difficulty with the comprehension task² for nominal gender

² Given that the comprehension task relies on the use of null nouns, it necessarily involves nominal agreement between a determiner, null noun and attributive adjective, whereas the other tasks involve nominal agreement (mainly) between a determiner, noun and predicative adjective. It is possible that this difference may affect results to some degree.

agreement, and that the L2ers also perform significantly better on the grammaticality judgement than production task. L2ers at beginners level thus clearly experience more problems producing correct nominal agreement morphology than interpreting or judging nominal inflection.

9.6.2. ADVANCED L2ERS

9.6.2.1. Nominal gender

Even though Table 17 (and Figure 17) show that error rates for nominal gender agreement are low amongst advanced L2ers of Spanish (a maximum error rate of 10.26%), they still perform numerically worse on the production task than on any of the other tasks for nominal gender, with the exception of the L1 Swedish group who make the same amount of errors for the acceptability judgement task.

The difference between the production and comprehension task is statistically significant at .05 level for the Dutch, English and Swedish advanced L2ers. The difference between the acceptability judgement task and the production task is only statistically significant for the L1 Dutch group ($t(8)=2.73$; $p < .05$). It is also interesting to note that the differences between the tasks have decreased in comparison with those found at beginner level.

Figure 17. % Incorrect answers per task – nominal gender (Adv, NNS & NS)

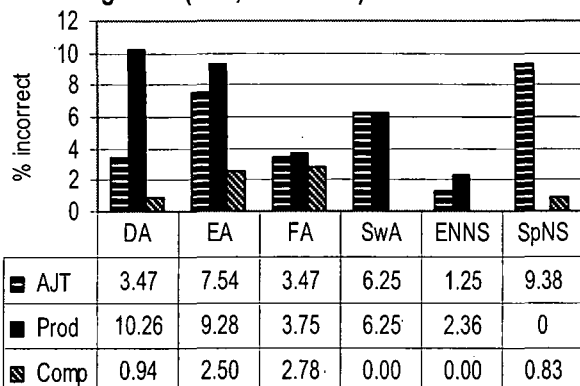


Table 17. Incorrect answers per task – nominal gender (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
AJT	5/144	12/159	5/144	8/128	1/80	15/158
Prod	24/234	27/291	10/267	8/128	3/127	0/238
Comp	1/106	3/120	3/108	0/96	0/60	1/120

There is very little variation between the acceptability judgement, comprehension and production tasks for the near-native speakers (0%-2.36% error rate). For the native speakers of Spanish, there is a large discrepancy between the higher error rate for the acceptability task and the (almost) 100% accuracy rate on the other tasks. These differences are statistically significant at .05 level.

Table 18 (and Figure 18) provide details of the number of correct items incorrectly judged incorrect and the number of incorrect items incorrectly accepted for the acceptability judgement task. The discrepancy is largest for the native speakers of Spanish who make more errors than any of the advanced groups or the

native speakers and for whom incorrectly rejected correct items take up 86.67% of the total number of errors.

Figure 18. Incorrectly judged items AJT – nominal gender: correct vs. incorrect items (Adv, NNS & NS)

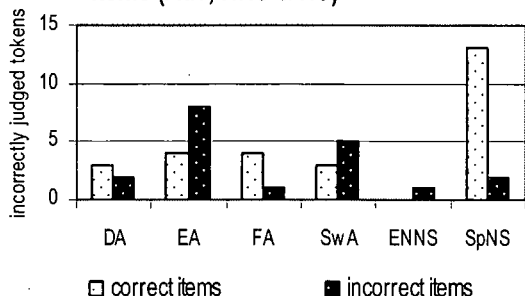


Table 18. Incorrectly judged items AJT – nominal gender: correct vs. incorrect items (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
Correct items	3/5	4/12	4/5	3/8	0/1	13/15
Incorrect items	2/5	8/12	1/5	5/8	1/1	2/15

9.6.2.2. Nominal number

Given the small differences between the tasks for nominal number at beginner level (see Section 9.6.1.2), and the highly accurate performance (> 96.79%) of the advanced learners for this feature, it is not surprising that the data in Table 19 (and Figure 19) show very little variation between the different tasks for advanced learners. None of the differences between the tasks are statistically significant at .05 level. The near-native speakers do not make any errors against nominal number in any of the tasks.

Figure 19. % Incorrect answers per task – nominal number (Adv, NNS & NS)

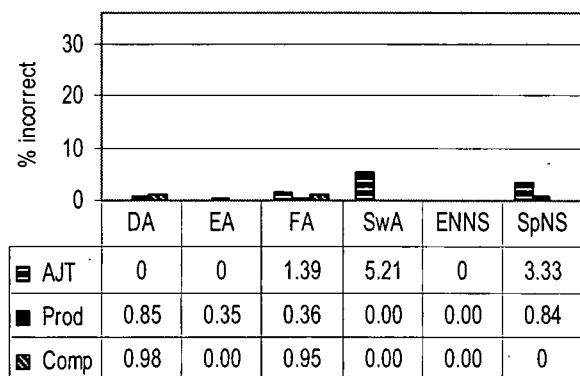


Table 19. Incorrect answers per task – nominal number (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
AJT	0/216	0/240	3/216	10/191	0/120	8/240
Prod	2/236	1/283	1/275	0/197	0/129	2/238
Comp	1/102	0/117	1/105	0/93	0/60	0/120

The number of incorrectly rejected correct items and incorrectly accepted incorrect items for the acceptability judgement task are provided in Table 20 (and Figure 20). The largest discrepancy can again be ascribed to the native speakers of Spanish, who incorrectly reject correct items 87.50% out of the total number of errors they make.

Figure 20. Incorrectly judged items AJT – nominal number: correct vs. incorrect items (Adv, NNS & NS)

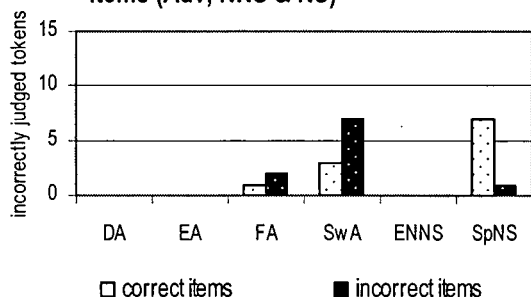


Table 20. Incorrectly judged items AJT – nominal number: correct vs. incorrect items (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
Correct items	-	-	1/3	3/10	-	7/8
Incorrect items	-	-	2/3	7/10	-	1/8

9.6.2.3. Conclusion advanced L2ers

The data in this section show that the advanced learners still have more problems producing correct surface inflection for nominal gender than interpreting or judging gender agreement morphology, even though the difference between the tasks has decreased in comparison with the beginners' results. There are no significant differences between the tasks for nominal number at this level. The near-native speakers of English perform highly accurately for both features involved in nominal agreement. The native speakers do not make any errors against nominal agreement in the production task. This latter task therefore seems to be the most reliable indicator of native-like knowledge.

The native speaker data stands out in certain respects: in comparison with the results of the advanced learners and near-native speakers, the native speakers have one of the highest error rates for the acceptability judgement tasks (9.38% for nominal gender, 3.33% for nominal number), but are (almost) 100% accurate on the production and comprehension task. This is almost the reverse for the non-native speakers of Spanish who generally experience most problems with the production task for nominal gender.

Feedback about the different tasks from the native speakers revealed that they also perceive the acceptability judgement task as the most difficult task. When asked about the reason, this seems largely due to the fact that native speakers find it much more difficult to separate 'grammaticality (in)correct' judgements from 'stylistically preferred' opinions in their L1 than non-native speakers (for the L2),³ even though both the instructions and the trainer items for the acceptability judgement task should have made this clear.

³ A good illustration of this statement is the following recurring conversation and a topic of endless disagreement between the native speakers which most researchers who deal with native speakers will be familiar with:

NS1: 'I wouldn't say it this way.' – NS2: 'Why?' – NS1: 'I would say it differently.' – NS2: 'But I would say it this way, it's fine.' – NS1: '(It's not wrong but) I would never say this.' Etc. (Ad infinitum).

This qualitative observation is supported by the high percentage of correct sentences rejected by native speakers in the acceptability judgement task (see Sections 9.6.2.1-9.6.2.2) and the fact that 8 out of 10 native speakers still scored more than 94% accurately for this task as a whole. Only two native speakers (71.01% and 82.61%) seem to have problems with the distinction between 'grammatically correct' and 'stylistically preferred' in their mother tongue.

9.6.3. CONCLUSION HYPOTHESIS N3

From the results in Sections 9.6.1 and 9.6.2 we can conclude that Hypothesis 3 is supported: L2 learners at beginners level have significantly fewer problems with the comprehension and acceptability judgement tasks than the production task for nominal gender. The difference between the tasks has decreased for the advanced learners and has almost disappeared for the near-native speakers. From the native speaker data, it is clear that the results for the production task are the most reliable indicator of native speaker knowledge.

9.7. HYPOTHESIS N4: AT LOWER PROFICIENCY LEVEL, L1 DUTCH, FRENCH AND SWEDISH L2ERS OF SPANISH WILL PERFORM BETTER THAN L1 ENGLISH LEARNERS OF SPANISH ON NOMINAL AGREEMENT.

This hypothesis aims to shed light on the issue of transfer in L2A. If L2ers transfer their L1 grammar into the L2 initial state, as predicted by Schwartz & Sprouse's (1996) Full Transfer/Full Access theory, we would expect L1 English learners to experience more problems with the acquisition of nominal agreement in Spanish since definite articles and (attributive or predicative) adjectives are not inflected for gender or number in English. The other groups of L2 learners should have fewer problems as nominal agreement between determiners, nouns and adjectives does exist in their L1s.

Given that English does have some number agreement on determiners (cf. *this* book – *these* books), we expect problems with agreement morphology to be most visible for gender, as this syntactic feature is not instantiated in English. We would expect the difference between L1 English and other learners to be smaller or non-existent at advanced level as Section 9.4 showed that all L2ers, regardless of their L1, can acquire agreement features, even if these are not present in their L1.

9.7.1. BEGINNER L2ERS

9.7.1.1. Acceptability judgement task

Table 21 (and Figure 21) show that all beginners groups perform better on nominal number than on nominal gender agreement in the acceptability judgement task and that error rates are generally quite low (< 13.19%) for this task, particularly for nominal number (6.48% maximum error rate).

The L1 Swedish (13.19% error rate for gender) and English (11.60%) beginners score least accurately on both gender and number agreement. The L1 Dutch (7.50%) and French (3.47%) groups follow in third and fourth place respectively. The only statistically significant difference is between the French and Swedish beginners (post-hoc Scheffé means differences $p < .05$) - a difference of almost 10% for nominal gender.

Figure 21. % Incorrect answers AJT – nominal gender & number (Beginners)

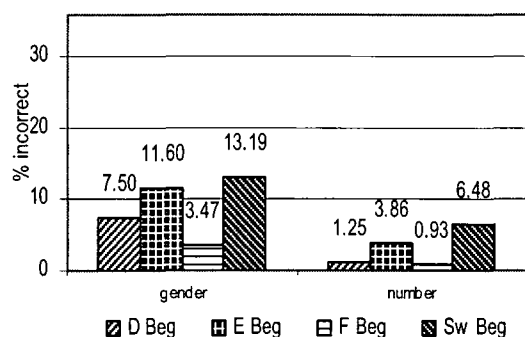


Table 21. Incorrect answers AJT – nominal gender & number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
gender	12/160	22/191	5/144	19/144
number	3/240	11/286	2/215	14/216

9.7.1.2. Five Differences – Production

In terms of production, the task that turned out to be the most reliable indicator of native speaker knowledge (see Section 9.6), clearer differences can be noted between the different L1 groups for nominal gender (see Table 22 and Figure 22). The L1 French beginners perform most accurately (16.21% error rate) and are followed by the L1 Dutch group (24.91%). The Swedish (30.63%) and English (35.69%) beginners make most errors in the production of nominal gender agreement.

The differences between these two latter groups on the one hand and the French group on the other hand are statistically significant (means differences $p < .05$ Scheffé for both comparisons). Error rates for the production of nominal number agreement are generally too low to make meaningful comparisons. None of the comparisons between the different groups approaches statistical significance at .05 level for this feature.

Figure 22. % Incorrect answers Production – nominal gender & number (Beginners)

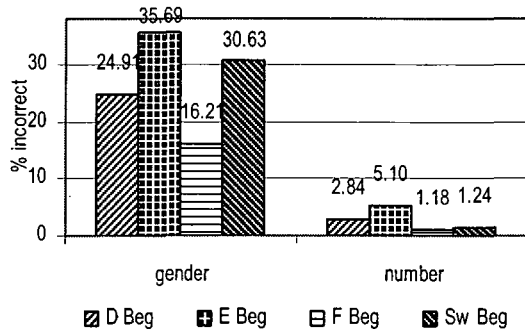


Table 22. Incorrect answers Production – nominal gender & number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
gender	70/281	111/311	41/253	68/222
number	8/282	16/314	3/255	3/241

9.7.1.3. Comprehension

Table 23 (and Figure 23) provide the results for the comprehension task. Inaccuracy rates for nominal gender are low for this task, with a maximum error rate of 10.10%. The largest difference (10.10%) can be found between the 100% accurate French beginners and the weakest group (L1 Swedish). The English beginners make 6.92% errors and the Dutch group 2.54%.

The difference between the Swedish and French L2ers is the only one that approaches statistical significance (Scheffe means differences $p = .059$) for gender. In terms of nominal number agreement, almost all groups perform 100% accurately on this feature, except for the L1 Dutch group (with a very low error rate of 3.45%). No conclusions can thus be drawn from the data for nominal number.

Figure 23. % Incorrect answers Comprehension – nominal gender & number (Beginners)

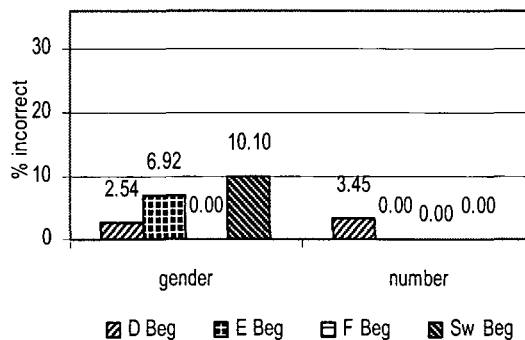


Table 23. Incorrect answer Comprehension – nominal gender & number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
gender	3/118	9/130	0/87	10/99
number	4/116	0/135	0/85	0/98

9.7.1.4. Conclusion L2 beginners

The results in Section 9.7.1 show that the English and Swedish L2ers have more problems than the L1 Dutch group with nominal agreement, particularly gender morphology, at lower proficiency level. The French beginners perform most accurately.

9.7.2. ADVANCED L2ERS

We will now check whether the difference between the different groups of advanced learners is smaller or non-existent at advanced level. This would follow from Section 9.4, where it was shown that all L2ers, regardless of their L1, can acquire agreement features, even if these are not present in their L1. We will focus on the production task, as the beginners displayed larger differences in error rates (and higher error rates) for this task than for any of the other tasks.

Figure 24. % Incorrect answers Production – nominal gender & number (Adv, NNS, NS)

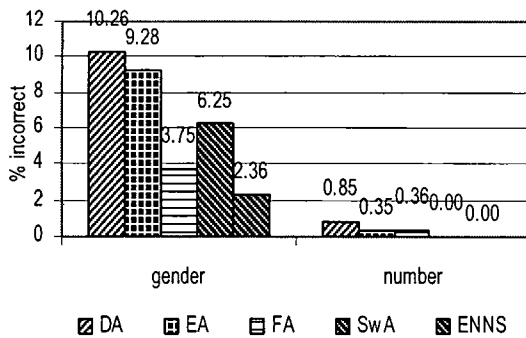


Table 24. Incorrect answers Production – nominal gender & number (Adv, NNS, NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5
gender	24/234	27/291	10/267	8/128	3/127
number	2/236	1/283	1/275	0/197	0/129

Table 24 (and Figure 24) show that the differences between the different L1 groups for nominal gender only vary between 0.98% (Dutch vs. English advanced L2ers) and 6.51% (Dutch vs. French advanced L2ers). These differences are much smaller than the differences between the different L1 groups at beginners level (5.06%-19.48%) and are no longer significant (although they approach .05 significance level for the pairing of Dutch-French and English-French groups).

The Dutch advanced L2ers have the highest error rate (10.26%), followed by the L1 English (9.28%) and Swedish (6.25%) groups. The French advanced learners once again perform most accurately. There is hardly any variation between the different groups for nominal number agreement. The English near-native speakers perform more accurately than the English advanced group.

9.7.3. CONCLUSION HYPOTHESIS N4

The data show that, even though there is a difference between the less accurate English beginners and the more accurate Dutch and French learners as predicted, the comparison with the L1 Swedish group is less straightforward. English beginners have more problems than any of the other groups with nominal gender in the production task and are closely followed by the Swedish L1 group. This order is reversed for

the acceptability judgement and comprehension task. The L1 Dutch and French groups follow in third and fourth place respectively, for all tasks. The high accuracy rates for nominal number make it hard to draw meaningful comparisons between the different L1 groups for this feature.

The data for nominal gender suggest that Hypothesis N4 is rejected: contrary to the predictions made by Hypothesis N4, there is no significant difference between the English and Swedish groups for nominal gender, even though gender is realised in Swedish but not in English. There are also differences in the acquisition rate of nominal agreement amongst the beginner groups whose L1s realise nominal agreement overtly, again contrary to expectations. The L1 Dutch group performs better than the Swedish beginners and the L1 French group has lower error rates than the Dutch beginners. The differences between the different L1 groups for nominal gender have decreased at advanced level.

9.8. HYPOTHESIS N5: AT LOWER PROFICIENCY LEVEL,

A) L1 ENGLISH SPEAKERS WILL PERFORM BETTER ON L2 SPANISH VERBAL AGREEMENT THAN ON NOMINAL AGREEMENT.

B) L1 DUTCH AND FRENCH SPEAKERS WILL PERFORM EQUALLY WELL ON L2 SPANISH NOMINAL AND VERBAL AGREEMENT.

C) L1 SWEDISH SPEAKERS WILL PERFORM BETTER ON L2 SPANISH NOMINAL THAN ON VERBAL AGREEMENT.

The discussion of this hypothesis will be postponed until the next chapter, as it involves both nominal agreement data (discussed in the present chapter) and verbal agreement data (discussed in the following chapter).

9.9. HYPOTHESIS 6: AT LOWER PROFICIENCY LEVEL, L2ERS WILL BE BETTER AT TEST TOKENS WHERE THE INTERVENER MATCHES THE HEAD NOUN IN FEATURES THAN AT TEST TOKENS WHERE THE HEAD NOUN AND INTERVENER HAVE OPPOSITE FEATURES.

Hypothesis 6 aims to establish whether L2 learners have really *acquired* Spanish agreement relations or are instead using local, linearly determined strategies. If participants judge or produce agreement morphology based on linear closeness rather than hierarchical structures, we would expect them to make more agreement errors when the intervening noun has opposite features to the head noun (e.g. a feminine head noun with a masculine intervener as in (1)a), than when the two nouns have matching features ((1)b).

- (1) a. La niña con el libro es china / *chino.
*The.FEM.SG girl.FEM.SG with the.MASC.SG book.MASC.SG be.3SG Chinese-FEM / *MASC.SG*
 'The girl with the book is Chinese.'
- b. La niña con la bicicleta es china / *chino.
*The.FEM.SG girl.FEM.SG with the.FEM.SG bike.FEM.SG be.3SG Chinese-FEM / *MASC.SG*
 'The girl with the bike is Chinese.'

The following two sections will explore this issue for nominal gender (9.9.1) and nominal number (9.9.2).⁴

9.9.1. NOMINAL GENDER: INTERVENER WITH MATCHING VERSUS OPPOSITE FEATURES TO THE HEAD NOUN

9.9.1.1. Beginner L2ers

The data for the acceptability judgement and production tasks combined (Table 25⁵ and Figure 25) show that there are clear differences between the two contexts (matching or opposite features) at beginners level. These differences are clearly larger for the production tasks (between 17.53% and 40.79%) than for the acceptability judgement task (between 0% and 10.35%), which is not surprising if we bear in mind that the L2 learners turned out to have fewer problems recognising accurate and inaccurate concord than producing concording agreement morphology (see Section 9.6).

⁴ Readers are reminded that due to the nature of the task, the test items in the comprehension task did not contain an intervener in the main DP (see Section 7.4). The results of this task are therefore not relevant to this section.

⁵ In this section, the following extra abbreviations will be used for tables and figures: H (head noun), I (intervening noun), match (matching features between the head noun and the intervener, e.g. MASC-MASC), opp (opposite features between the head noun and the intervening noun, e.g. MASC-FEM) and target (target for agreement, i.e. the head noun). Thus in the sentence 'El niño con los libros es alto.' (*The boy with the books is tall*) H = 'niño' (boy) = target, I = 'libros' (books), opp = SG-PL. See Section 7.2.4 for a detailed explanation of these terms.

Figure 25. % Incorrect answers AJT & Prod – nominal gender (Beginners)

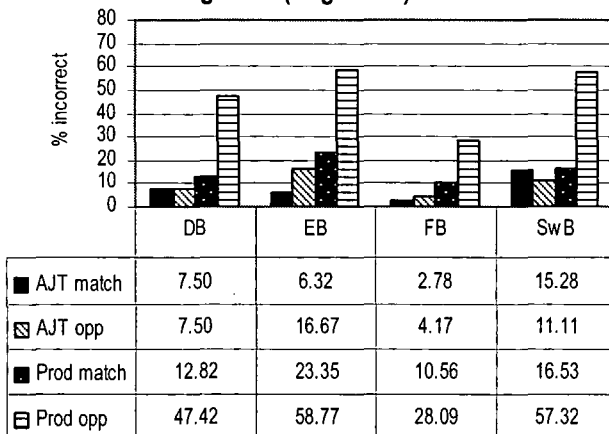


Table 25. Incorrect answers AJT & Prod – nominal gender (Beginners)

		D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
AJT	match	6/80	6/95	2/72	11/72
	opp	6/80	16/96	3/72	8/72
Prod	match	20/156	39/167	15/142	20/121
	opp	46/97	67/114	25/89	47/82

A. ACCEPTABILITY JUDGEMENT TASK

For the acceptability judgement task, the difference between the two contexts is biggest amongst the English beginners: they perform much more accurately when the features of the nouns are matching (6.32% error rate) than when they are opposite (16.67%). There are no significant differences for the acceptability judgement task amongst the other L1 groups. The Swedish beginners perform slightly better (4.17%) on the test tokens with matching features, but this difference is also not significant.

The discrepancies between the two contexts are more pronounced for the production task. It is clearly much more difficult for participants to produce correct agreement morphology when the head noun and intervening noun differ in terms of gender. The difference between the two contexts is smallest for the L1 French group (10.56% vs. 28.09%) and largest for the Swedish beginners (16.53% vs. 57.32%). The L1 Dutch (12.82% vs. 47.42%) and English (23.35% vs. 58.77%) groups take up an intermediate position.

When examining the tasks individually and comparing accuracy rates for feminine versus masculine target gender, we can see that for the acceptability judgement task (Table 26 and Figure 26) there is no obvious bias towards test items containing a feminine or a masculine head noun. Amongst the English beginners, there is almost no difference at all between the two genders.

Figure 26. % Incorrect answers AJT – nominal gender (Beginners)

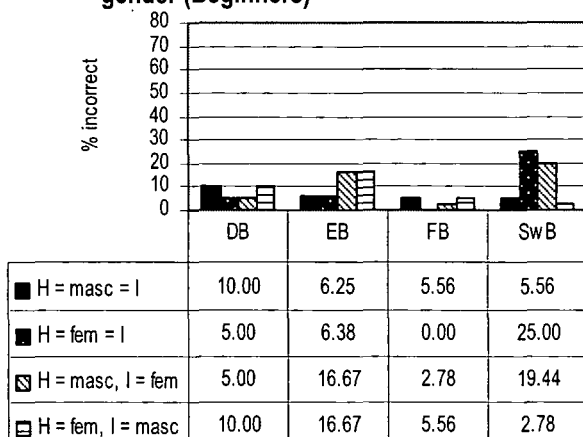


Table 26. Incorrect answers AJT – nominal gender (Beginners)

	target	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
match	masc	4/40	3/48	2/36	2/36
	fem	2/40	3/47	0/36	9/36
opp	masc	2/40	8/48	1/36	7/36
	fem	4/40	8/48	2/36	1/36

The Dutch and French L1 groups perform slightly better on items containing a feminine target noun when the gender of the intervener matches the gender of the head noun, but perform slightly worse on feminine target items when the head noun and intervener have opposite gender.

The results of the Swedish L1 group is a mirror image in that they perform better on masculine (5.56% error rate) than feminine (25%) items when the head noun and intervener have matching gender, but have more difficulty judging masculine (19.44%) than feminine (2.78%) items when the head noun and intervener have opposite gender. In other words, there is no obvious relationship between the gender of the head noun and accuracy rates for the acceptability judgement task.

B. FIVE DIFFERENCES - PRODUCTION

This finding is very different for the production task, as can be seen in Table 27 (and Figure 27). Almost all beginners groups have more difficulties producing correct gender agreement morphology when the head noun is feminine, regardless of whether the head noun and intervener have matching or opposite gender. Discrepancies between tokens with masculine and feminine head nouns vary widely.

Figure 27. % Incorrect answers Prod – nominal gender (Beginners)

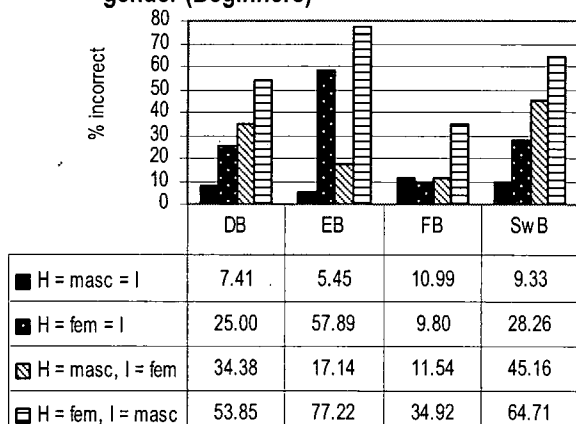


Table 27. Incorrect answers Prod – nominal gender (Beginners)

	target	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
match	masc	8/108	6/110	10/91	7/75
	fem	12/48	33/57	5/51	13/46
opp	masc	11/32	6/35	3/26	14/31
	fem	35/65	61/79	22/63	33/51

The French L1 group performs almost equally well on both genders when the gender of the head noun is identical to the gender of the intervening noun (10.99% and 9.80% error rate for masculine and feminine head nouns, respectively). This discrepancy between the two contexts increases for the Swedish (9.33% vs. 28.26%) and Dutch (7.41% vs. 25%) speakers and rises to 52% for the English learners of L2 Spanish (5.45% vs. 57.89%).

When the head noun and intervener have opposite gender features, the Dutch L1 group clearly have more problems producing correct agreement morphology when the target gender is feminine rather than masculine (53.85% vs. 34.38% error rates, respectively). The next biggest discrepancy between the two contexts can be found amongst the Swedish beginners (64.71% vs. 45.16%). They are followed by the French (34.92% vs. 11.54%) L2ers. Again, the discrepancy is by far the largest for the L1 English group (77.22% vs. 17.14% for feminine vs. masculine head nouns).

C. CONCLUSION BEGINNER L2ERS

For the acceptability judgement task, there is no obvious relationship between the gender of the head noun and error rates in contexts with matching or opposite gender features. For the production task, all L1 groups have more problems producing correct gender agreement morphology when the head noun and intervening noun have opposite features. They make more errors when the head noun is feminine, an observation which applies to both contexts where the head noun and intervener have matching or opposite gender.

9.9.1.2. Advanced L2ers

Table 28 (and Figure 28) provide the data for the advanced learners, near-native and native speakers of Spanish. There are no significant differences between the two contexts (matching or opposite features) for the acceptability judgement task for any of the advanced groups. There are, however, still some large differences between test items with matching (least problematic) or opposite (most problematic) features for the production task for all L1 groups except the French advanced L2ers.

These differences are smallest for the L1 Dutch (3.85% vs. 20.88%) and English (1.43% vs. 19.27%) groups. The discrepancy between the two contexts is largest for the Swedish advanced L2ers (2.13% vs. 31.91%). The data for the production task constitute a noticeable reduction in discrepancy between the two contexts (matching and opposite features) in comparison with the beginners, but are clearly not yet native-like.

Figure 28. % Incorrect answers AJT & Prod – nominal gender (Adv, NNS & NS)

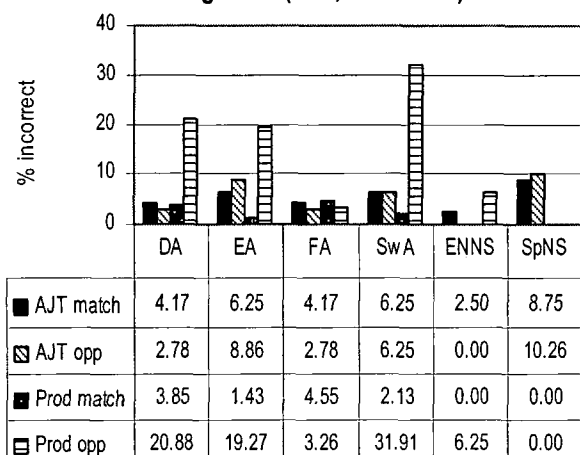


Table 28. Incorrect answers AJT & Prod – nominal gender (Adv, NNS & NS)

		DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
AJT	match	3/72	5/80	3/72	4/64	1/40	7/80
	opp	2/72	7/79	2/72	4/64	0/40	8/78
Prod	match	5/130	2/140	6/132	2/94	0/60	0/120
	opp	19/91	21/109	3/92	15/47	3/48	0/92

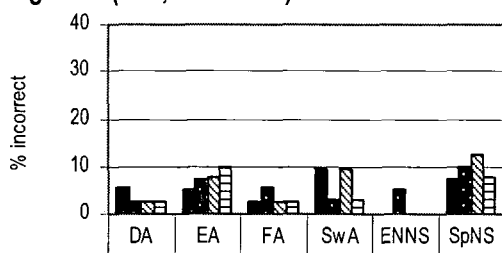
The English near native speakers perform much more accurately, with only small differences between matching and opposite features for both the acceptability judgement (2.50% vs. 0%) and production (0% vs. 6.25%) tasks, a further reduction in the discrepancy between the two contexts (matching or opposite features) for the L1 English L2ers.

A. ACCEPTABILITY JUDGEMENT TASK

From Table 29 (and Figure 29) it is clear that there are no major differences between accuracy rates for feminine versus masculine target gender for matching vs. opposite features for the advanced learners' acceptability judgement results. The largest discrepancy between the error rates for masculine and

feminine gender can be ascribed to the L1 Swedish group (9.38% vs. 3.13%) who have more problems correctly judging agreement morphology when the head noun is masculine.

Figure 29. % Incorrect answers AJT – nominal gender (Adv, NNS & NS)



■ H = masc = I	5.56	5.00	2.78	9.38	0.00	7.50
■ H = fem = I	2.78	7.50	5.56	3.13	5.00	10.00
▨ H = masc, I = fem	2.78	7.69	2.78	9.38	0.00	12.50
▨ H = fem, I = masc	2.78	10.00	2.78	3.13	0.00	7.89

Table 29. Incorrect answers AJT – nominal gender (Adv, NNS & NS)

	target	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
match	masc	2/36	2/40	1/36	3/32	0/20	3/40
	fem	1/36	3/40	2/36	1/32	1/20	4/40
opp	masc	1/36	3/39	1/36	3/32	0/20	5/40
	fem	1/36	4/40	1/36	1/32	0/20	3/38

For the English near-native speakers, feminine target items are more difficult to judge accurately than masculine target items when the features of the head noun and intervening noun match (5% vs. 0% error rate). These L2ers judge gender agreement morphology 100% accurately when the gender of the head noun is different from the gender of the intervener.

B. FIVE DIFFERENCES - PRODUCTION

The results for the production task (Table 30 and Figure 30) reveal larger discrepancies between both genders. When the gender of the head noun is identical to the gender of the intervener, the gap between the two genders has reduced significantly in comparison with the beginners' results. The L1 Dutch produce slightly more errors when the target is masculine, whereas the L1 English and Swedish advanced L2ers perform slightly better on the masculine items. The largest discrepancy between the two genders can be ascribed to the L1 French group (7.14% error rate for masculine target items, 0% for feminine items).

When the head noun and intervener have opposite features, all advanced groups except the French still have significantly more problems producing the correct agreement morphology for feminine test items. This difference is smallest for the L1 Dutch group (12.00% vs. 24.24%), followed by the Swedish advanced L2ers (23.53% vs. 36.67%) and finally the L1 English group (0% vs. 28.38%).

Figure 30. % Incorrect answers Prod – nominal gender (Adv, NNS & NS)

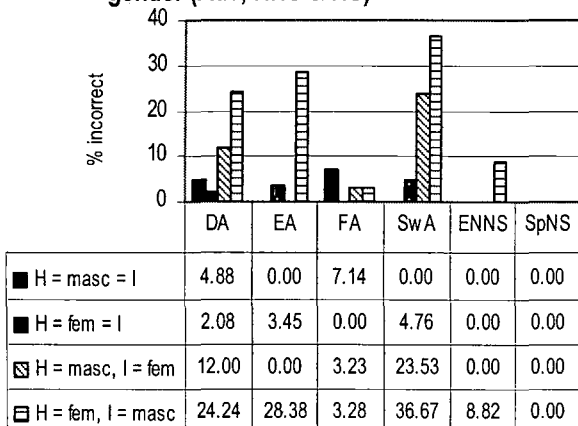


Table 30. Incorrect answers Prod – nominal gender (Adv, NNS & NS)

	target	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
match	masc	4/82	0/82	6/84	0/52	0/33	0/78
	fem	1/48	2/58	0/48	2/42	0/27	0/42
opp	masc	3/25	0/35	1/31	4/17	0/14	0/33
	fem	16/66	21/74	2/61	11/30	3/34	0/59

The English near-native speakers are 100% accurate in producing the correct gender agreement morphology when the head noun and intervener have matching features, for both masculine and feminine targets. In the case of opposite features, the near-native speakers are again 100% accurate when the target is masculine, but produce 8.69% errors when the target is feminine. Again, this is a vast improvement on the scores of the English advanced group who still produced 28.38% errors against these items.

C. CONCLUSION ADVANCED L2ERS

Advanced learners of L2 Spanish do not have significantly more problems with masculine than feminine items in contexts with matching or opposite gender features for the acceptability judgement task. For the production task, they still make more errors when the head noun and intervener have opposite features, even though error rates have decreased significantly in comparison with the beginner groups. All advanced L2ers except the L1 French group, make significantly more errors against feminine target items.

9.9.2. NOMINAL NUMBER: INTERVENER WITH MATCHING VERSUS OPPOSITE FEATURES TO THE HEAD NOUN

9.9.2.1. Beginner L2ers

In this section, we will investigate whether the number of the intervening noun in the main DP affects accuracy rates for nominal number agreement in similar ways to the trends established for nominal gender in Section 9.9.1. Table 31 (and Figure 31) provide the data for the acceptability judgement and production tasks for the beginners groups.

Figure 31. % Incorrect answers AJT & Prod – nominal number (Beginners)

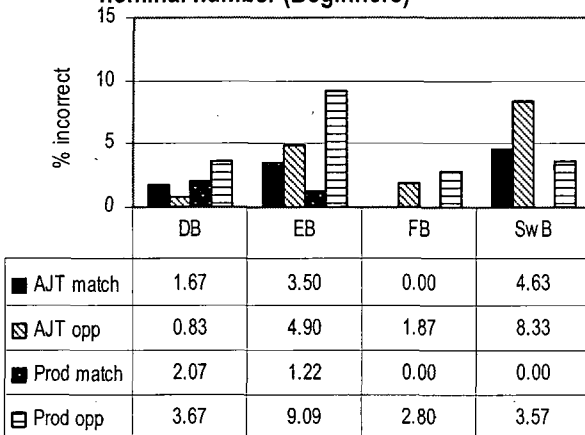


Table 31. Incorrect answers AJT & Prod – nominal number (Beginners)

		D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
AJT	match	2/120	5/143	0/108	5/108
	opp	1/120	7/143	2/107	9/108
Prod	match	3/145	2/164	0/126	0/138
	opp	4/109	11/121	3/107	3/84

There are no significant differences between test items with matching or opposite number features for the acceptability judgement task. This is also true for the production task, except for a larger discrepancy between both contexts for the English group (1.22% error rate for matching features vs. 9.09% for opposite features). In general, the discrepancies (and error rates) are much smaller than those for gender.

A. ACCEPTABILITY JUDGEMENT TASK

When examining the tasks individually and comparing accuracy rates for singular versus plural target number, we can see that for the acceptability judgement task (Table 32 and Figure 32) there is no significant bias towards test items containing a singular or a plural head noun when the intervener has the same number.

Figure 32. % Incorrect answers AJT – nominal number (Beginners)

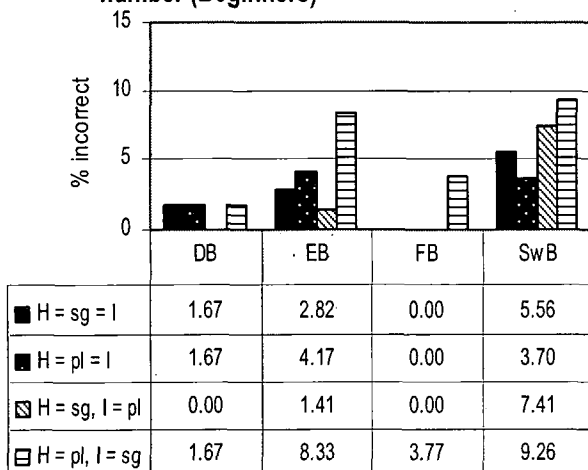


Table 32. Incorrect answers AJT – nominal number (Beginners)

	target	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
match	sg	1/60	2/71	0/54	3/54
	pl	1/60	3/72	0/54	2/54
opp	sg	0/60	1/71	0/54	4/54
	pl	1/60	6/72	2/53	5/54

The discrepancy between singular and plural number for test items containing a head noun and intervener with opposite features are only slightly higher for the Dutch (1.67% vs. 0%), Swedish (9.26% vs. 7.41%) and French (3.77% vs. 0%) beginners than the corresponding results for test items with matching features. The English L1 group have more difficulties judging agreement morphology when the target number is plural (8.33% vs. 1.41%). The results in Table 32 (and Figure 32) therefore do not reveal a clear bias towards either singular or plural marking for the acceptability judgement task, particularly if we take into consideration the very low error rates for this task.

B. FIVE DIFFERENCES – PRODUCTION

When examining the data for the production task (Table 33 and Figure 33), we can see that there is a more consistent pattern to the L2 errors. Even though error rates are generally very low (< 11.63%), beginners generally make more errors when the target number is plural. The largest discrepancies can be found when the head noun and intervening nouns have opposite number. All beginners perform 100% accurately when the head noun and intervener are singular.

Figure 33. % Incorrect answers Prod – nominal number (Beginners)

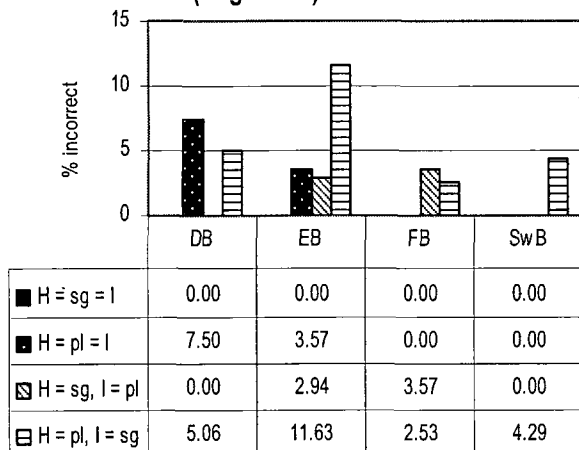


Table 33. Incorrect answers Prod – nominal number (Beginners)

	target	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
match	sg	0/105	0/108	0/85	0/105
	pl	3/40	2/56	0/41	0/33
opp	sg	0/30	1/34	1/28	0/14
	pl	4/79	10/86	2/79	3/70

When the head noun and intervener have opposite number features, all groups are at least 96.43% accurate for singular items. There is no significant difference between singular and plural for the L1 French group (0.56%). The English beginners display the largest discrepancy between singular (2.94% error rate) and plural (11.63%) target items when the head noun and intervener have opposite number features.

C. CONCLUSION BEGINNER L2ERS

There is not much variation in the (already very low) error rates between contexts with matching or opposite number features. The largest discrepancy can be ascribed to the English beginners, who make more errors in both the acceptability judgement and production tasks when the target item is plural and the intervener is singular.

9.9.2.2. Advanced L2ers

The nominal number data for the advanced learners, near-native and native speakers of Spanish are given in Table 34 (and Figure 34). There are no significant differences between the two contexts (matching or opposite nominal number) for the acceptability judgement and production tasks for any of these groups. The discrepancies between the two contexts are even smaller than they were amongst the beginners groups.

Figure 34. % Incorrect answers AJT & Prod – nominal number (Adv, NNS & NS)

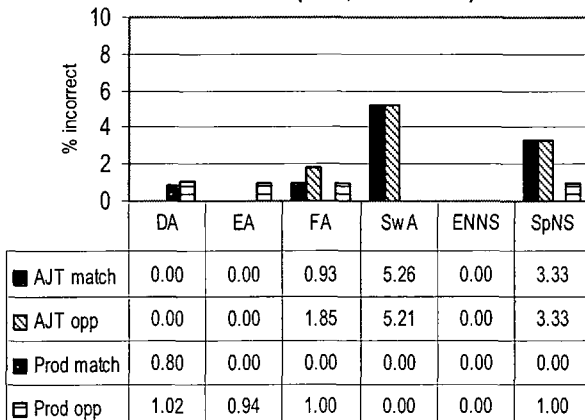


Table 34. Incorrect answers AJT & Prod – nominal number (Adv, NNS & NS)

		DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
AJT	match	0/108	0/120	1/108	5/95	0/60	4/120
	opp	0/108	0/120	2/108	5/96	0/60	4/120
Prod	match	1/125	0/140	0/127	0/84	0/60	0/112
	opp	1/98	1/106	1/100	0/65	0/49	1/100

A. ACCEPTABILITY JUDGEMENT TASK

The results for the acceptability judgement task (Table 35 and Figure 35) show that the L1 Dutch and English groups are 100% accurate for singular and plural targets in both contexts (matching and opposite features). The difference between singular and plural target items is not significant for the French advanced learners and is smaller than 6.25% for the L1 Swedish group.

Figure 35. % Incorrect answers AJT – nominal number (Adv, NNS & NS)

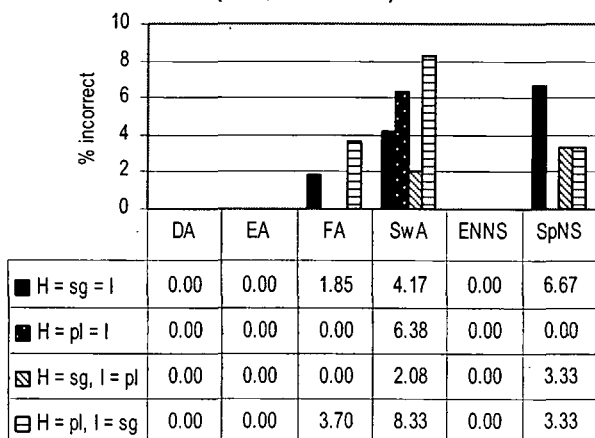


Table 35. Incorrect answers AJT – nominal number (Adv, NNS & NS)

	target	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
match	sg	0/54	0/60	1/54	2/48	0/30	4/60
	pl	0/54	0/60	0/54	3/47	0/30	0/60
opp	sg	0/54	0/60	0/54	1/48	0/30	2/60
	pl	0/54	0/60	2/54	4/48	0/30	2/60

B. FIVE DIFFERENCES - PRODUCTION

Table 36 (and Figure 36) reveal that there are no significant differences between singular or plural test items for the production task, regardless of whether the head noun and intervening noun have matching or opposite nominal number features. Accuracy rates are at least 98.51% in all contexts.

Figure 36. % Incorrect answers Prod – nominal number (Adv, NNS & NS)

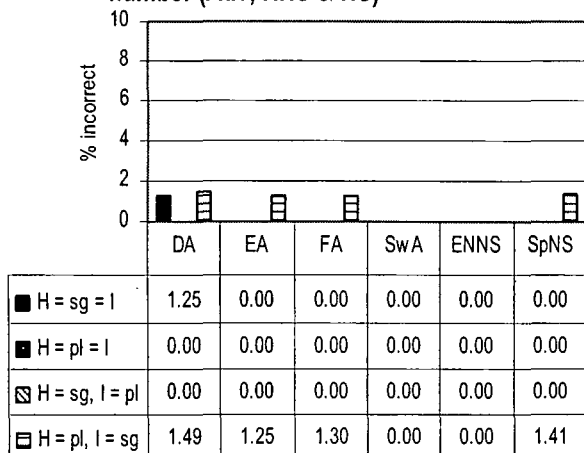


Table 36. Incorrect answers Prod – nominal number (Adv, NNS & NS)

	target	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
match	sg	1/80	0/101	0/91	0/64	0/44	0/82
	pl	0/45	0/39	0/36	0/20	0/16	0/30
opp	sg	0/31	0/26	0/23	0/18	0/11	0/29
	pl	1/67	1/80	1/77	0/47	0/38	1/71

C. CONCLUSION ADVANCED L2ERS

The above results confirm that, contrary to some of the beginners groups, none of the advanced learners or near-native speakers of Spanish rely on linearly determined strategies to judge and produce nominal number marking. In other words, they have successfully acquired syntactic agreement for nominal number.

9.10. ADDITIONAL RESEARCH QUESTION 1: DO L2 LEARNERS RELY ON DEFAULT MARKING WHEN PRODUCING NOMINAL AGREEMENT MORPHOLOGY?

In trying to find the answer to this research question, we will try to establish whether there is a pattern to the errors L2 learners make when producing nominal agreement morphology. In other words, is one form of agreement marking overused more often than any of the others, thus acting as a default for the relevant feature?

The data examined will be taken from the production task, as this is the task L2 learners find most difficult and therefore results in a higher percentage of errors. An additional advantage of using the data from the production task is the fact that there is no limit to the possible answers non-native speakers can provide, whereas the acceptability judgement and comprehension tasks necessarily present the L2ers with a limited range of agreement morphology, thereby possibly missing out the forms that the learner would have produced.

9.10.1. NOMINAL GENDER

9.10.1.1. Beginner L2ers

The maximum error rate for nominal gender agreement amounted to 35.69% (L1 English) amongst the beginners. The data in Table 37 (and Figure 37) show that all beginners use masculine agreement marking incorrectly much more often (amounting to at least 65.85% of errors) than feminine agreement morphology, or in other words that they use masculine forms in feminine contexts more frequently than vice versa. This asymmetry is most visible amongst the English beginners (88.29% incorrectly used masculine agreement marking vs. 11.71% incorrectly used feminine morphology), in whose L1 gender is not instantiated.

Figure 37. Analysis of production errors – nominal gender (Beginners)

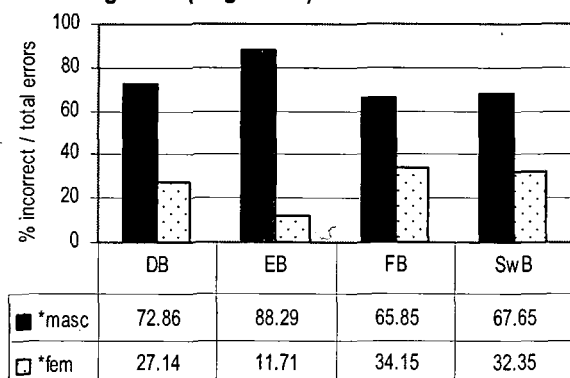


Table 37. Analysis of production errors – nominal gender (Beginners)

	DB n=10	EB n=12	FB n=9	SwB n=9
*masc	51	98	27	46
*fem	19	13	14	22

9.10.1.2. Advanced L2ers

The dominance of masculine agreement marking remains visible for most advanced groups (maximum error rate 10.26% L1 Dutch), as can be seen in Table 38 (and Figure 38). The L1 Dutch, English and Swedish advanced learners still overuse masculine forms, but the L1 French group now use feminine forms incorrectly more frequently than masculine forms (30% vs. 70%). The English near-native speakers only produced 3 instances of incorrectly used masculine agreement marking.

Figure 38. Analysis of production errors – nominal gender (Adv & NNS)

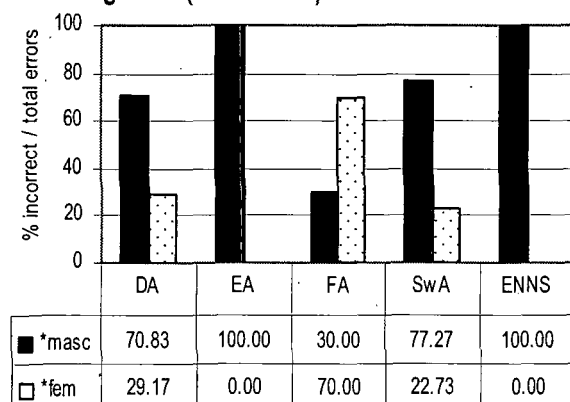


Table 38. Analysis of production errors – nominal gender (Adv & NNS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5
*masc	17	27	3	17	3
*fem	7	0	7	5	0

A closer analysis of the errors produced by the French advanced learners reveals that the majority (6/7) of the incorrectly used feminine forms are due to the fact that these L2ers have assigned feminine gender to 'zapatos' (shoes). The equivalent French word is indeed feminine ('chaussures'), whereas 'zapatos' is masculine in target language Spanish.

9.10.1.3. Conclusion gender

With the exception of the French advanced learners, the above results clearly show that across all L1 groups and all levels, masculine agreement marking is much more dominant than feminine agreement morphology. Masculine agreement morphology does seem to act as a kind of default when L2 learners overtly realise the gender feature.

9.10.2. NOMINAL NUMBER

9.10.2.1. Beginner L2ers

L2 beginners only produce a maximum of 5.10% errors against nominal number agreement in the grammaticality judgement task. Table 39 (and Figure 39) show that the asymmetry between the two features is even larger than the one observed for nominal gender. All beginners use incorrect singular forms in plural contexts much more often than they use plural forms in singular contexts. It should be noted that the total number of incorrect tokens is very small, except for the English beginners, and that the percentages in Figure 39 may therefore not provide a completely accurate picture of the overuse of number morphology amongst beginner L2ers.

Figure 39. Analysis of production errors – nominal number (Beginners)

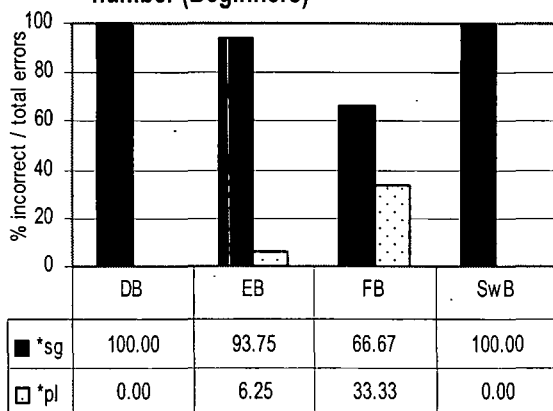


Table 39. Analysis of production errors – nominal number (Beginners)

	DB n=10	EB n=12	FB n=9	SwB n=9
*sg	8	15	2	3
*pl	0	1	1	0

9.10.2.2. Advanced L2ers

The maximum error rate for nominal number amongst advanced L2ers and near-native speakers was extremely small (0.85%). The data in Table 40 show that the number of incorrect tokens for the advanced learners and near-native speakers is too small to draw any conclusions regarding a default form for nominal number agreement.

Table 40. Analysis of production errors – nominal number (Adv & NNS)

	DA n=9	EA N=10	FA n=9	SwA n=8	ENNS n=5
*sg	1	1	1	0	0
*pl	1	0	0	0	0

9.10.2.3. Conclusion number

Singular morphology is overgeneralised most often amongst beginner L2ers of Spanish. Advanced learners and near-native speakers perform too accurately to allow any conclusions to be drawn regarding a default for nominal number agreement.

9.11. ADDITIONAL RESEARCH QUESTION 2: SYNTACTIC AGREEMENT OR LEXICAL GENDER LEARNING?

As discussed in Section 4.4.1.3, previous studies into the acquisition of L2 nominal agreement have often equated 'gender agreement' with agreement between the gender of the Determiner or Adjective, on the one hand, and the inherent gender of the Noun, on the other, which in fact represents lexical gender learning.

The current empirical study examines the *morphosyntactic* operation of agreement and not lexical learning. I therefore looked for consistent gender marking on the Determiner and Adjective: $D_{FEM} N A_{FEM}$ or $D_{MASC} N A_{MASC}$, regardless of the Noun's inherent gender in target language Spanish. Consequently, examples such as (2) and (4)⁶ were taken to display morphological agreement, even though they are not targetlike.

(2) *El bicicleta de X es *rojo.
the.MASC.SG bike_{FEM.SG} of X be.3SG red-MASC.SG
 'The bike of X is red.'

(3) *El bicicleta de X es roja.
the.MASC.SG bike_{FEM.SG} of X be.3SG red-FEM.SG
 'The bike of X is red.'

⁶ The symbol '*' stands for non-target like.

- (4) *La gato de X es *blanca.
the.FEM.SG cat_{MASC SG} of X be.3SG white-FEM.SG
 'The cat of X is white.'
- (5) *La gato de X es blanco.
the.FEM.SG cat_{MASC SG} of X be.3SG white-MASC.SG
 'The cat of X is white.'

In order to assess the impact of this decision on the results for gender agreement, this section will detail how many instances of correct gender agreement, but non-targetlike gender assignment, occurred in the production task. Table 41 provides the number of tokens containing a head noun that was assigned non-targetlike IL gender (as reflected in the choice of determiner) and whether or not the accompanying determiner and adjective agreed with each other in terms of gender.

Table 41. Number of tokens containing a head noun with non-targetlike IL gender (on D)

type	IL gender	target-like gender	gender agreement	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
1 see ex.(2)	[+MASC]	[+FEM]	correct D = [+MASC] = A	7	12	3	8
2 see ex.(3)			incorrect D = [+MASC] A = [+FEM]	1	1	-	1
3 see ex.(4)	[+FEM]	[+MASC]	correct D = [+FEM] = A	-	1	2	-
4 see ex.(5)			incorrect D = [+FEM] A = [+MASC]	-	1	-	-

The data in Table 41 show that L2ers most often overgeneralise masculine gender when assigning IL gender to a noun. In these cases, the L2ers almost always produce an adjective and determiner that agree with each other in terms of this overgeneralised gender.

Previous studies which did not differentiate between lexical learning of inherent gender and the acquisition of syntactic agreement would have counted types (1) and (3) as incorrect, whereas these types of tokens were taken to provide evidence of syntactic agreement (and thus counted as 'correct') in the current study. Types (2) and (4) would have been counted as incorrect tokens both by previous studies and the current research project.

The data in Table 41 indicate that error rates for nominal gender agreement for the beginners in the current study would have been (approximately 10%) higher if types (1) and (3) had been counted as displaying incorrect agreement for the production task. The number of head nouns accompanied by a non-targetlike article was negligible for the advanced L2ers.

Finally, it should be noted that the beginners more often started a sentence with a head noun preceded by a non-targetlike determiner, then self-corrected the determiner to the targetlike gender, as illustrated in (6). Table 42 provides an overview of these tokens and the (non-)agreement between determiners and adjectives that accompanied them.

- (6) *La gato eh el gato de X es blanco.
the.FEM.SG cat_{MASC.SG} eh the.MASC.SG cat_{MASC.SG} of X be.3SG white-MASC.SG
 'The cat eh the cat of X is white.'

Table 42. Number of tokens containing a head noun with initial non-targetlike IL gender (on D), which was subsequently corrected to targetlike inherent gender (on D) by the participant

type	IL gender	target-like gender	gender agreement	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
5	[+MASC]	[+FEM]	correct D = [+MASC] → [+FEM] A = [+FEM]	10	6	5	7
6			incorrect D = [+MASC] → [+FEM] A = [+MASC]	11	10	2	7
7 see ex.(6)	[+FEM]	[+MASC]	correct D = [+FEM] → [+MASC] A = [+MASC]	3	8	6	3
8			incorrect D = [+FEM] → [+MASC] A = [+FEM]	-	1	3	-

The data in Table 42 indicate that L2ers most often initially overgeneralise masculine gender, before self-correcting it to the targetlike feminine gender. In these cases, the L1 Dutch, English and Swedish L2ers often produce an adjective that does not agree with the self-corrected (targetlike) gender assigned to the determiner, but rather with the initial non-targetlike gender. When L2ers self-correct initial (non-targetlike) feminine gender to (targetlike) masculine gender, the adjective and determiner usually agree in terms of this self-corrected (targetlike) gender.

9.12. CONCLUSION

This chapter provided a detailed overview of the results for nominal agreement for the beginners and advanced learners and the near-native speakers of Spanish. The presentation and discussion of the results from the acceptability judgement, production and comprehension tasks was linked directly to the research hypotheses and questions presented in Table 8 of Chapter 7.

The following chapter will provide the results for verbal agreement. In Chapter 11, the findings for nominal and verbal agreement will be explained in terms of the research hypotheses and questions mentioned above. This chapter will also aim to discuss insights in the field of L2A of morphosyntax gained from the current empirical study and place the findings within the existing theories of L2A.

CHAPTER 10 VERBAL AGREEMENT: RESULTS

10.1. INTRODUCTION

The previous chapters provided an overview of the results of the acceptability judgement, production and comprehension and vocabulary tasks for nominal agreement. The present chapter will do the same for the results of the acceptability judgement and production tasks that are relevant to the study of the L2A of verbal agreement.

This chapter will be structured in a similar way to the previous chapter, i.e. the discussion will reflect the order of the research hypotheses for verbal agreement as presented in Table 4 of Chapter 8. Results of the various tasks will be discussed where they are relevant to the issues raised by the hypotheses. Chapter 11 will then discuss how the findings of the empirical study contribute to our understanding of the L2A of nominal and verbal agreement morphology.

10.2. HYPOTHESIS V1: ALL ADVANCED L2ERS WILL PERFORM AT A HIGH LEVEL OF ACCURACY FOR VERBAL PERSON AND NUMBER AGREEMENT.

Hypothesis V1 aims to establish whether L2ers have access to UG in L2A after the end of the critical period. If this is the case, all L2ers, regardless of their L1, should be able to achieve high accuracy rates for all features.

10.2.1. ADVANCED L2ERS

10.2.1.1. Acceptability judgement task

The data for verbal person and number agreement are provided in Table 1 and Figure 1 for the acceptability judgement task. All advanced groups perform extremely accurately on L2 verbal agreement in Spanish, with a maximum error rate of 4.38%. This includes the Swedish advanced L2ers, in whose L1 person and number agreement are not realised.

The near-native speakers do not make any errors in this task. The native speakers are actually responsible for the highest error rates for both person and number agreement. We will take a closer look at these results in Section 10.3.

Figure 1. % Incorrect answers – Acceptability judgement (Adv, NNS & NS)

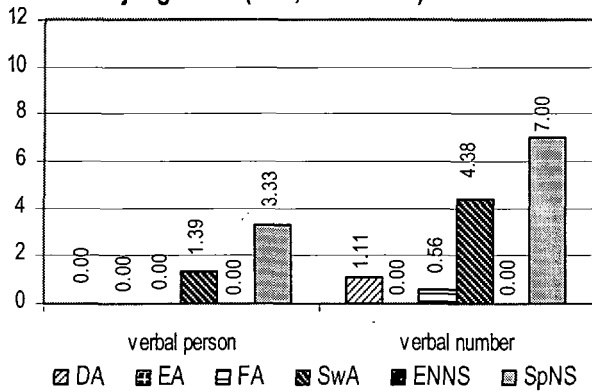


Table 1. Incorrect answers – Acceptability judgement (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
person	0/81	0/90	0/81	1/72	0/45	3/90
number	2/180	0/200	1/180	7/160	0/100	14/200

10.2.1.2. Five Differences and Daily Routine – Production

The data in Table 2 (and Figure 2) show that all advanced L2 learners, including the L1 Swedish group, also perform extremely accurately on nominal number agreement in the production task (maximum error rate 2.81%). The native speakers of Spanish do not make any errors against verbal agreement in this task.

Figure 2. % Incorrect answers – Production (Adv, NNS & NS)

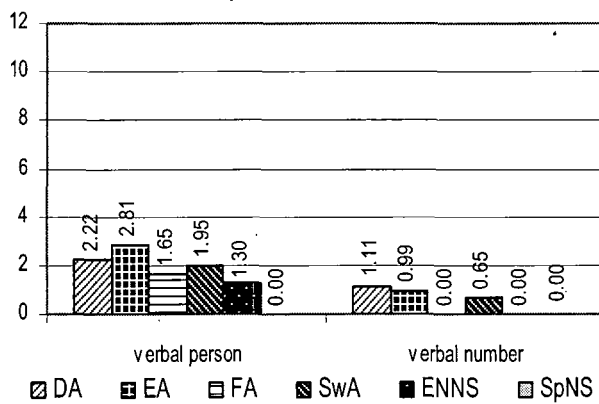


Table 2. Incorrect answers – Production (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
person	12/540	17/605	8/484	9/461	4/307	0/527
number	6/541	6/608	0/480	3/460	0/307	0/527

10.2.1.3. Conclusion advanced L2ers and near-native speakers

The data in Table 1 and Table 2 (and Figure 1 and Figure 2) clearly show that none of the advanced L2ers or near-native speakers of Spanish have problems with verbal agreement in the acceptability judgement and production tasks.

10.2.2. BEGINNER VS. ADVANCED L2ERS

Given that all advanced L2ers perform extremely accurately on person and number agreement for the acceptability judgement and production tasks, it would be interesting to compare their results with their beginner peer groups to establish whether there is a difference with the results at the earlier stages of L2A.

As discussed in Section 9.4.2, if the beginner results differ from the advanced L2ers' results, this shows that the latter group has improved in terms of syntactic features. Combined with the high accuracy rates for the Swedish L2ers (see 10.2.1 above), this would demonstrate that L2ers have access to UG in L2A.

If the beginner and advanced results do not differ, this would mean that the features involved in verbal agreement were never problematic for the L2ers. In this case, it would be impossible to draw any conclusions regarding access to UG in L2A.

10.2.2.1. Acceptability judgement task

The data in Table 3 (and Figure 3a and b) show that accuracy rates for the acceptability judgement task are very high, for both the beginner groups (maximum error rate of 11.25%) and for the advanced groups (4.38%). Nevertheless, the advanced L2ers are numerically better than their beginner L1 counterparts when the error rate is not already 0% (or 0.50%) for the beginners.

Obviously, the margin for improvement is limited by the initial low percentage of incorrect answers amongst the beginners level. The discrepancy between the two levels of proficiency is largest for the L1 Swedish speakers for both person (1.39% vs. 11.25%) and number agreement (4.38% vs. 8.89%).

Figure 3. a. % Incorrect answers AJT – verbal person

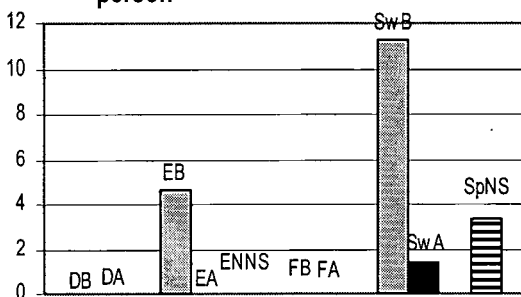


Figure 3.b. % Incorrect answers AJT – verbal number

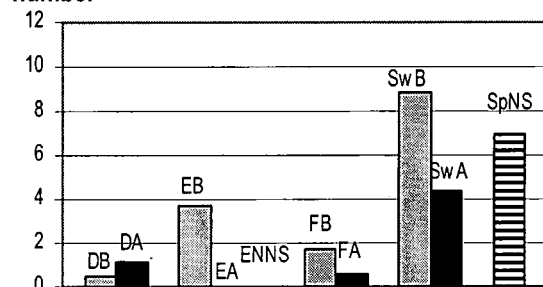


Table 3. % Incorrect answers AJT – verbal person and verbal number

	DB	DA	EB	EA	ENNS	FB	FA	SwB	SwA	SpNS
person	0.00	0.00	4.67	0.00	0.00	0.00	0.00	11.25	1.39	3.33
number	0.50	1.11	3.75	0.00	0.00	1.68	0.56	8.89	4.38	7.00

10.2.2.2. Five Differences and Daily Routine – Production

There is more variation between the beginner and advanced levels within each language group for the production task, even though the maximum error rate is again very low (11.41%). The discrepancy between the two levels of L2ers is largest for the Swedish L2ers (11.41% vs. 1.95%). All advanced L2ers perform numerically better than their beginner counterparts.

The L1 English near-native speakers make almost no errors (1.30% maximum) and the native speakers of Spanish are 100% accurate for this task.

Figure 4. a. % Incorrect answers Production – verbal person

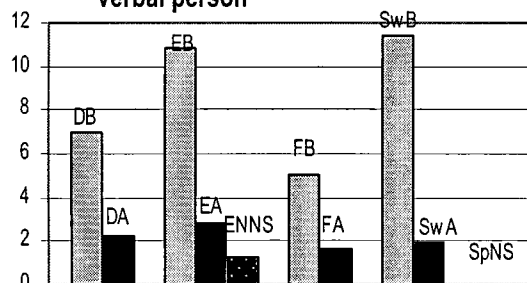


Figure 3.b. % Incorrect answers Production – verbal number

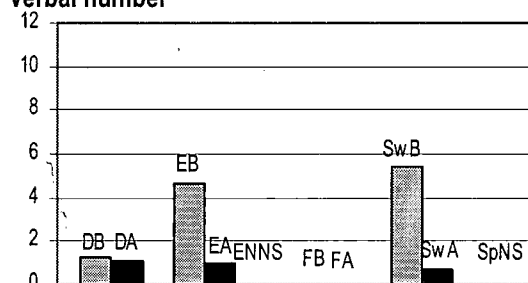


Table 4. % Incorrect answers Production – verbal person and verbal number

	DB	DA	EB	EA	ENNS	FB	FA	SwB	SwA	SpNS
person	6.98	2.22	10.85	2.81	1.30	5.00	1.65	11.41	1.95	0.00
number	1.27	1.11	4.60	0.99	0.00	0.00	0.00	5.42	0.65	0.00

10.2.2.3. Conclusion beginner vs. advanced L2ers

Even though accuracy rates for verbal agreement are very high for all L2ers, including the beginners, the results in Sections 10.2.2.1-10.2.2.2 show that there is an improvement in error rates from beginner to advanced level for all L1 groups. This improvement is limited due to the very low error rates for all groups, but is largest for the Swedish L2ers for person and number agreement in both tasks.

10.2.3. CONCLUSION HYPOTHESIS V1

Given the very low error rates for verbal agreement amongst beginner and advanced L2ers, the verbal agreement data alone do not allow a clear conclusion to be drawn concerning access to UG in L2A and need to be considered together with the results for nominal agreement in order to reject or accept Hypothesis 1 confidently. This will be discussed in the following chapter.

10.3. HYPOTHESIS V2: ACCURACY RATES FOR VERBAL NUMBER AGREEMENT WILL BE SIMILAR TO VERBAL PERSON ACCURACY RATES FOR ALL GROUPS.

Studies into L1A have revealed that L1 children show instances of number marking before person marking on verbs (Marrero & Aguirre 2003, Hernández Pina 1984). Given that Section 9.5 also showed that L2ers have fewer problems with nominal number than gender agreement, in this section we will compare accuracy rates for verbal person and number to establish whether there is a difference in L2A between these two features.

10.3.1. BEGINNER L2ERS

10.3.1.1. Acceptability judgement task

As can be seen in Table 5 (and Figure 5), for the acceptability judgement task, the discrepancy between the two features is much smaller than the difference between the two features involved in nominal agreement (discussed in Section 9.5). The largest discrepancy between person (11.25%) and number (8.89%) only amounts to a marginal 2.36% for the Swedish beginners. These differences are too small to draw any conclusions concerning the relative difficulty of the individual features.

Figure 5. % Incorrect answers AJT – verbal person vs. number (Beginners)

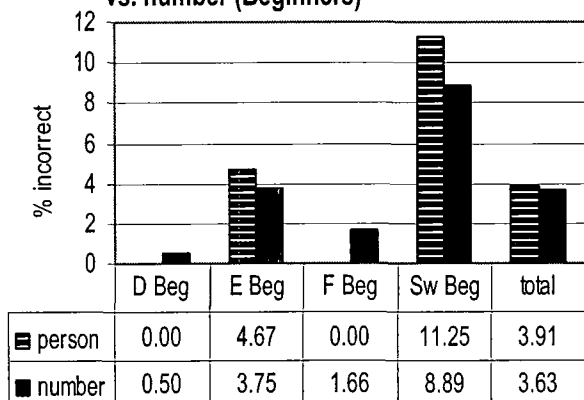


Table 5. Incorrect answers AJT – verbal person vs. number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9	total n=40
person	0/90	5/107	0/81	9/80	14/358
number	1/200	9/240	3/179	16/180	29/799

10.3.1.2. Five Differences and Daily Routine - Production

The beginner L2ers make more errors in the production task (see Table 6 and Figure 6) and the discrepancies between verbal person and number are also larger for this task, even though the maximum error rate still does not exceed 11.41%. There is not much variation between the different L1 groups; the discrepancy between person and number agreement only varies between 5% (L1 French) and 6.25% (L1 English). All L1 groups make slightly more errors against verbal person than verbal number agreement.

Figure 6. % Incorrect answers Production – verbal person vs. number (Beginners)

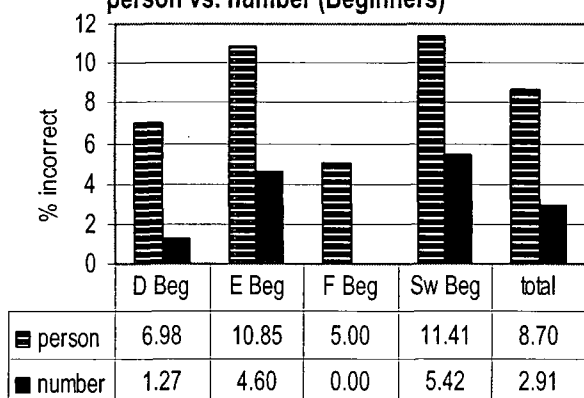


Table 6. Incorrect answers Production – verbal person vs. number (Beginners)

	D Beg n=10	E Beg N=12	F Beg n=9	Sw Beg n=9	Total n=40
person	44/630	73/673	24/480	59/517	200/2300
number	8/630	31/674	0/480	28/517	67/2301

10.3.1.3. Conclusion beginner L2ers

Verbal person agreement does seem to present slightly more difficulties than number agreement for the beginner L2ers, regardless of their L1, although the difference is only marginal compared to the discrepancy between nominal gender and number agreement.

10.3.2. ADVANCED L2ERS

10.3.2.1. Acceptability judgement task

Table 7 (and Figure 7) provide the results for the advanced and near-native speakers for the acceptability judgement task. Due to the fact that the maximum error rate for this task is only 4.38%, the discrepancy between the two features is minimal (smaller than 2.99% with marginally fewer errors against person). The advanced learners and near-native speakers perform extremely well on both features. The higher error rate for the native speakers will be discussed in more detail in Section 10.3.2.1.

Figure 7. % Incorrect answers AJT – verbal person vs. number (Adv, NNS, NS)

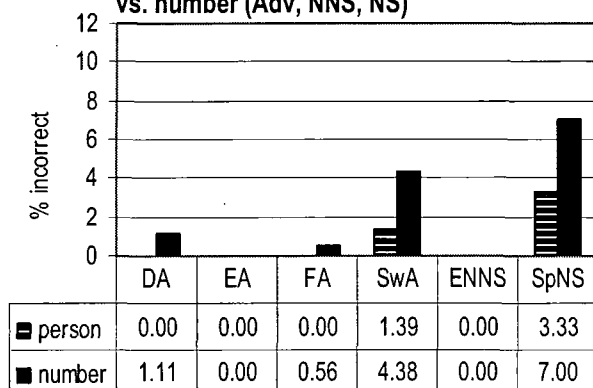


Table 7. Incorrect answers AJT – verbal person vs. number (Adv, NNS, NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
person	0/81	0/90	0/81	1/72	0/45	3/90
number	2/180	0/200	1/180	7/160	0/100	14/200

10.3.2.2. Five Differences and Daily Routine - Production

Table 8 (and Figure 8) show that the advanced L2ers and near-native speakers also perform extremely accurately on verbal agreement in the production task and therefore do not allow for any differentiation between the two features for this task. All L2ers perform better on number agreement than person agreement, but the discrepancy between the two features is marginal (1.65% at most).

Figure 8. % Incorrect answers Production – verbal person vs. number (Adv, NNS, NS)

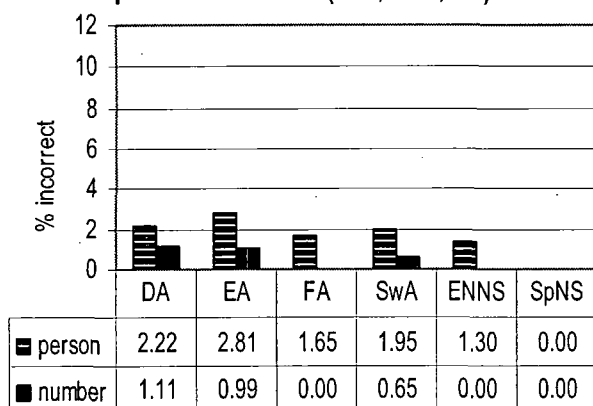


Table 8. Incorrect answers Production – verbal person vs. number (Adv, NNS, NS)

	DA n=9	EA N=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
person	12/540	17/605	8/484	9/461	4/307	0/527
number	6/541	6/608	0/480	3/460	0/307	0/527

10.3.2.3. Conclusion advanced L2ers

The extremely high accuracy rates for verbal agreement in the acceptability judgement and production tasks necessarily imply that there is no significant difference in error rates between the two features for the advanced L2ers and near-natives speakers.

10.3.3. CONCLUSION HYPOTHESIS V2

The results in this section show that L2 learners of Spanish have a slightly higher error rate for verbal person than verbal number at beginner level and that there is no difference for the advanced learners and near-native speakers.

10.4. HYPOTHESIS V3: AT LOWER PROFICIENCY LEVEL, RESULTS FROM THE COMPREHENSION AND ACCEPTABILITY JUDGEMENT TASKS WILL BE BETTER THAN RESULTS FROM THE PRODUCTION TASK.

Section 9.6 revealed that there was a difference in error rate for nominal agreement between the different tasks. In this section, the data for verbal agreement will be analysed to establish whether L2ers perform better on the acceptability judgement than the production task at lower levels of proficiency. These findings can then contribute to the debate surrounding morphology-before-syntax or syntax-before-morphology, as discussed in Section 6.7.

Given that Section 10.2 revealed that all advanced L2ers and near-native speakers have acquired the syntactic features not present in their L2, we would not expect a significant difference between the different tasks at advanced level.

10.4.1. BEGINNER L2ERS

10.4.1.1. Verbal person

Table 9 (and Figure 9) show that all beginners make more errors in the production task than they do in the acceptability judgement task, except for the L1 Swedish group who perform equally well in both tasks. The discrepancy between the acceptability judgement and the production tasks is statistically significant at .05 level for all L1 groups, except the Swedish beginners.

Figure 9. % Incorrect answers per task – verbal person (Beginners)

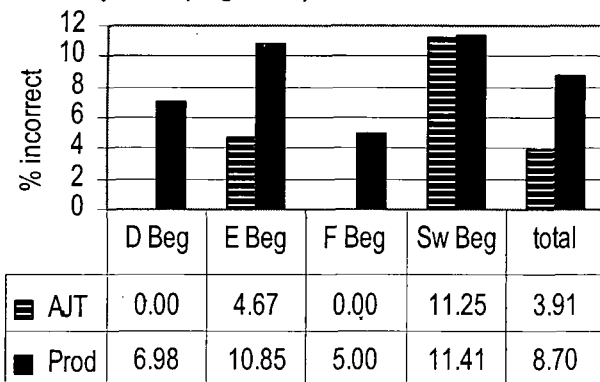


Table 9. Incorrect answers per task – verbal person (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9	total n=40
AJT	0/90	5/107	0/81	9/80	14/358
Prod	44/630	73/673	24/480	59/517	200/2300

Table 10 (and Figure 10) provide a breakdown of the number of incorrectly judged items in the acceptability judgement task for the English and Swedish beginners. Both groups accepted more incorrect items than they rejected correct items.

Figure 10. Incorrectly judged items AJT – verbal person: correct vs. incorrect items (Beginners)

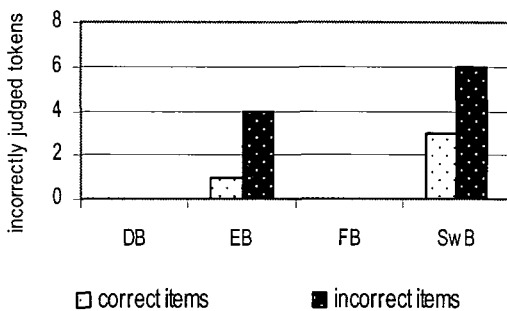


Table 10. Incorrectly judged items AJT – verbal person: correct vs. incorrect items (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
Correct items	-	1/5	-	3/9
Incorrect items	-	4/5	-	6/9

10.4.1.2. Verbal number

Inaccuracy rates for verbal number do not exceed 8.89% across both tasks for the beginners. This extremely good performance on both tasks makes it difficult to distinguish between them. The largest discrepancy between the two tasks (3.47%) can be ascribed to the Swedish beginners. None of the differences between the two tasks are statistically significant at .05 level. The Dutch and English beginners perform marginally better on the acceptability judgement than the production task, the Swedish and French beginners perform slightly better on the production task.

Figure 11. % Incorrect answers per task – verbal number (Beginners)

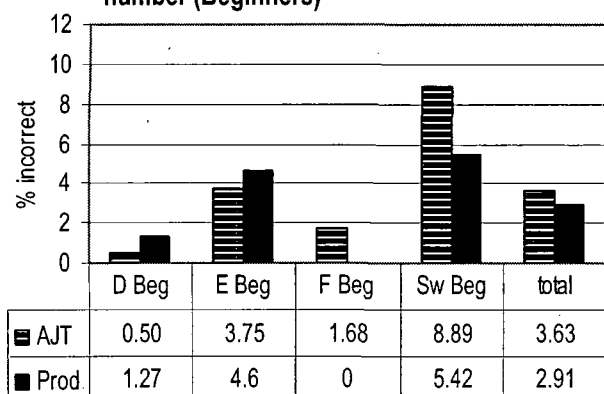


Table 11. Incorrect answers per task – verbal number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9	total n=40
AJT	1/200	9/240	3/179	16/180	29/799
Prod	8/630	31/674	0/480	28/517	67/2301

Table 12 (and Figure 12) show that most L1 groups rejected more correct items in the acceptability judgement task than they accepted incorrect items.

Figure 12. Incorrectly judged items AJT – verbal number: correct vs. incorrect items (Beginners)

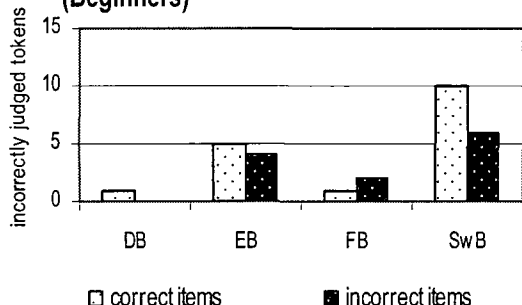


Table 12. Incorrectly judged items AJT – verbal number: correct vs. incorrect items (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
Correct items	1/1	5/9	1/3	10/16
Incorrect items	0/1	4/9	2/3	6/16

10.4.1.3. Conclusion beginner L2ers

Error rates for verbal number do not differ significantly between the two tasks. For verbal person, however, all L2ers at lower proficiency level, except the L1 Swedish group, have more problems with the production than the acceptability judgement task.

10.4.2. ADVANCED L2ERS

10.4.2.1. Verbal person

Error rates for verbal number are too low (maximum 2.81%) to make any meaningful comparisons between the acceptability judgement and production tasks for the advanced L2ers, near-native speakers or native speakers of Spanish (see Table 13 and Figure 13).

Figure 13. % Incorrect answers per task – verbal person (Adv, NNS & NS)

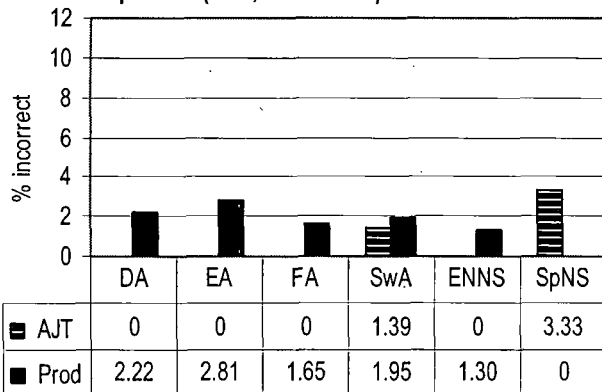


Table 13. Incorrect answers per task – verbal person (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
AJT	0/81	0/90	0/81	1/72	0/45	3/90
Prod	12/540	17/605	8/484	9/461	4/307	0/527

For the sake of completeness, Table 14 (and Figure 14) provide a breakdown of the few errors the Swedish advanced L2ers and the native speakers made in the acceptability judgement task.

Figure 14. Incorrectly judged items AJT – verbal person: correct vs. incorrect items (Adv, NNS & NS)

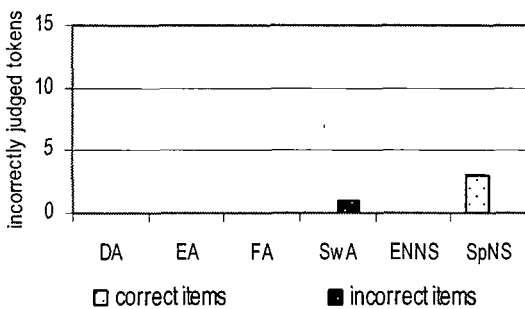


Table 14. Incorrectly judged items AJT – verbal person: correct vs. incorrect items (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
Correct items	-	-	-	0/1	-	3/3
Incorrect items	-	-	-	1/1	-	0/3

10.4.2.2. Verbal number

Table 15 (and Figure 15) show that there is very little variation between the two tasks for verbal number amongst the advanced L2ers and the native speakers. The largest discrepancy between the two tasks is due to the Spanish native speakers, who make no errors in the production task but incorrectly judge 7% of items in the acceptability judgement task. This difference approaches statistical significance ($t(9)=-2.22, p=.054$).

Figure 15. % Incorrect answers per task – verbal number (Adv, NNS & NS)

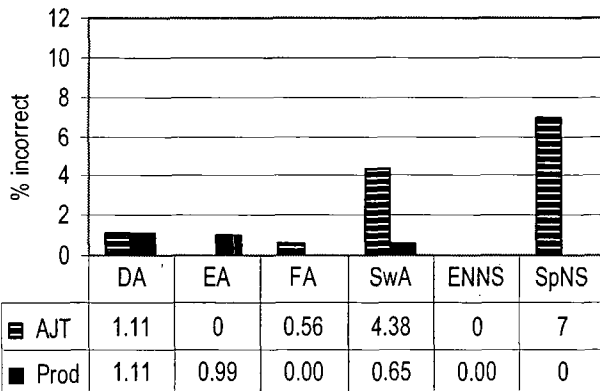


Table 15. Incorrect answers per task – verbal number (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
AJT	2/180	0/200	1/180	7/160	0/100	14/200
Prod	6/541	6/608	0/480	3/460	0/307	0/527

As can be seen in Table 16 (and Figure 16), the majority (85.71%) of the native speakers' errors in the acceptability judgement task consist of correct items judged unacceptable. A possible explanation for this finding was discussed in Section 9.6.2.3 of the previous chapter.

Figure 16. Incorrectly judged items AJT – verbal number: correct vs. incorrect items (Adv, NNS & NS)

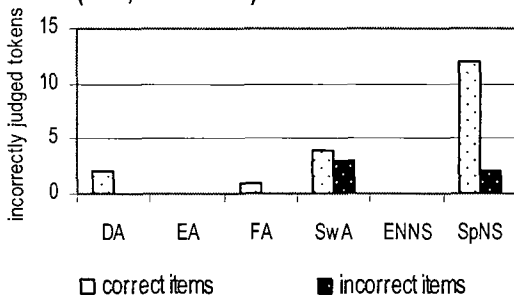


Table 16. Incorrectly judged items AJT – verbal number: correct vs. incorrect items (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
Correct items	2/2	-	1/1	4/7	-	12/14
Incorrect items	0/2	-	0/1	3/7	-	2/14

10.4.2.3. Conclusion advanced L2ers

In sum, the very high accuracy rates for verbal agreement amongst advanced L2ers and near-native speakers of Spanish do not allow for a differentiation between the two tasks and can therefore not contribute to the syntax-before-morphology or morphology-before-syntax debate.

The native speakers do not make any production errors against verbal person or number agreement. This task therefore seems to be the most reliable indicator of native-like knowledge for both nominal and verbal agreement.

Figure 17. % Incorrect answers AJT – verbal person & number (Beginners)

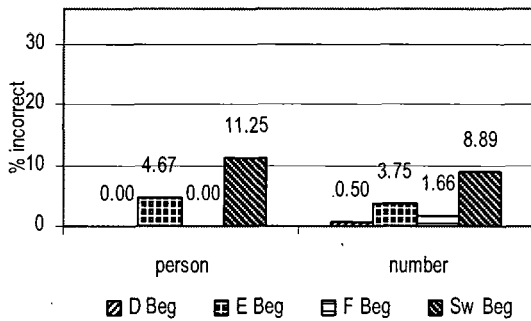


Table 17. Incorrect answers AJT – verbal person & number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
person	0/90	5/107	0/81	9/80
number	1/200	9/240	3/179	16/180

10.5.1.2. Five Differences and Daily Routine - Production

For the production task, the L1 Swedish and English groups again make more errors than the Dutch and French beginners against person and number agreement, even though the differences between the groups are numerically even smaller than they were for the acceptability judgement task. The largest differences can be found between the Swedish and French beginners for both verbal person (11.41% vs. 5% error rate) and number (5.42% vs. 0%).

Figure 18. % Incorrect answers Production – verbal person & number (Beginners)

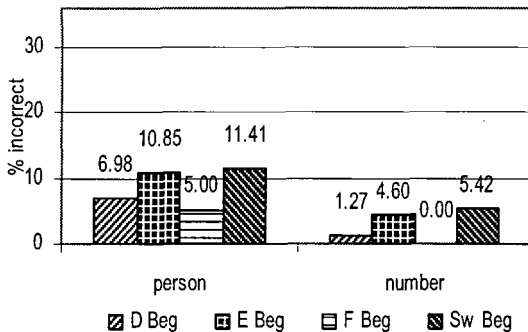


Table 18. Incorrect answers Production – verbal person & number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
person	44/630	73/673	24/480	59/517
number	8/630	31/674	0/480	28/517

10.5.1.3. Conclusion L2 beginners

Even though error rates are very low for all L1 groups, Swedish L2ers make more errors than the other groups against verbal person and number agreement in the acceptability judgement task. The difference between the Swedish and English beginners is not significant for the production task. The L1 Dutch and French groups make slightly fewer errors than the Swedish and English groups.

10.5.2. ADVANCED L2ERS

10.5.2.1. Production

In order to mirror the structure of Chapter 9 (Nominal Agreement: Results), this section will provide the advanced L2ers' data for the production task, as this was the task that turned out to be the most reliable indicator for native-like knowledge (see Section 10.4.2.3).

With maximum error rates of 2.58% for verbal person and 1.71% for verbal number, it is immediately clear that the small difference in error rates visible between the groups at lower proficiency level has disappeared almost completely at advanced level.

Figure 19. % Incorrect answers Production – verbal person & number (Adv, NNS, NS)

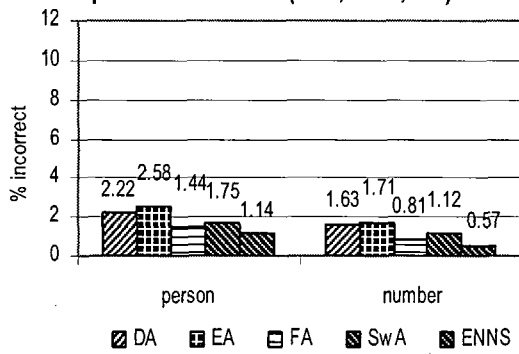


Table 19. Incorrect answers Production – verbal person & number (Adv, NNS, NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5
person	12/540	17/605	8/484	9/461	4/307
number	6/541	6/608	0/480	3/460	0/307

10.5.3. CONCLUSION HYPOTHESIS V4

Given the very low error rates for verbal agreement amongst the beginner groups, it is difficult to draw conclusions in terms of transfer. The L1 Swedish groups make more errors than any of the other beginner groups in the acceptability judgement task, but are closely followed by the English beginners. The L1 Dutch and French groups perform slightly better. Error rates amongst advanced L2ers are too low to allow any differentiation between the L1 groups.

10.6. HYPOTHESIS V5 = N5: AT LOWER PROFICIENCY LEVEL,

- A) L1 ENGLISH SPEAKERS WILL PERFORM BETTER ON L2 SPANISH VERBAL AGREEMENT THAN ON NOMINAL AGREEMENT.**
- B) L1 DUTCH AND FRENCH SPEAKERS WILL PERFORM EQUALLY WELL ON L2 SPANISH NOMINAL AND VERBAL AGREEMENT.**
- C) L1 SWEDISH SPEAKERS WILL PERFORM BETTER ON L2 SPANISH NOMINAL THAN ON VERBAL AGREEMENT.**

Hypothesis V5 corresponds to Hypothesis N5 (Section 9.8) as it involves both nominal and verbal agreement. Since the results for verbal agreement were only provided in this chapter, the discussion of Hypothesis 5 was postponed to the present chapter.

Hypothesis 5 was built on the assumption that all agreement features are in principle equally acquirable and that the main factor influencing the difference in acquisition rates of nominal and verbal agreement features would be transfer from the L2 learners' L1. However, the results discussed in Sections 9.5 and 10.3 showed that this is not the case. For all learners, regardless of their L1, nominal gender is more difficult to acquire than nominal number, and verbal person is slightly more difficult to acquire than verbal number.

Table 20 (and Figure 20) combine the data for all nominal and verbal agreement features for the production task for the beginner L2ers. All L2ers make most errors against nominal gender agreement, followed by verbal person agreement. They make fewer errors against nominal number agreement and are most accurate on verbal number agreement. The only exception to these findings are the Swedish L1 group who are more accurate on verbal number than nominal number.

Figure 20. % Incorrect answers Production – nominal and verbal agreement (Beginners)

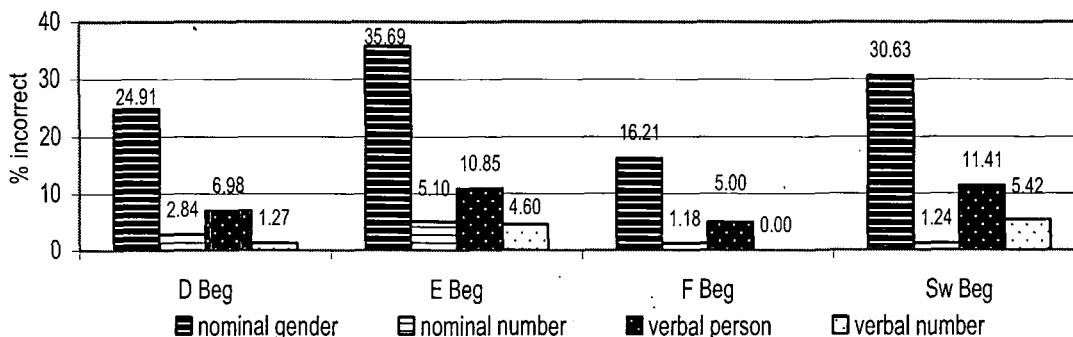


Table 20. Incorrect answers Production – nominal and verbal agreement (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
nominal gender	70/281	111/311	41/253	68/222
nominal number	8/282	16/314	3/255	3/241
verbal person	44/630	73/673	24/480	59/517
verbal number	8/630	31/674	0/480	28/517

Given these findings, it is impossible to test Hypothesis 5 accurately, as L1 transfer into the L2 turned out not to be the only influence on acquisition rates of nominal and verbal agreement. The results above show that not all features are equally acquirable and that it is therefore not possible to make the necessary comparison between nominal and verbal agreement, as indeed all L2 learners at beginners level have significantly more problems with nominal agreement (due to the higher inaccuracy rates for nominal gender) than verbal agreement.

The discussions relating to Hypotheses N4 (Section 9.7) and V4 (Section 10.5), however, have provided us with a comparison of the data for the different L1 groups and therefore the issue of transfer.

10.7. HYPOTHESIS V6: AT LOWER PROFICIENCY LEVEL, L2ERS WILL BE BETTER AT TEST TOKENS WHERE THE INTERVENER MATCHES THE HEAD NOUN IN FEATURES THAN AT TEST TOKENS WHERE THE HEAD NOUN AND INTERVENER HAVE OPPOSITE FEATURES.

From the data in Section 9.9 of the previous chapter, we know that L2ers generally perform better on nominal agreement when the head noun and intervener have matching features than when they have opposite features, especially in the production task. In this section, we will try to establish whether the same applies to the results for verbal agreement in order to determine whether L2ers have really *acquired* Spanish agreement relations or are instead using local, linearly determined strategies.

If participants have acquired agreement relations, we would not expect a difference between test items with matching versus opposite features. If, however, participants use linear closeness rather than hierarchical structures to judge or produce agreement morphology, we would expect them to make more agreement errors when the intervening noun has opposite features to the head noun (e.g. a singular head noun with a plural intervener as in (1)a), than when the two nouns have matching features ((1)b).

- (1) a. La niña *con los perros* come un helado.
The.SG girl.SG *with the.PL dogs.PL* *eat.3SG* *an.SG ice cream.SG*
 'The girl with the dogs eats an ice cream.'
- b. La niña *con el perro* come un helado.
The.SG girl.SG *with the.SG dog.SG* *eat.3SG* *an.SG ice cream.SG*
 'The girl with the dog eats an ice cream.'

In the following section, this issue will be examined for verbal number. There will be no discussion for verbal person as a combination of a head noun and intervening noun with different features would have been impossible to produce in the context of the current tasks (cf. e.g. a sentence such as '*I with the bike eat an ice cream.*' – see also Section 8.2.1).

10.7.1. VERBAL NUMBER: INTERVENER WITH MATCHING VERSUS OPPOSITE FEATURES TO THE HEAD NOUN

10.7.1.1. Beginner L2ers

A. ACCEPTABILITY JUDGEMENT TASK

The previous sections in this chapter already showed that the error rates for verbal number are very low (<8.89% for the acceptability judgement task), which we need to bear in mind when analysing the results. The data for the acceptability judgement (Table 21¹ and Figure 21) show that error rates are so low for the L1 Dutch, English and French groups that no meaningful comparisons can be made between the two contexts (matching or opposite features).

The largest discrepancy between the two contexts can be ascribed to the Swedish L2ers (11.11% vs. 6.67% for matching vs. opposite contexts, respectively), who actually perform slightly better on items where the head noun differs from the intervener in number features.

¹ See fn. 5 to Section 9.9.1.1 for an explanation of abbreviations used for tables and figures in this section: H (head noun), I (intervening noun), match (matching features), opp (opposite features).

Figure 21. % Incorrect answers AJT & Prod – verbal number (Beginners)

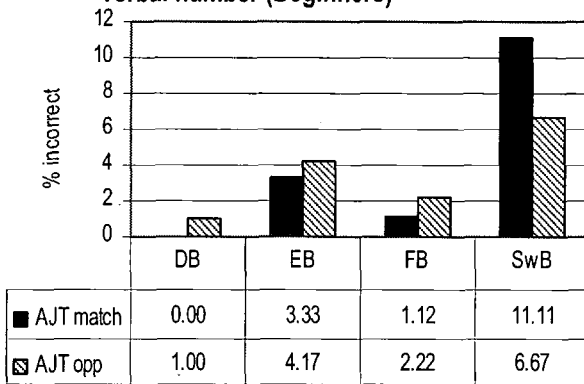


Table 21. Incorrect answers AJT & Prod – verbal number (Beginners)

		D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
AJT	match	0/100	4/120	1/89	10/90
	opp	1/100	5/120	2/90	6/90

A breakdown of the beginners' errors is provided in Table 22 (and Figure 22). The results do not point to any systematic asymmetries between the different contexts across the L1 groups.

Figure 22. % Incorrect answers AJT – verbal number (Beginners)

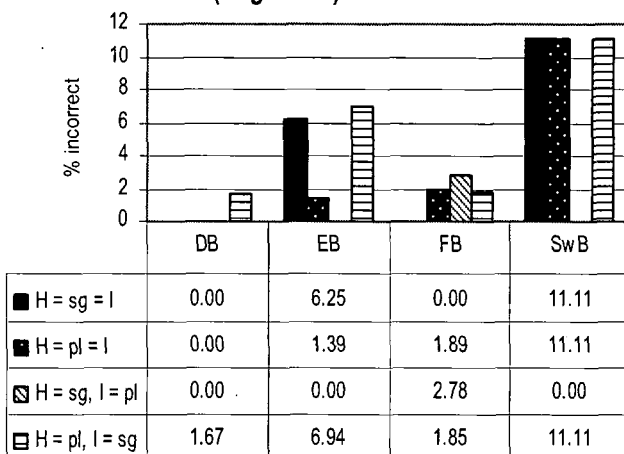


Table 22. % Incorrect answers AJT – verbal number (Beginners)

	target	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
match	sg	0/40	3/48	0/36	4/36
	pl	0/60	1/72	1/53	6/54
opp	sg	0/40	0/48	1/36	0/36
	pl	1/60	5/72	1/54	6/54

B. FIVE DIFFERENCES AND DAILY ROUTINE

The L2 beginners produced very few instances of tokens with a noun intervening between the head noun and the verb (only 13 in total). All verbal forms used in these contexts displayed correct agreement morphology. These data will therefore not be discussed any further.

C. CONCLUSION L2 BEGINNERS

Due to the very high accuracy rates for verbal number agreement and the lack of meaningful asymmetries between contexts with matching versus opposite features, the data in Section 10.7.1.1 does not allow us to reject or accept Hypothesis V6.

10.7.1.2. Advanced L2ers

The advanced L2ers' and near-native speakers' error rates for verbal number agreement were even lower than the beginners' (maximum 4.38% and 1.11% for the acceptability judgement and the production tasks, respectively) and will therefore not be analysed further.

A breakdown of the few errors made by the advanced L2ers and near-native speakers in the acceptability judgement task is provided in Table 23. The advanced L2ers only produced 17 instances of test items with a noun intervening between the head noun and the verb. These data will therefore not be discussed.

Table 23. Incorrect answers AJT – verbal number (Adv, NNS & NS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5	SpNS n=10
matching features	1/90	0/100	0/90	1/80	0/50	6/100
opposite features	1/90	0/100	1/90	3/80	0/50	8/100

10.8. ADDITIONAL RESEARCH QUESTION: DO L2 LEARNERS RELY ON DEFAULT MARKING WHEN PRODUCING VERBAL AGREEMENT MORPHOLOGY?

Section 9.10 showed that masculine acts as a default for nominal gender agreement, and that singular morphology is overgeneralised more often than plural marking in the nominal domain. In this section, we will try to establish which form of agreement morphology (if any) is used as a default for verbal person and number agreement.

We will discuss data from the production task, as this is the task with the highest error rates and the task that is the best indicator of native-like knowledge. Readers are reminded that the error rates for verbal agreement were lower than those for nominal agreement, and that the total number of errors is therefore more limited.

10.8.1. VERBAL PERSON

10.8.1.1. Beginner L2ers

When examining the data for verbal morphology, Table 24 (and Figure 23) reveal that all beginners groups use 3rd person morphology much more frequently in inappropriate contexts than 1st, 2nd or infinitival agreement marking.

Third person morphology is least dominant amongst the Swedish beginners (though still high at 47.47% of all errors), who do not have any verbal agreement in their L1. They are followed by the English (63.53%) and French and Dutch L1 groups (+70%).

The second largest percentage of inappropriate verbal person agreement marking can be ascribed to incorrect 1st person morphology for all groups except the Swedish beginners, where incorrect 3rd person marking is followed by incorrect infinitives (32.31%).

Figure 23. Analysis of production errors – verbal person (Beginners)

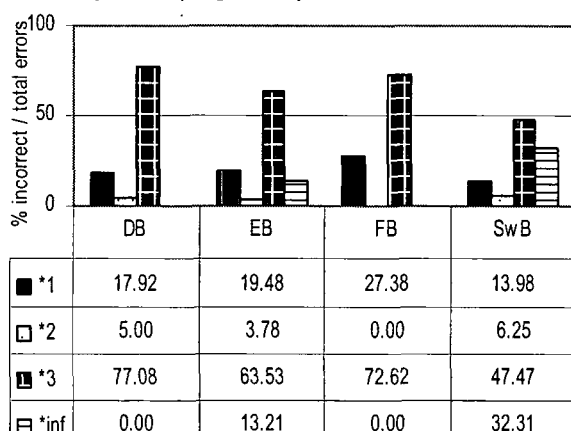


Table 24. Analysis of production errors – verbal person (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
*1 st person	7	17	8	9
*2 nd person	3	4	0	1
*3 rd person	34	43	16	30
*infinitive	0	12	0	16

10.8.1.2. Advanced L2ers

The advanced L2ers make a maximum of 2.58% errors against person morphology. It is therefore not possible to talk about a default form. These learners almost only overgeneralise 3rd person agreement morphology (see Table 25) which amounts to 68.52% (English L1) to 100% (L1 French) of all errors. The near-native speakers only overgeneralise 3rd person and no other morphology to inappropriate contexts (4 tokens).

Table 25. Analysis of production errors – verbal person (Adv & NNS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5
*1 st person	1	2	0	2	0
*2 nd person	0	2	0	1	0
*3 rd person	11	13	8	6	4
*infinitive	0	0	0	0	0

10.8.2. VERBAL NUMBER

10.8.2.1. Beginner L2ers

With error rates for verbal number agreement in the production task varying between 0% (L1 French) and 5.42% (L1 Swedish), it is very difficult to talk about default forms. Table 26 shows that the French L2ers do not make any errors against verbal number in the production task. The L1 Dutch group use 3 incorrect singular and 3 incorrect plural forms, but no infinitives. Both the English and the Swedish beginners use infinitival forms in inappropriate contexts. The (approximate) total number of verbal tokens is 600. The L1 English group also use an equal number of incorrect plural forms.

Table 26. Analysis of production errors – verbal number (Beginners)

	D Beg n=10	E Beg n=12	F Beg n=9	Sw Beg n=9
*singular	3	6	0	5
*plural	3	12	0	3
*infinitive	0	12	0	16

10.8.2.2. Advanced L2ers

Table 27 shows that the advanced L2ers hardly make any errors against verbal number agreement (1.71% maximum error rate). In the few cases where they do, they never overgeneralise incorrect infinitive marking.

Table 27. Analysis of production errors – verbal number number (Adv & NNS)

	DA n=9	EA n=10	FA n=9	SwA n=8	ENNS n=5
*singular	3	4	0	3	0
*plural	2	2	0	0	0
*infinitive	0	0	0	0	0

10.9. CONCLUSION

This chapter provided an overview of the L2ers' results for verbal person and number agreement in the acceptability judgement and production tasks. The structure of the present chapter reflected the order of the research hypotheses and questions presented in Table 4 of Chapter 8.

The following chapter will discuss the findings for nominal and verbal agreement in terms of the research hypotheses and questions mentioned above, as well as the wider significance of this empirical study in the field of L2A of morphosyntax.

CHAPTER 11 DISCUSSION, CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

11.1. INTRODUCTION

The previous two chapters described the results of the various data collection tasks for the Dutch, English, French and Swedish beginners and advanced learners, as well as the English near-native speakers of L2 Spanish with reference to nominal and verbal agreement. In this chapter, these results will be discussed in light of the research questions and hypotheses raised in Chapters 7 and 8. I will also show how these findings fit within the existing theories and previous research of L2A discussed in Chapters 4 and 5. Where appropriate, suggestions for further research will be included.

11.2. HYPOTHESIS 1 (N1 + V1): ALL ADVANCED L2ERS WILL PERFORM AT A HIGH LEVEL OF ACCURACY FOR NOMINAL GENDER AND NUMBER AGREEMENT, AS WELL AS FOR VERBAL PERSON AND NUMBER AGREEMENT.

The first hypothesis addresses one of the main issues in L2A research (repeated here from Section 4.2):

(a) Are the principles and parameters of UG available and fully accessible to L2 learners during the process of L2A?

which was reformulated as (a'), given that the current empirical study examines agreement morphology in order to provide an answer to question (a):

(a') Are grammatical features not instantiated in the L1 in principle acquirable in the L2 (over time)? and additionally: Are all features equally acquirable?

The second part of question (a') will be discussed in Section 11.3. Here, we will deal with the first part of the question. As explained in Chapter 4, if post-critical period L2 learners have full access to UG (as argued by Schwartz & Sprouse (1994, 1996)), they should be able to acquire syntactic features that are present in the L2 but absent in their L1. In terms of the present study, this means that we expect all advanced learners and near-native speakers to be able to acquire all the features involved in nominal and verbal agreement (i.e. nominal gender and number, as well as verbal person and number), regardless of their L1. We would also not expect any significant differences for these features between the advanced groups.

If L2 learners whose L1 does not instantiate a particular feature are unable to acquire this feature in their L2, this would provide support for L2A theories that support access to the principles of UG, but reject the possibility of parameter values to be reset (e.g. Hawkins & Chan (1997)). Evidence for this approach would consist of data which show that L1 English learners do not achieve high levels of accuracy for nominal agreement (particularly gender) at advanced level and that Swedish advanced learners have a high error rate for verbal agreement. We would also expect a difference for gender agreement between the L1 English advanced group and the other groups, and between the Swedish advanced learners and the other L1 groups for verbal agreement.

The results in the previous chapters (Sections 9.4 and 10.2) indicate that learners are able to acquire all features involved in nominal and verbal agreement, regardless of their L1, with minimum accuracy rates of 89.74% for gender agreement (L1 Dutch), 97.19% for nominal number agreement (L1 Swedish), 96.67% for person agreement (L1 English) and 95.62% for verbal number agreement (L1 Swedish). It is interesting to note that 3 out of these 4 lowest scores can be ascribed to advanced groups in whose L1 the relevant syntactic feature is actually realised overtly.

From these results we can conclude that non-native speakers are able to acquire syntactic features that are not present in their L1. This finding is consistent with the availability of UG to L2 learners, regardless of parameter settings in their L1. The data thus seem to support the 'Full Access' component of Schwartz & Sprouse's (1994, 1997) Full Transfer/Full Access Hypothesis and confirm findings by White et al.'s (2001, 2002) study, contradicting Hawkins and Chan (1997).

The fact that there are still some differences, particularly in terms of nominal gender and verbal person, between the Dutch, English and Swedish advanced learners on the one hand and the native speakers on the other hand, does not contradict this finding as most of the advanced learners have not yet reached the L2 end state. This is clearly illustrated by the results of the L1 English near-native speakers of Spanish who have made further progress in comparison with their advanced counterparts and do not differ significantly from the native speakers' results for any of the features, even though there is no nominal gender agreement in their L1 English. It would be interesting to extend the current study with near-native speakers of Spanish from L1 backgrounds other than English to ensure that the findings for the L1 English group are replicated elsewhere.¹

¹ In their study of gender assignment and agreement, Dewaele & Véronique (2001:292) found that the amount of communication with native speakers (participants in immersion contexts performed better) had more effect on the L2A of gender agreement than the amount of teaching the participants received. This suggests that near-native speakers of L2 Spanish with an L1 different from English should also make further improvements in comparison with their advanced counterparts who had only lived in a Spanish-speaking country for a limited period of time at the time of testing.

Section 11.7 (based on the intervener data from Sections 9.9 and 10.7) will return to the issue of access to UG (i.e. acquisition of agreement features). The results in Section 11.7 will show that previous studies have probably overestimated L2ers' performance on correct agreement marking. The data, however, still indicate that advanced L2ers rely much less on linearly determined strategies than the beginners, although it is the L1 English near-native speaker data that provide the strongest evidence for successful acquisition.

These L2ers have very high accuracy rates for all contexts, including items containing an intervening noun with opposite gender features to the head noun (even though gender is not present in their L1) and thereby clearly demonstrate that they are using hierarchically determined strategies to judge and produce native-like agreement marking.

11.3. HYPOTHESIS 2 (N2+ V2):

- **ACCURACY RATES FOR NOMINAL NUMBER AGREEMENT WILL BE SIMILAR TO NOMINAL GENDER AGREEMENT ACCURACY RATES FOR ALL GROUPS, EXCEPT FOR THE L1 ENGLISH BEGINNERS.**
- **ACCURACY RATES FOR VERBAL NUMBER AGREEMENT WILL BE SIMILAR TO VERBAL PERSON AGREEMENT ACCURACY RATES FOR ALL GROUPS.**

In this section, we will discuss the second part of research question (a'):

(a') Are grammatical features not instantiated in the L1 in principle acquirable in the L2 (over time)?

And additionally: Are all features equally acquirable?

For nominal agreement, the data in Section 9.5 show that all L2ers have significantly more problems with gender than number agreement. Amongst the beginners, this discrepancy between the two features across all tasks is smallest for the French L1 group, followed by the Dutch beginners. The Swedish and English L1 groups display the largest discrepancies. This discrepancy rises to a maximum of 30.59% (i.e. 35.69% vs. 5.10% error rate) for the English beginners' results on the production task. White et al. (2001, 2002 – see Section 4.5.2.2) found a similar discrepancy between gender and number agreement.

Differences between nominal gender and number agreement are still present amongst the advanced L2ers, even though they have been greatly reduced in comparison with the beginners. The discrepancies between the two features are between 2 and 5 times lower than those found amongst the beginners. At this level, the L1 Dutch group are responsible for the largest discrepancy in error rate between nominal gender and nominal number (10.26% vs. 0.85% in the production task).

For the English near-native speakers, the difference between the two features is 2.36% maximum (2.36% vs. 0% for the production task). This is a further reduction of the discrepancy rate between nominal gender and number in comparison with the L1 English advanced L2ers.

For verbal agreement, the data in Section 10.3 indicate that L2ers at beginner level have more problems with person than number agreement, although this difference is small in comparison with the data for nominal agreement. The largest discrepancy between the two features can again be ascribed to the L1 English group (10.85% vs. 4.60% error rate), closely followed by the Swedish beginners (11.41% vs. 5.42%).

The differences between the different L1 groups are too small to compare in a meaningful way² and vary depending on the task: the largest discrepancy between the two features for the grammaticality judgement task, for instance, can be found amongst the Swedish beginners while they display the smallest discrepancy in error rates for person and number in the production task.

When we look at the data for the advanced L2ers, it is immediately clear that these groups are performing very accurately on both features and that the differences in error rates between person (0%-2.81%) and number (0%-4.38%) agreement have disappeared almost completely.

An overall comparison of the error rates reveals the following ranking amongst the different features involved in nominal and verbal agreement, starting with the feature that beginner L2ers have most problems with:

1. nominal gender agreement;
2. verbal person agreement;
3. verbal number agreement;
4. nominal number agreement

The difference between verbal and nominal number, however, is marginal. Hypothesis 2 has thus been contradicted as there is a clear difference in accuracy rates between the four features involved in nominal and verbal agreement. It should also be noted that all L1 groups follow the same pattern in error rates, regardless of which features are present or absent in the L2ers' mother tongue.

The majority of studies into the L2A of nominal agreement have not separated the different features in their analysis and have therefore not discussed this difference in acquisition rates (but see, for instance, White et al. 2001, 2002, also for L2 Spanish). This makes it difficult to conclude whether the difference in error rates is due to the syntactic nature of Spanish agreement in particular (although it is not clear what would be the cause of this, particularly as gender is morphologically very transparent in Spanish), or is a

² Error rates for verbal agreement in L2A were also very low in Bruhn de Garavito's (2003) study, even at beginner level (see Section 5.2.4.2).

finding that is replicated for other L2s and would therefore suggest fundamental differences between the features themselves and / or the operation of agreement relations involving these features.

Further research into the L2A of a variety of languages which display agglutinating and fusional agreement morphology should help to answer this question and should also contribute to theories of syntax that so far have not discussed the differences and/or similarities between gender and number agreement in much detail, if at all.

The difference between these two types of nominal agreement in Spanish could be related to the fact that the interpretable number feature on nouns does carry a meaning that is relevant to the 'real world' (whether we are dealing with one or many people / objects) and is interpretable both syntactically and semantically, whereas syntactic opinion is divided on whether the gender feature on nouns is semantically interpretable (even though it is syntactically interpretable). In a sense, (grammatical) gender is more abstract than number.

For verbal agreement, Sigurdsson & Holmberg (to appear) have suggested that person is conceptually more complex than number, since it involves computing the meaning in relation to the context in a way that number does not. The reference of *I*, *you*, and *he/she* varies depending on who is speaking, while the reference of *the books* can remain constant throughout a conversation.

If conceptual complexity is crucial, we would expect L1 acquisition to be at least as much affected as L2 acquisition. Note, however, that the findings for the L2A of Spanish nominal agreement go against the results of studies into the L1A of Spanish agreement morphology. L1 children master gender agreement before they start producing number agreement (Marrero & Aguirre 2003, Hernández Pina 1984). This suggests that the higher degree of abstractness of gender when compared with number may not be the reason why gender agreement is harder than number agreement for L2 learners.

Similarly to findings in the nominal domain, the acquisition of verbal agreement morphology amongst adult L2ers is different to what researchers (Bel 2002, Grinstead 2000, López Ornat 1997) have found in L1A. Whereas adults seem to have more problems with person than number agreement, children produce distinctions between different persons (1st and 3rd) before plural forms emerge. More theoretical research is clearly needed in this domain.

11.4. HYPOTHESIS 3 (N3+ V3): AT LOWER PROFICIENCY LEVEL, RESULTS FROM THE COMPREHENSION AND ACCEPTABILITY JUDGEMENT TASK WILL BE BETTER THAN RESULTS FROM THE PRODUCTION TASK.

Using a range of tasks to collect L2 acquisition data has several advantages, as described in Section 6.7. First of all, it ensures that shortcomings of one particular task can be compensated for by using additional tasks that complement each other's findings and thus provide us with a more accurate picture of

IL competence. Additionally, one of the issues that a comparison between the different tasks can shed light on, is the syntax-before-morphology or morphology-before-syntax debate.

As discussed in Section 6.7, problems with agreement morphology can have different causes. One possibility is that L2 morphology is in place before syntax, i.e. that L2ers have problems with the syntactic features involved in agreement marking, even though the correct lexical items for agreement morphology are present. If this is the case, we would expect L2ers to have similar error rates for the acceptability judgement, comprehension and production tasks, as syntactic knowledge of agreement is a pre-requisite for all these tasks. Once the syntactic features and feature strengths are in place, L2ers will judge, interpret and produce agreement marking equally well.

If problems with agreement morphology are not due to deficiencies in syntactic knowledge but to mapping problems between syntactic features and the corresponding lexical forms, we would expect L2ers to have fewer problems with judging and interpreting agreement marking, than with producing the correct morphological inflection.

Section 9.6 revealed that there was a clear difference in error rate for nominal gender agreement between the different tasks. All L2ers at beginner level were clearly more accurate on the acceptability judgement and comprehension tasks than on the production task.

The same applies to the advanced learners, even though the discrepancy in error rates between the different tasks have reduced in comparison with those found at beginner level. There is no significant difference between the tasks at near-native speaker level for nominal gender agreement. For nominal number, the maximum error rate of 6.48% at beginner level makes it difficult to compare the various tasks in a meaningful way; there is very little variation between the different tasks.

The data for verbal person agreement (see Section 10.4) show that all beginners have significantly more problems with the production task than the acceptability judgement task, except for the L1 Swedish group who perform equally well in both tasks. Error rates for verbal number do not differ significantly between the tasks. There is very little variation in error rates between the different tasks at advanced and near-native speaker level due to the very high accuracy rates for verbal agreement.

In sum, the nominal and verbal agreement data show that if there is a significant difference between the tasks (i.e. for nominal gender and verbal person at lower proficiency level), L2ers have fewer problems interpreting or judging gender agreement morphology than they have producing correct surface inflection. The cases where there is no difference between the tasks can largely be ascribed to very low error rates for the features in question, which do not allow for a differentiation.

The only exception is the L1 Swedish group who perform equally well on verbal person agreement in the production and acceptability task at lower proficiency level. This could indicate that, at lower proficiency level, the L1 Swedish group do have a problem with the syntactic knowledge of verbal person

agreement, a feature which is not present in their L1. Verbal number agreement may not present as much of a problem to the L1 Swedish group given that Swedish has subject-predicate agreement for number (whereas adjectives are not inflected for person).

The results discussed in this section confirm that problems with agreement morphology are not due to a lack of linguistic knowledge of the syntactic features and feature strengths in the L2ers' IL, but are related to problems with mapping the syntactic features to the corresponding morphological forms in L2 Spanish. The only exception to this finding is the L1 Swedish group who seem to provide evidence for L1 transfer of syntactic features (as defined by Schwartz & Sprouse 1996) at beginner level.

11.5. HYPOTHESIS 4 (N4 + V4): AT LOWER PROFICIENCY LEVEL,

• L1 DUTCH, FRENCH AND SWEDISH L2ERS OF SPANISH WILL PERFORM BETTER THAN L1 ENGLISH LEARNERS OF SPANISH ON NOMINAL AGREEMENT.

• L1 DUTCH, ENGLISH AND FRENCH L2ERS OF SPANISH WILL PERFORM BETTER THAN SWEDISH LEARNERS OF SPANISH ON VERBAL AGREEMENT.

Hypothesis 4 addresses another key issue in L2A research (repeated here from Section 4.2):

(b) Do L2 learners 'transfer' L1 parameter settings into the L2 initial state?

which was reformulated as (b'), since agreement morphology is being used as the testing ground for this question in the current empirical study:

(b') Do learners 'transfer' the (non-)realisation of features ([GENDER], [NUMBER], [PERSON]) in their L1 to their IL? If so, do they transfer all of these features or only some of them?

If there is transfer of syntactic features from the learners' L1 into the L2 initial state, as posited by Schwartz & Sprouse's (1996) Full Transfer/Full Access theory of L2A, we would expect the L1 English beginners to have more problems with nominal agreement in L2 Spanish than the other L1 groups, as the gender feature is not instantiated in English, but is realised overtly in the other languages involved in this study (see Chapters 2 and 3 for the syntactic properties of the different L1s).

Similarly, we would expect there to be a difference between the (less accurate) Swedish group and the other L1 groups for verbal agreement if transfer plays a role, as Swedish does not mark person or number on verbs. If all L2ers perform equally well on nominal and verbal agreement, this would suggest that this domain of transfer does not play a role in L2A.

We would expect these differences between the different L1 groups to be smaller or non-existent at advanced level as Sections 9.4 and 10.2 showed that all L2ers, regardless of their L1, can acquire all agreement features, even if these are not present in their L1.

If transfer of syntactic features is the only factor influencing the difference in acquisition rates of agreement features between the L1 groups, we would also not expect there to be a difference between the Dutch, French and Swedish groups for nominal (gender) agreement. In addition, we would expect the L1 Dutch, French and English groups to perform equally well on verbal agreement.

The data in Section 9.7 show that, at lower proficiency level, the English and Swedish L2ers have the highest error rates for nominal agreement, particularly gender morphology. The L1 English group is less accurate than the Swedish L1 group for nominal gender in the production task. In the acceptability judgement and comprehension task, the L1 Swedish group makes more errors than the English beginners. Both groups perform worse than the L1 Dutch group, who in turn perform less accurately than the French beginners. The high accuracy rates for nominal number make it hard to draw meaningful comparisons between the different L1 groups for this feature.

So, as predicted by a theory of L1 transfer, there is a difference between the English beginners on the one hand, and the L1 Dutch and French groups on the other hand for nominal gender agreement. The Swedish results, however, are more difficult to explain under this approach, as they pattern with the L1 English data, even though Swedish realises gender agreement overtly. A theory based on L1 transfer of syntactic features would also not expect there to be a further difference between the L1 Dutch and French groups. These data confirm the findings of White et al.'s (2001, 2002) studies of nominal agreement which did not find a significant difference between the L1 English and French L2ers of Spanish.

Error rates for verbal agreement are generally very low for all L1 groups, making meaningful comparisons between the different groups difficult. The Swedish L2ers have more problems with verbal person and number agreement in the acceptability judgement task than the other beginners (they actually score less accurately than any of the other groups for all features in the acceptability judgement task), but do not differ significantly from the L1 English group in the production task. The L1 Dutch and French beginners make slightly fewer errors than the L1 Swedish and English groups.

Given the high accuracy rates for verbal agreement amongst all beginners, it is difficult to draw any firm conclusions from these data in terms of transfer. The English and Swedish beginners again seem to have most problems with agreement morphology, even though English displays verbal agreement and Swedish does not. The L1 Dutch and French groups make fewer errors than the English beginners, even though these three languages all realise verbal agreement overtly.

As predicted, the differences between the different L1 groups for nominal gender have decreased at advanced level and are not significant for nominal number and verbal person and number agreement.

In sum, the data in this section, especially for nominal gender agreement and to a lesser extent verbal person agreement, suggest that a theory based on L1 transfer of syntactic features is unable to explain all the findings in a satisfactory way. Contrary to the predictions made by Hypothesis 5, the English and Swedish groups do not differ significantly for nominal gender or verbal person, even though gender is realised overtly in Swedish but not in English, and person is instantiated in English but not in Swedish.

Also contrary to expectations, there are differences in error rates for agreement amongst the other beginner groups, whose L1s realise nominal and/or verbal agreement overtly. The L1 Dutch group performs significantly better than the Swedish beginners for nominal agreement, and the L1 French group has lower error rates than the Dutch (and therefore Swedish) beginners. The Dutch and French beginners also perform slightly better on verbal agreement than the L1 English group.

Theories which do not support L1 transfer into the L2 initial state would also fail to explain these data, as differences between the groups do exist. I would therefore like to suggest that L1 transfer *is* at stake here, though not necessarily (or only) in terms of syntax, but with respect to L2 morphosyntactic systems. The way in which syntactic features are mapped onto morphemes in the L1 (rather than transfer of the actual morphemes) determines the relative difficulty or ease with which L2ers can acquire L2 morphology.

Lardiere (2005:179)³ formulated this idea as follows in a paper presented at GASLA 2004:

'Therefore [...] I'd like to focus not on the selection but rather on the *assembly* of elements of features in SLA. I think that accounting for morphological variability simply by appealing to the parametric (non-)selection of features is too simplistic. Instead I will try to show that the ways in which grammatical features are morphologically combined and conditioned may well affect their overt realization in SLA. [...]

I will now demonstrate how this proposal could work in the context of the current empirical study. In the case of nominal agreement, Spanish uses agglutinating morphology to mark agreement on adjectives: the gender morpheme (e.g. *-o/-a*) appears closest to the stem and is followed by the plural morpheme *-s* (a distinct morpheme), as illustrated in (1)a-d.

³ Whong-Barr (2005) also discussed the issue of L1 transfer of morphology in her paper presented at the same conference.

- (1) a. el libro español b. la casa española
the.MASC.SG book_{MASC.SG} Spanish.MASC.SG *the.FEM.SG house_{FEM.SG} Spanish.FEM.SG*
 'the Spanish book' 'the Spanish house'
- c. los libros españoles d. las casas españolas
the.MASC.SG book_{MASC.PL} Spanish.MASC-PL *the.FEM.PL house_{FEM.PL} Spanish.FEM-PL*
 'the Spanish books' 'the Spanish houses'

French uses the same type of morphological marking⁴, with gender morphology (e.g. added *-e* for feminine adjectives) closest to the stem if present, followed by a separate plural morpheme (e.g. *-s*), as in (2)a-d.

- (2) a. le vélo canadien b. la voiture canadienne
the.MASC.SG bike_{MASC.SG} Canadian.MASC.SG *the.FEM.SG car_{FEM.SG} Canadian.FEM.SG*
 'the Canadian bike' 'the Canadian car'
- c. les vélos canadiens d. les voitures canadiennes
the.MASC.PL bike_{MASC.PL} Canadian.MASC-PL *the.FEM.SG car_{FEM-SG} Canadian.FEM-PL*
 'the Canadian bikes' 'the Canadian cars'

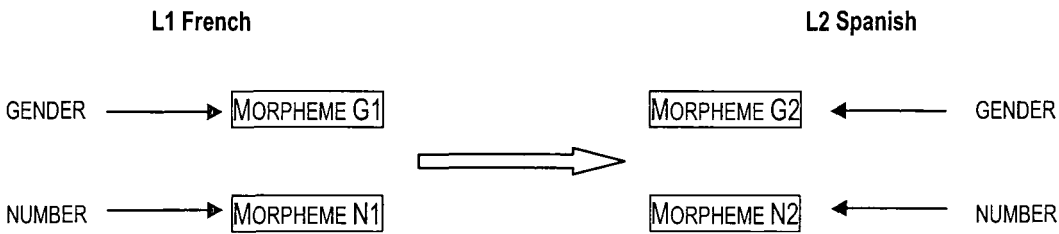
Dutch and Swedish, on the other hand, use a portmanteau morpheme to mark gender and number (and definiteness) on adjectives, illustrated here for Dutch in (3)a-d (for Swedish, see Section 2.6). English does not mark adjectives for gender or number (see Section 2.4).

- (3) a. een lange tafel b. een lang verhaal
a.INDEF.FEM.SG long.INDEF.FEM.SG table_{FEM.SG} *a.INDEF.NEUT.SG long.INDEF.NEUT.SG story_{FEM.SG}*
 'a long table' 'a long story'
- a. de lange tafels b. de lange verhalen
the.DEF.FEM.SG long.DEF.FEM.SG book_{MASC-PL} *the.DEF.NEUT.SG long.DEF.NEUT.SG stories_{NEUT-PL}*
 'the long tables' 'the long stories'

⁴ Even though inflections (particularly number agreement) are less audible in French than they are in Spanish, they are audible in certain contexts, for instance when followed by a word starting with a vowel (*les vieux habits* – *the old clothes*).

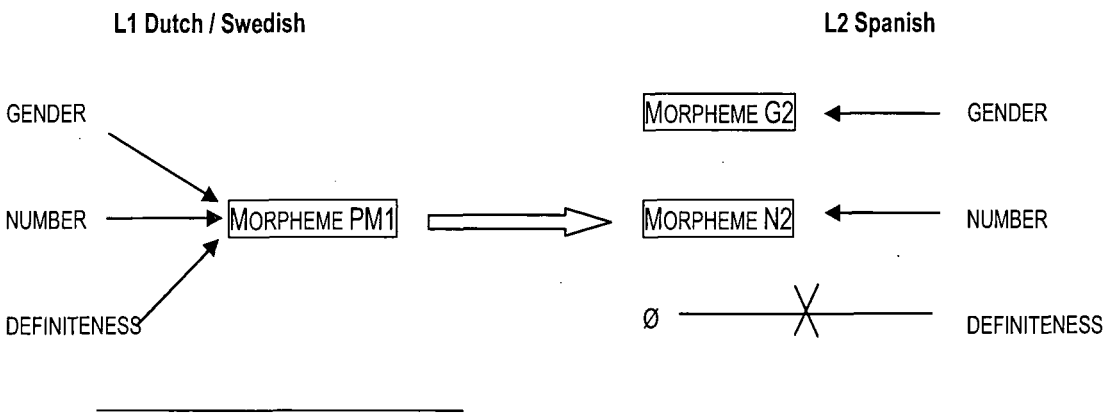
I would like to suggest that it is easier for French L2ers to acquire L2 Spanish nominal agreement, since they can 'transfer' the way syntactic features are mapped individually onto morphemes that represent either gender or number, as illustrated in Figure 1.

Figure 1. L1 French and L2 Spanish morphological systems – nominal agreement (adjectival)



Dutch and Swedish speakers, however, first have to disentangle the gender, number and definiteness features realised as one portmanteau morpheme in their L1, before creating a new system of morphosyntactic representation where gender and number are each mapped onto a separate morpheme and definiteness is not marked on adjectives. Lardiere (2005:180) refers to this as the 'remapping problem'.⁵

Figure 2. L1 Dutch / Swedish and L2 Spanish morphological systems – nominal agreement (adjectival)



⁵ Hawkins & Liszka (2003) argue against this account and instead advocate the unavailability in post-critical period L2A of parameterised syntactic features not instantiated in the L1, locating the source of problems (with past tense marking) 'at the interface between the syntactic component and the lexicon' (2003:24). Native-like performance by L2ers on features absent in their L1 is due to post-syntactic monitoring of surface strings, i.e. checking of output with the help of discourse clues (2003: 39-41). This could justify the relatively higher error rate in the current empirical study against (semantically more abstract) gender marking versus (semantically more transparent) nominal number marking (see Section 11.3), but would not explain the difference in accuracy rates between verbal person and number marking. Neither would it account for the near-native speakers' very high accuracy rates on agreement marking in contexts where the head noun and intervener have opposite features (see Section 11.7), an environment that makes monitoring of surface strings extremely difficult.

In other words, L2ers are faced with

[L]earning problems presented by the different ways in which primitive features are clustered in different languages (specifically, in the L1 vs. the L2), [...] there is a kind of *morphological competence* that must be acquired by the learner. (Lardiere 2005:179)

This would explain why French beginners have fewer problems than any of the other L1 groups when acquiring L2 Spanish nominal agreement morphology. We would, however, not expect a difference between the Dutch and Swedish L2ers in this model of L2A. I suggest that the difference between these two groups can be ascribed to the fact that the L1 Dutch participants have all studied French from the age of 10 years onwards, as a compulsory part of their education in Belgium.

The L1 Dutch group's better performance on nominal agreement marking may therefore stem from the beneficial effects of L2 French on their L4⁶ (or L5) Spanish.⁷ The L1 Swedish group have a more varied L2 background (including English; see Appendix 4 for more details). Thus, they may not have an L2 with a similar morphosyntactic system to Spanish to give them a head start in the acquisition of L2 Spanish morphology, as is the case for the L1 Dutch group.

One final issue that remains to be solved is the similarity of the L1 English and Swedish data. Even though this may look surprising on the surface, there is no reason why it should be more difficult to acquire L2 Spanish nominal agreement for L2ers with an L1 with no overt nominal gender agreement (English) than for L2ers with an L1 morphosyntactic system that differs considerably from the Spanish system (Swedish⁸), as long as the syntactic features are in place. Building up a new morphosyntactic system from scratch (L1 English) should not necessarily be more challenging than disassembling an old system and then re-assembling a new one with old L1 (if they fit) and new L2 building blocks (L1 Dutch or Swedish).

The very high accuracy rates for verbal agreement make it difficult to test this model in the verbal domain. We would probably not expect large differences between the groups, as all languages involved in the empirical study (including Spanish) use portmanteau morphemes to mark person and number, except for Swedish where there is no verbal agreement.

It is possible that even though all L2ers except the Swedish, start with an L1 system of morphosyntax that employs portmanteau morphemes and acquire an L2 that also uses portmanteau

⁶ In the Dutch-speaking part of Belgium, French is the L2, followed by English (L3) and then either German or Spanish.

⁷ In the field of syntactic transfer, Bohnacker (2006a, 2006b) found evidence of the influence of L2 on L3 IL, but see White et al. 2001, 2002, for lack of L2 to L3 transfer effects. This is an issue that needs to be investigated further in the field of IL morphological competence.

⁸ With the added complexity of double definiteness as described in Section 2.6.

morphemes to express person and number, there are differences depending on how many distinct forms there are within the verbal paradigm.

French verbal inflection (with up to 5 different forms in present tense and different forms for person and number in the past and future), for instance, resembles the Spanish paradigm (6 different forms in present, past and future tense) most closely. Dutch only has 3 distinct forms in the present (and future) tense verbal paradigm (including the three [+PL] forms that are identical to the infinitive), reduced to two forms which only distinguish [+SG] and [+PL] number in past. The only English form which differs from the infinitive is reserved for [+3SG] in the present tense; English does not make any distinctions between different person or number in the past or future⁹.

It may therefore not be surprising that L1 French beginners have fewer problems acquiring the L2 Spanish verbal paradigm with its many distinct forms. The L1 Dutch group again has the advantage of having acquired French as an L2, possibly giving them a head start over the L1 English group. The Swedish beginners need to build a new verbal inflection system from scratch, which is not necessarily more difficult than rewiring an existing system such as the English or Dutch system of morphosyntax to the Spanish model.

Sections 9.7 and 10.5 also revealed that the differences between the L1 groups have decreased at advanced level. If the beginners' problems are indeed due to problems with (re-)mapping syntactic features to lexical forms in the L2, we would expect the L2ers to improve over time.

As Lardiere (2005:190) points out, assuming that morphological variability is due, in part, to 'remapping' problems of syntactic features onto their morphological spell-out, further research will need to determine the exact nature of 'transfer' between morphosyntactic systems in the L1 and the L2 and how L2ers come to acquire newly assembled or re-assembled L2 morphology.

A good testing ground would be a syntactic feature which involves some overt syntactic phenomenon in the L2 as well as overt L2 morphology.¹⁰ Participants would be recruited from various L1 backgrounds that realise this syntactic feature using similar and different morphosyntactic systems to the L2, as well as participants whose L1 does not instantiate this feature.

In order to establish whether there is also transfer of L1 syntactic (agreement) features^{11,12} into the earliest stages of L2A (as defined by Schwartz & Sprouse's 1996 *Full Transfer/Full Access Hypothesis*),

⁹ Except for the verb *to be*.

¹⁰ Lardiere (2004), for instance, looked at the acquisition of definiteness and studied the overt realisation of definite articles as well as the participant's compliance with the requirement that the DP in an existential *there*-construction cannot be definite.

¹¹ See Section 11.4 for a brief discussion of this issue in the context of the Swedish beginners' results.

¹² For an account supporting the view that L2 development is similar regardless of the L2ers' L1, see for instance Vainikka & Young-Scholten's (2006, 2007) theory of Organic Grammar.

further research will have to test L2ers at lower proficiency level than the L2ers tested here. In this case, the tasks will probably need to be adapted as L2ers who are even less proficient than the beginner groups tested in this study might have difficulty carrying out the same tasks.

11.6. HYPOTHESIS 5 (N5+ V5): AT LOWER PROFICIENCY LEVEL,

A) L1 ENGLISH SPEAKERS WILL PERFORM BETTER ON L2 SPANISH VERBAL AGREEMENT THAN ON NOMINAL AGREEMENT AT LOWER PROFICIENCY LEVEL.

B) L1 DUTCH AND FRENCH SPEAKERS WILL PERFORM EQUALLY WELL ON L2 SPANISH NOMINAL AND VERBAL AGREEMENT AT LOWER PROFICIENCY LEVEL.

C) L1 SWEDISH SPEAKERS WILL PERFORM BETTER ON L2 SPANISH NOMINAL THAN ON VERBAL AGREEMENT AT LOWER PROFICIENCY LEVEL.

As discussed in Section 10.6, Hypotheses 5A-C cannot be verified or rejected as all L2ers, regardless of their L1, have more problems with nominal than verbal agreement. The error rate for nominal gender in particular is much higher than the error rate for any of the other features, including verbal person which follows in second place.

Since not all features turned out to be equally acquirable, it is impossible to compare nominal and verbal agreement within each of the language groups and decide on the role of L1 transfer based on these comparisons. However, the discussions relating to Hypothesis 4 (previous section), have provided us with a comparison of the data for the different L1 groups and the issue of transfer.

11.7. HYPOTHESIS 6: AT LOWER PROFICIENCY LEVEL, L2ERS WILL BE BETTER AT TEST TOKENS WHERE THE INTERVENER MATCHES THE HEAD NOUN IN FEATURES THAN AT TEST TOKENS WHERE THE HEAD NOUN AND INTERVENER HAVE OPPOSITE FEATURES.

Hypothesis 6 aims to establish whether L2ers have really *acquired* L2 agreement relations (based on hierarchical syntactic structures), or whether they are using general learning strategies based on linear closeness instead. In order to test this, the acceptability judgement and production tasks included test items with an intervening constituent with matching or opposite features to the head noun (for more details, see Section 7.2.1).

If subjects are using local, linearly determined strategies to judge or produce agreement marking, we would expect more errors when the intervening noun has opposite features to the head noun (illustrated in (4)a for nominal gender agreement), than when the features are matching ((4)b).

- (4) a. La niña *con el libro* es china / *chino.
*The.FEM.SG girl.FEM.SG with the.MASC.SG book.MASC.SG be.3SG Chinese-FEM / *MASC.SG*
 'The girl with the book is Chinese.'
- b. La niña *con la bicicleta* es china / *chino.
*The.FEM.SG girl.FEM.SG with the.FEM.SG bike.FEM.SG be.3SG Chinese-FEM / *MASC.SG*
 'The girl with the bike is Chinese.'

The data for verbal number agreement in Section 10.7 do not really contribute to answering this research question due to the high accuracy rate for this feature and the smaller number of tokens with an intervening noun in the production task. We will therefore focus our attention on nominal agreement.

The data for nominal gender (see Section 9.9.1) show that the only significant discrepancy between contexts with matching versus opposite features in the acceptability judgement task can be ascribed to the English beginners (6.32% error rate for matching contexts vs. 16.67% for test items where the head noun and intervening noun differ in gender). There are no clear patterns to the incorrect acceptability judgements of any of the other groups.

The differences between the two contexts are much clearer for the production task. For masculine head nouns, all beginners except the L1 French group have more problems producing correct agreement morphology when the intervening noun is feminine rather than masculine. This difference is smallest for the English beginners (17.14% vs. 5.45%) and largest for the Swedish beginners (45.16% vs. 9.33%).

The discrepancies between both contexts are even larger for tokens containing feminine head nouns. In this case, all L1 groups, including the French beginners, perform significantly worse in contexts where the intervener is masculine rather than feminine. This discrepancy is smallest for the L1 French group (34.92% vs. 9.80%) and rises to 36.45% for the Swedish beginners (64.71% vs. 28.26%).

From these results, it is clear that beginners often apply linear strategies to assign agreement marking, rather than use hierarchical syntactic agreement relations, especially when producing (rather than judging) agreement morphology. In other words, even though the beginners *seem* to have acquired agreement, they are, in fact, often applying general cognitive learning strategies.

Previous studies have mostly overlooked this finding as they relied only on test tokens without intervening head nouns (but see Alarcón 2006 for gender agreement¹³). The findings of these studies are

¹³ In her computerized sentence completion task, Alarcón (2006) also found a significant effect for what she called 'noun gender congruency', i.e. matching versus opposite contexts, in line with findings in this study. Alarcón, however, provided participants with the targetlike determiner. Effects of gender congruency have also been investigated for native speakers of various languages, with mixed results: some studies did not find any significant effect (e.g. Miozzo,

thus based on data which does not provide an accurate picture of IL knowledge. This is illustrated by the data for the English beginners, for instance: even though they only produce 5.45% errors when the head noun and intervener are both masculine (arguably similar in error rate to a situation with a masculine head noun and no intervener), they produce 77.22% errors when the head noun is feminine, but the intervening noun (which is linearly closest to the predicative adjective) masculine. Hypothesis N6 is thus confirmed by these findings.

The results also provide additional evidence for the findings in Section 11.4, which showed that L2ers make fewer errors in the acceptability judgement than production task. In addition, these results for the production task foreshadow the discussion of additional research question 1 (Section 11.8) regarding default morphology in IL, as all beginners perform better on items with a masculine head noun than on items with a feminine head noun in the corresponding context of matching or opposite features. The only exception here are the L1 French group who perform equally well on masculine and feminine head nouns in matching contexts.

For the advanced L2ers, there is very little variation in error rate between contexts with matching versus opposite features in the acceptability judgement task. There is still a difference between these contexts in the production task for all groups except the French advanced L2ers. The Dutch, English and Swedish groups all make more errors on items containing a masculine head noun if the intervening noun has opposite rather than matching features. All these L2ers make most errors when the head noun is feminine and the intervener masculine (up to 36.67% for the L1 Swedish group).

The advanced learners, however, show a significant improvement for nominal gender (i.e. a reduction in the discrepancy between contexts with matching versus opposite features) in comparison with the corresponding beginner groups. This demonstrates that they are relying less on linearly determined strategies and more on hierarchical agreement relations.

There is a further improvement from advanced to near-native speaker level for the L1 English group, who are 100% accurate for all contexts except when the head noun is feminine and the intervener masculine (8.82% error rate, down from 28.38% at advanced level). This means that the L1 English near-native speakers are more than 91% accurate for the feature that L2ers experience most problems with (nominal gender) in the most difficult context (opposite features). These results therefore indicate that they have *acquired* Spanish agreement relations.

For nominal number, the discrepancies between the different contexts are very small. In the acceptability judgement task, most L1 groups perform worst on items containing plural head nouns and

Costa & Caramazza (2002) for L1 Italian and Costa, Sebastián-Gallés, Miozzo & Caramazza (1999) for L1 Spanish and Catalan), whereas others did find a difference between contexts with matching versus opposite features (Schriefers & Teruel (2000) for L1 German, for instance).

singular interveners. However, the largest discrepancy between an item with plural head noun and intervener (i.e. matching context - 3.70% error rate) versus plural head noun and singular intervener (opposite features - 9.26% error rate) is only 5.56% and can be ascribed to the Swedish beginners. There is no clear error pattern for this task.

For the production task, the largest discrepancy (8.06%) between contexts with matching and opposite features can be ascribed to the English beginners who make 11.63% errors when the head noun is plural and the intervener singular versus 3.57% for test items with matching plural features. The differences between the contexts are insignificant for the other groups.

There is very little variation between the different types of test items for the advanced L2ers, both in the acceptability judgement and production task. The L1 English near-native speakers of Spanish perform 100% accurately on nominal number. All advanced and near-native L2ers seem to have acquired nominal number agreement.

11.8. ADDITIONAL RESEARCH QUESTION 1: DO L2 LEARNERS RELY ON DEFAULT MARKING WHEN PRODUCING AGREEMENT MORPHOLOGY?

Table 1 provides an overview of the findings for default agreement marking in the production task for nominal gender and verbal person (error rates for nominal and verbal number were too small to draw any conclusions regarding a default form). In terms of nominal gender, all beginners overuse masculine forms in feminine contexts more often than vice versa. This finding is confirmed by the data in Section 11.7.

Table 1. Defaults in the production of agreement marking*

	nominal gender	verbal person
	default	default
Beginners	masculine	3 rd person
Advanced	masculine exc.: F: (feminine)*	-.**

* Based on a limited number of samples

** Error rate was too small to draw any conclusions regarding a default form

This also applies to the advanced L2ers, except for the L1 French advanced L2ers who use feminine forms more frequently in the limited number of cases where they produce incorrect gender morphology (as discussed in Section 9.10.1.2, this is mainly due to the corresponding head noun having

opposite inherent gender in French). The masculine form is clearly the default form, confirming the findings from Alarcón (2006), Bruhn de Garavito & White (2000), White et al. (2001, 2002) amongst others.¹⁴

The English beginners are the only group who produced more than 10 errors against nominal number agreement: there were 15 instances of incorrectly used singular forms and only 1 token of incorrect plural marking. White et al. (2001, 2002) also found very high accuracy rates for nominal number agreement.

All L2ers, regardless of their L1, use 3rd person forms as a default for verbal person, which confirms Bruhn de Garavito's (2003) findings. There is no clear default for verbal number marking, even though the infinitival form was the most commonly produced incorrect form for the English and Swedish L1 groups. The Dutch and French groups were very accurate for this feature in the production task.

Prévost & White (2000) reported on the use of non-finite forms in finite contexts in L2 French and German and argue that default forms have unspecified features in the L2ers' IL and can be inserted in a node as long as the features of the default form are a subset of the features of the hosting node (see Section 5.2.2.2). In terms of verbal person agreement, this approach could explain the use of 3rd person morphology as a default, as [+3p] is often considered to be the least specified form.¹⁵

McCarthy (2005, 2007) provides a very clear explanation of how '[c]ompetition for vocabulary insertion proceeds from the most highly specified entry to the least specified entry (the elsewhere form)' (2005:4). As 3rd person, singular and masculine can be argued to be the least specified or unmarked forms in Spanish on theoretical grounds¹⁶, these are the forms that surface as defaults.

11.9. ADDITIONAL RESEARCH QUESTION 2: SYNTACTIC AGREEMENT OR LEXICAL GENDER LEARNING?

This question explores the issue of lexical learning of inherent gender versus syntactic agreement between the determiner and adjective, regardless of whether the inherent IL gender corresponds to the target language gender.

The data in Section 9.11 showed that error rates for nominal gender would have been approximately 10% higher (45% vs. 35% for instance) amongst the beginners if tokens containing a non-targetlike determiner but concurring gender marking on the adjective had been labelled 'incorrect' (i.e. cases of incorrect lexical gender learning). Advanced L2ers seldom produced non-targetlike determiners.

¹⁴ One argument in favour of masculine being the unmarked or least specified form in Spanish can be found in the plural forms used to denote people. Mixed gender groups consisting of at least one masculine noun and one or more feminine nouns adopt the masculine plural form in Spanish. Thus, *los hermanos* could indicate a group consisting of only brothers (*hermanos*) or a group consisting of one brother (*hermano*) and two sisters (*hermanas*).

¹⁵ Ferdinand (1996), for instance, also found that 3rd person verbs were used as a 'finite elsewhere form' in L1A.

¹⁶ See McCarthy (2005:3) for more details and references.

This finding confirms that it is important to make the distinction between syntactic agreement and lexical gender learning when interpreting data. This should be taken into account when comparing the current results with the studies described in Section 4.4.

The data also showed that beginners more often produce a non-targetlike determiner, followed by a self-corrected targetlike determiner. In these cases, they frequently produce adjectival marking which agrees with the initial non-targetlike gender as displayed on the determiner.

11.10. CONCLUSION

This thesis aimed to contribute to the debate surrounding the key issues of access to UG and L1 transfer in L2A by investigating the acquisition of nominal and verbal agreement in L2 Spanish. The adult L2ers who took part in the acceptability judgement, comprehension and production tasks were matched for at least two levels of proficiency, with L1s which vary in terms of the realisation of nominal and/or verbal agreement.

In terms of access to UG, I demonstrated that the fact that L2ers can produce or recognise agreeing morphological markers is not sufficient to ascribe to them knowledge of syntactic agreement. The experiments addressed this issue by examining L2ers' performance on agreement in non-contiguous ('long' distance) contexts with a complex sentential subject consisting of a head noun and an intervening noun (see Section 11.7).

L2ers at lower proficiency level turned out to make significantly fewer errors in contexts where the head noun and intervener have matching rather than opposite features, suggesting a reliance on linear word order and hence general cognitive learning strategies. The most advanced (near-native) L2ers, however, demonstrated native-like 'long' distance agreement in all contexts, suggesting (hierarchical) structure dependency and hence acquisition that is specific to Language (contra Hawkins & Chan's (1997) *Failed Features Hypothesis*, but supporting post-critical period access to UG (in line with Schwartz & Sprouse's (1996) *Full Transfer/Full Access Theory*).

All L2ers, regardless of their L1, displayed the same discrepancy in acquisition rate between the different features involved in agreement, suggesting that not all features are equally acquirable. All L2ers made more errors against [GENDER] and [PERSON] agreement than nominal and verbal [NUMBER] agreement. This finding contrasts with results of studies into the L1A of Spanish agreement morphology, where the order is reversed; nominal gender agreement appears before nominal number agreement, and verbal person agreement before verbal number.

L1 transfer appears to play a role in the initial stages of L2A in the field of L2 'morphological competence' (Lardiere 2005). L1 French speakers, for instance, have fewer problems with the acquisition of

nominal agreement in L2 Spanish as the way gender and number features are mapped to their lexical forms is similar in French and Spanish. Dutch and Swedish L2ers, on the other hand, whose L1 uses a portmanteau morpheme to realise these features have more difficulty 'remapping' agreement features onto separate morphemes.

In terms of agreement, these problems in the field of L2 morphology seemed more relevant to the results from the current empirical study than issues of syntactic transfer. This was confirmed by the finding that L1 English learners of Spanish did not experience more problems with nominal agreement than the Swedish and Dutch L2ers who needed to 'remap' syntactic features to agreement morphemes from their L1 to the L2 Spanish morphological system.

The discrepancy between L2ers' ability to interpret and judge agreement features, as reflected in the acceptability judgement and comprehension tasks versus the L2ers' more limited ability to produce agreement marking provided further evidence for locating the source of incorrect agreement morphology in mapping problems between syntax and morphology. The least marked features often acted as defaults, as demonstrated by the overgeneralization of masculine forms in gender agreement and 3rd person in verbal agreement marking.

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APPENDIX 1: WHITE ET AL. (2001, 2002)

PICTURE IDENTIFICATION AND VOCABULARY TASKS - SAMPLE TEST ITEMS

1. PICTURE IDENTIFICATION TASK

The following example is taken from White & al. (2001) p.796 & 802 [changes in formatting have been made]:

... an item testing gender agreement. Here, the stimulus sentence is

María contesta: Sí, claro, va a hacer mucho sol. Ponlas ahí cerca de la roja.

María answers: Yes, of course, it is going to be very sunny. Put them over there by the red (one).



1



2

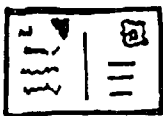


3

The phrase *de la roja* contains a null nominal, which is feminine and singular, as shown by the determiner *la* and the adjective *roja* ('red'). There are 3 pictures (all coloured red in the actual test): a suitcase (*la maleta*, feminine singular), a book (*el libro*, masculine singular) and a pair of socks (*los calcetines*, masculine plural). The pictures that learners are expected to select if they have gender agreement percolating through the DP is the suitcase, whose gender is feminine, like that of the determiner and adjective in the test sentence. The book should not be selected, since it is masculine. The distractor picture is provided by the socks which are masculine and plural, differing on both features.¹

2. VOCABULARY TASK

The following item illustrates the vocabulary task used in White & al. (2001 & 2002)¹:



16. el/la _____



17. el/la _____



18. el/la _____

Test subjects were asked to give the appropriate Spanish word and circle the correct article.

¹ Copies of all the test materials for the vocabulary and picture selection tasks were kindly provided by L. White (p.c. March 2003)

APPENDIX 2: CLOZE TEST

Please fill in the blanks with exactly 1 word.

Una carta desde Perú

En noviembre, Clara Martín viajó a Perú con un grupo de estudiantes españoles. Fue un viaje corto, pero Clara pudo ver las magníficas ruinas de Machu Picchu. La antigua ciudad sagrada de los incas está tan lejos de la civilización que es necesario usar varios medios de transporte para llegar a las ruinas.

En esta carta, Clara le describe a la profesora Martínez la excursión que ella hizo de Cuzco a Machu Picchu.

Cuzco, 15 de noviembre

Estimada profesora:

Aquí estoy en Perú. ¡Qué experiencia! Machu Picchu es increíble. Quiero contarle cómo llegamos allí, pues la larga excursión fue _____ de la experiencia. Bueno, primero fuimos _____ Cuzco por avión desde Lima. En el _____, tomamos un taxi directamente al hotel _____ allí descansé un poco. Después de _____ hora, más o menos, salí a _____ por la ciudad con los otros _____. Fuimos al mercado, donde compré un _____ de alpaca muy bonito. Los indígenas _____ Cuzco hablan quecha entre sí, pero con _____ hablaron castellano.

A la mañana siguiente, _____ encontramos con todos los miembros de _____ excursión en la estación del tren, _____ ir a Machu Picchu. En el tren _____ senté al lado de la ventanilla _____ ver bien el paisaje. A la _____ de Cuzco el tren tiene que _____ muchos metros en una distancia muy _____, así que subimos muy despacio. ¡Dimos _____ vueltas por la misma ladera!

El _____ a Machu Picchu duró aproximadamente cuatro horas. _____ por valles entre montañas muy verdes. ¡ _____ paisajes más bellos! Llegamos a una _____ estación dentro de un valle profundo. _____ allí subimos en autobús a la _____ de la montaña. Y por fin _____ admirar las ruinas y una vista _____ de los Andes. Fue la imagen _____ impresionante de mi vida. ¿Cómo pudieron _____ todo aquello en un lugar tan _____, tan inaccesible? ¿Cómo llevaron las piedras _____ allá arriba? ¡Si todavía no conocían _____ rueda!

Comimos en el hotel que _____ en la cima de la montaña, _____ lado de las ruinas. Luego bajé _____ el autobús con los estudiantes y _____ miembros de la excursión. Ya casi _____ noche abordamos el tren para el _____ de regreso a Cuzco.

Como puede _____, profesora, mi viaje a Machu Picchu fue _____. Hasta mi próxima carta o tarjeta.

Un abrazo, Clara

Una carta desde Perú (solution cloze test)

En noviembre, Clara Martín viajó a Perú con un grupo de estudiantes españoles. Fue un viaje corto, pero Clara pudo ver las magníficas ruinas de Machu Picchu. La antigua ciudad sagrada de los incas está tan lejos de la civilización que es necesario usar varios medios de transporte para llegar a las ruinas.

En esta carta, Clara le describe a la profesora Martínez la excursión que ella hizo de Cuzco a Machu Picchu.

Cuzco, 15 de noviembre

Estimada profesora:

Aquí estoy en Perú. ¡Qué experiencia! Machu Picchu es increíble. Quiero contarle cómo llegamos allí, pues la larga excursión fue **parte** de la experiencia. Bueno, primero fuimos **a** Cuzco por avión desde Lima. En el **aeropuerto**, tomamos un taxi directamente al hotel y allí descansé un poco. Después de **una** hora, más o menos, salí a **pasear** por la ciudad con los otros **estudiantes**. Fuimos al mercado, donde compré un **suéter** de alpaca muy bonito. Los indígenas **de** Cuzco hablan quecha entre sí, pero con **nosotros** hablaron castellano.

A la mañana siguiente, **nos** encontramos con todos los miembros de **la** excursión en la estación del tren, **para** ir a Machu Picchu. En el tren **me** senté al lado de la ventanilla **para** ver bien el paisaje. A la **salida** de Cuzco el tren tiene que **subir** muchos metros en una distancia muy **corta**, así que subimos muy despacio. ¡Dimos **muchas** vueltas por la misma ladera!

El **viaje** a Machu Picchu duró aproximadamente cuatro horas. **Pasamos** por valles entre montañas muy verdes. ¡**Qué** paisajes más bellos! Llegamos a una **pequeña** estación dentro de un valle profundo. **De** allí subimos en autobús a la **cima** de la montaña. Y por fin **pudimos** admirar las ruinas y una vista **panorámica** de los Andes. Fue la imagen **más** impresionante de mi vida. ¿Cómo pudieron **construir** todo aquello en un lugar tan **remoto**, tan inaccesible? ¿Cómo llevaron las piedras **hasta** allá arriba? ¡Si todavía no conocían **la** rueda!

Comimos en el hotel que **está** en la cima de la montaña, **al** lado de las ruinas. Luego bajé **en** el autobús con los estudiantes y **demás** miembros de la excursión. Ya casi **de** noche abordamos el tren para el **viaje** de regreso a Cuzco.

Como puede **ver**, profesora, mi viaje a Machu Picchu fue **estupendo**. Hasta mi próxima carta o tarjeta.

Un abrazo,

Clara

(Source: Terrell, Andrade, Egasse & Muñoz 1998:237)

APPENDIX 3: BIBLIOGRAPHICAL DETAILS - BACKGROUND QUESTIONNAIRE

PERSONAL DETAILS

Name (optional):

Email address (optional):

(Your real name will never be used in papers or discussions, but it allows me to contact you if I have any queries about your experiment. It's up to you - you decide whether you want to give me your name & email address or not.)

Date of birth:

Place & country of birth:

What countries have you lived in (other than your native country)? For how long?

What is (are) your native language(s) (i.e. your first language or mother tongue)?

If you have more than one native language, which language is dominant, if any?

What other language(s) do you speak? For each language, indicate your approximate level (beginner, intermediate, etc) & the age at which you started learning this language.

Please describe your (formal and informal) study of **Spanish** by filling in this table:

Type of instruction / experience	Duration
Example 1: Spanish class in secondary school, approx. 5 hours per week of instruction	3 years
Example 2: Travelled in Latin America	2 months / 2 weeks

If there is anything else about your background that has anything to do with language and might be relevant, please explain.

APPENDIX 4 RESULTS CLOZE TEST & BACKGROUND QUESTIONNAIRE

Dutch Beginners

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
DB1	Dutch	23	18	5 months	-	English, French, German
DB2	Dutch	29	18	<60h + 5.5 months	-	English, French
DB3	Dutch	25	19	5 months	-	English, French, German
DB4	Dutch	28	18	5 months	-	English, French, German
DB5	Dutch	26	18	<60h + 5.5 months	-	English, French
DB6	Dutch	28	18	5.5 months	-	English, French, German
DB7	Dutch	25	20	5.5 months	-	English, French, German
DB8	Dutch	25	19	5 months	-	English, French, German
DB9	Dutch	28	18	<60h + 5.5 months	-	English, French, German
DB10	Dutch	29	18	5 months	-	English, French, German

English Beginners

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
EB1	English	20	20	<60h + 4.5 months	-	German
EB2	English	18	19	4 months	-	French
EB3	English	18	20	4.5 months	2 weeks	French, Russian
EB4	English	22	18	<60h + 4 months	-	French, Italian
EB5	English	19	18	<60h + 4 months	-	French, Italian
EB6	English	21	19	4.5 months	2 weeks	French
EB7	English	22	19	4 months	-	German
EB8	English	22	21	4 months	-	French, German
EB9	English	23	20	4 months	-	German
EB10	English	23	19	4.5 months	-	German
EB11	English	27	18	<60h + 4.5 months	-	French, German
EB12	English	29	19	4.5 months	-	French, German

French Beginners

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
FB1	French	27	19	4 months	-	English, German
FB2	French	27	21	5 months	-	Dutch, English
FB3	French	28	18	< 60h + 4 months	-	Arabic, Dutch, English
FB4	French	28	18	< 60h + 4.5 months	-	English
FB5	French	29	18	5 months	-	Dutch, English
FB6	French	25	19	3.5 months	-	Dutch, English
FB7	French	29	20	4.5 months	2 x 1 week	Dutch, English, Polish
FB8	French	29	18	< 60h + 4.5 months	-	English, Italian
FB9	French	28	19	5 months	-	Dutch, English

Swedish Beginners

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
SwB1	Swedish	19	23	<60h + 4.5 months	-	English, French
SwB2	Swedish	23	20	5 months	-	English, German
SwB3	Swedish	26	28	5 months	-	English, French
SwB4	Swedish	26	25	<60h + 5 months	-	English, German
SwB5	Swedish	28	19	4.5 months	-	English, German
SwB6	Swedish	29	21	<60 h + 5 months	-	English
SwB7	Swedish	26	23	<60h + 4.5 months	-	English, German
SwB8	Swedish	27	28	4 months	-	English, German
SwB9	Swedish	24	25	<60h + 4.5 months	-	English, French

Dutch Advanced

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
DA1	Dutch	31	23	4 yrs	5 months	English, French, German
DA2	Dutch	32	21	4 yrs	5 months	English, French, German
DA3	Dutch	34	22	3.5 yrs	4 weeks	English, French, German
DA4	Dutch	34	24	4 yrs	4 months	English, French, German
DA5	Dutch	33	21	5 yrs	2 x 2 weeks	English, French
DA6	Dutch	31	21	3.5 yrs	5 months	English, French, German
DA7	Dutch	30	22	4 yrs	-	English, French
DA8	Dutch	33	24	4 yrs	5 months	English, French, German
DA9	Dutch	31	23	3.5 yrs	4.5 months	English, French, German

English Advanced

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
EA1	English	30	22	4 yrs	5 months	French, Italian
EA2	English	30	23	7.5 yrs	9 months	German
EA3	English	31	21	4.5 yrs	6 months	French
EA4	English	32	21	6 yrs	1.5yrs	French, Russian
EA5	English	32	22	3 yrs	1yr	German
EA6	English	31	26	5 yrs	1yr	German, Dutch
EA7	English	32	23	3.5 yrs	6 months	French, Italian
EA8	English	36	23	5 yrs	1.5yrs	German
EA9	English	34	22	6 yrs	4 months	French
EA10	English	36	23	4.5 yrs	1yr	French, German

French Advanced

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
FA1	French	31	25	4.5 yrs	5 months	Dutch, English, German
FA2	French	35	23	4.5 yrs	6 months	Dutch, English, Italian
FA3	French	31	21	3.5 yrs	5 months	Dutch, English
FA4	French	34	23	7 yrs	2 yrs	Dutch, English, Italian
FA5	French	35	22	4 yrs	5 months	Arabic, Dutch, English
FA6	French	36	21	4 yrs	1.5 yrs	Dutch, English
FA7	French	36	21	4.5 yrs	2 yrs	Dutch, English, Italian
FA8	French	36	21	5 yrs	5 months	Dutch, English
FA9	French	35	24	6 yrs	4.5 months	Arabic, Dutch, English

Swedish Advanced

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
SwA1	Swedish	30	25	5 yrs	10 months	German
SwA2	Swedish	32	29	7 yrs	2 yrs	English, French, Italian
SwA3	Swedish	33	21	4 yrs	1.5 yrs	English, German
SwA4	Swedish	35	25	5 yrs	1.5 yrs	English, French
SwA5	Swedish	36	23	4.5 yrs	3.5 yrs	English, German
SwA6	Swedish	31	33	3.5 yrs	2 yrs	English
SwA7	Swedish	35	27	6 yrs	8 months	English, German
SwA8	Swedish	34	29	5 yrs	1 yr	English, German

English Near-Native Speakers

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
ENNS1	English	37	31	4 yrs	2 yrs	French
ENNS2	English	38	28	6 yrs	3 yrs	French, Russian
ENNS3	English	38	36	4 yrs	4.5 yrs	French, Italian
ENNS4	English	39	31	7 yrs	3.5 yrs	German
ENNS5	English	37	37	5 yrs	5.5 yrs	French

Spanish Native Speakers

	L1	Cloze test score	Age at time of testing	Spanish study	Time living in Spain	Other languages studied
SpNS1	Spanish	37	20	n/a	n/a	n/a
SpNS2	Spanish & Basque	38	20	n/a	n/a	n/a
SpNS3	Spanish & Basque	40	21	n/a	n/a	n/a
SpNS4	Spanish & Catalan	38	36	n/a	n/a	n/a
SpNS5	Spanish	37	32	n/a	n/a	n/a
SpNS6	Spanish & Catalan	38	22	n/a	n/a	n/a
SpNS7	Spanish	39	26	n/a	n/a	n/a
SpNS8	Spanish	39	20	n/a	n/a	n/a
SpNS9	Spanish & Catalan	37	20	n/a	n/a	n/a
SpNS10	Spanish	38	23	n/a	n/a	n/a

APPENDIX 5: ACCEPTABILITY JUDGEMENT TASK

Part A: Instructions

Thanks for taking part in my research!

BACKGROUND INFORMATION

Please complete the front page of the booklet with your personal background information – you can do this at any point when you want a break from the experiment!

LISTENING TASK

Here are the instructions for the listening exercise.

Page A

Turn to page A - this is not the real experiment, but a practice session to familiarise yourself with the task.

There are 4 pictures on page A. For each picture there are 2 sentences. Each sentence will be repeated once. Please do not stop & rewind the tape while you are listening.

I've described the pictures as best as I can, I'm not trying to trick you. The sentences give an accurate description of the picture, they are always truthful.

Could you tell me whether this sentence sounds OK in Spanish or not?

If you think the answer is:

'yes' then please write: √
'no' X

If you're really **not sure** about the answer, then please write '?'

If the sentence was too difficult because you **didn't understand** the words used, just leave it **blank**.

You can find the solutions for page A at the bottom of this page (problems are underlined). Have a look once you finish this page just to make sure the task is clear to you. Please ask if you have any questions.

If you feel you need some more practice, you can do page B. If you're fine with the task, you can start the actual experiment and skip page B.

Actual experiment pages 1-10

You can now start the actual experiment. I would be grateful if you could do the pages in random order – for example start with page 4, then 7, etc.

The experiment should take approximately 30 minutes.

THANK YOU!!!

SOLUTIONS TO PAGE A

- | | | | |
|------------------------------------------------------|---|--------------------------------------------------|---|
| 1. Los perros con las estrellas <u>están</u> negros. | X | 5. Las gafas en la mesa <u>son</u> rotas. | X |
| 2. El niño alto bebe una coca-cola. | √ | 6. El abuelo con la corbata <u>bibe</u> un café. | X |
| 3. La manzana del niño feliz es <u>granda</u> . | X | 7. La niña en el baño se lava el pelo. | √ |
| 4. Los gatos con los caramelos son blancos. | √ | 8. Los zapatos <u>en mesa la</u> son negros. | X |

Part B: Test sentences & corresponding pages from the test booklet

TRAINING & PRACTICE

Página A

- | | | | | |
|---|-------------|-------------------|---------|----------------|
| 1 | Los perros | con las estrellas | * están | negros. |
| 2 | El niño | alto | bebe | una coca-cola. |
| 3 | La manzana | del niño feliz | es | * granda. |
| 4 | Los gatos | con los caramelos | son | blancos. |
| 5 | Las gafas | en la mesa | son | rotas. |
| 6 | El abuelo | de la corbata | * bibe | un café. |
| 7 | La niña | en el baño | se lava | el pelo. |
| 8 | Los zapatos | * en mesa la | son | negros. |



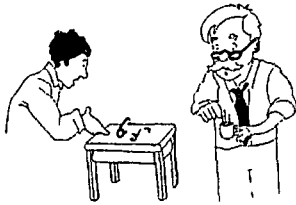
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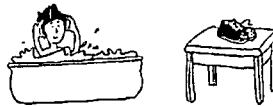
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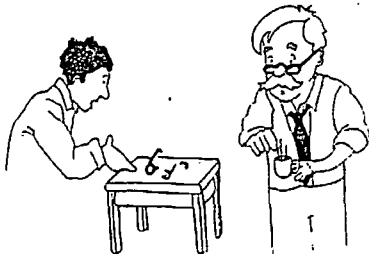


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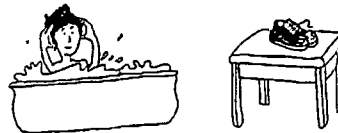
Página B

- | | | | | |
|----|-------------|---------------|--------|-------------|
| 9 | Las gafas | en la mesa | están | * rompidas. |
| 10 | El abuelo | de la corbata | bebe | un café. |
| 11 | La niña | en el baño | * lava | el pelo. |
| 12 | Los zapatos | * en mesa la | son | negros. |



9.

10.



11.

12.

EXPERIMENT

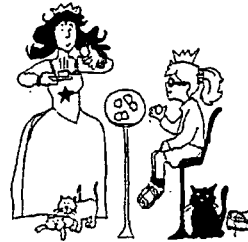
Página 1

1	Los libros	en la mesa	están	blancos.
2	Hay	2 perros	blancos	y *un negro.
3	La princesa	con la estrella	* beben	un café.
4	Hay	una estrella	en el vestido	de la princesa.
5	El niño alto	y la abuela	beben	un café.
6	Los niños	con el perro	comen	muchas hamburguesas.
7	Las niñas	no	beben	nada.
8	El gato	con los caramelos	es	blanco.
9	El niño	en la bicicleta	es	* pequeña.
10	Los gatos	de los niños	* es	* blanco.
11	El niño	con el helado	es	alto.
12	El niño	lleva	unas gafas	blancas.



1.

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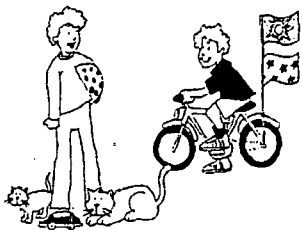
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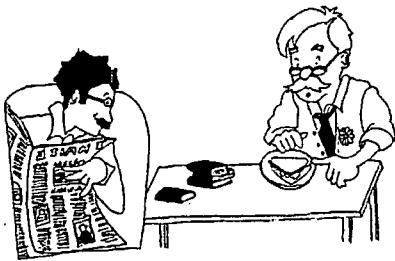


11.

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Página 2

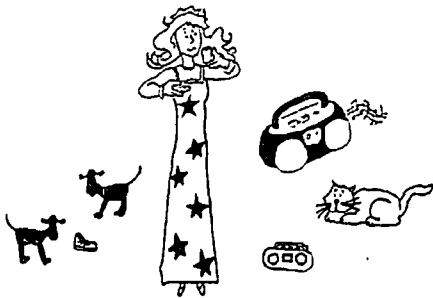
- | | | | | |
|----|-------------|-------------------|-------------------|-----------------|
| 1 | Los libros | de los abuelos | son | negros. |
| 2 | La corbata | del abuelo | es | negra. |
| 3 | Los niños | beben | agua | no. |
| 4 | El niño | con el perro | * comen | una manzana. |
| 5 | Los perros | juegan | con un blanco | zapato. |
| 6 | La princesa | con las estrellas | * beber | un café. |
| 7 | Los niños | llevan | suéters / jerseys | blancos. |
| 8 | Los niños | con el perro | * como | patatas fritas. |
| 9 | Cada | perro | tiene | 2 huesos. |
| 10 | El gato | de los niños | es | blanco. |
| 11 | Los gatos | con las coronas | * come | patatas fritas. |
| 12 | El perro | con el zapato | es | blanco. |



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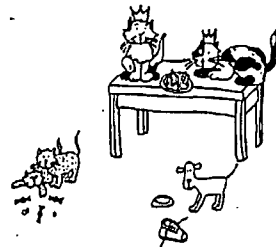
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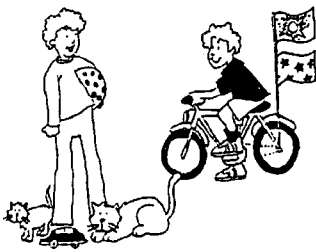
9.
10.



11.
12.

Página 3

1	El niño	en la bicicleta	es	pequeño.
2	La blanca	bicicleta	tiene	dos banderas.
3	El gato	no	se come	nada.
4	Los perros	con el zapato	* es	* negro.
5	Los gatos	con las coronas	comen	patatas fritas.
6	El perro	con el zapato	es	* blanca.
7	El gato	de los niños	* son	* blancos.
8	La niña	con los pantalones	está	la más alta.
9	El niño	con el helado	es	* alta.
10	Las niñas	con las botas	* come	patatas fritas.
11	Los niños	ven	un programa	sobre gatos.
12	El niño	con el perro	come	una manzana.



1.
2.



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4.



5.
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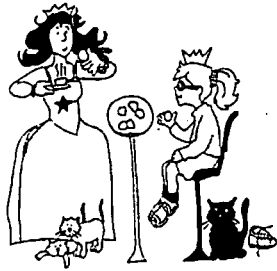
9.
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11.
12.

Página 4

- | | | | | |
|----|---------------|-----------------|-------------------|----------------------|
| 1 | La princesa | con la estrella | * bebo | un café. |
| 2 | Las princesas | llevan | blancas | coronas. |
| 3 | La bota | en la mesa | es | * blanco. |
| 4 | Hay | un plato | de patatas fritas | para los niños. |
| 5 | La abuela | un café | bebe | con las gafas. |
| 6 | Los niños | con el perro | como | muchas hamburguesas. |
| 7 | Hay | una televisión | blanco | en el dibujo. |
| 8 | Los libros | en la mesa | son | blancos. |
| 9 | El gato | de la niña | es | negro. |
| 10 | Las niñas | nada | no | beben. |
| 11 | Los libros | de los abuelos | * es | * negro. |
| 12 | Los *negros | libros | están | en la mesa. |



1.
2.



3.
4.



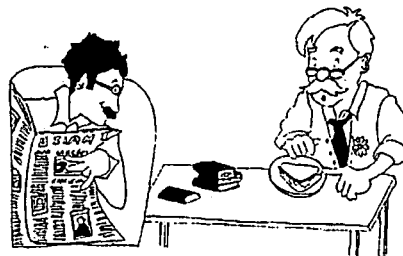
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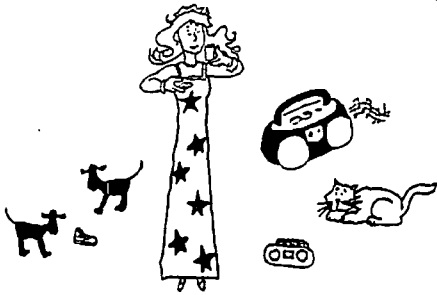
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11.
12.

Página 5

- | | | | | |
|----|-------------|-------------------|------------------|-------------------------|
| 1 | La princesa | con las estrellas | bebe | un café. |
| 2 | Los perros | juegan | con un zapato | blanco. |
| 3 | El gato | con los caramelos | * son | * blancos. |
| 4 | La niña | come | una pizza | grande. |
| 5 | La niña | con el vestido | es | pequeña. |
| 6 | El gato | de los niños | es | * blancos. |
| 7 | El gato | negro | tiene | un zapato. |
| 8 | La princesa | en la silla | es | * pequeño. |
| 9 | El niño | come | las hamburguesas | con tenedor y cuchillo. |
| 10 | Los niños | con el perro | * comer | muchas hamburguesas. |
| 11 | El niño | con el helado | es | * altos. |
| 12 | Las niñas | con las botas | * comer | patatas fritas. |



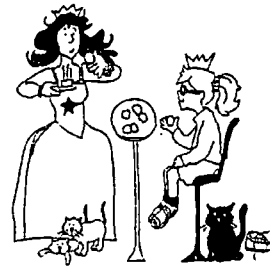
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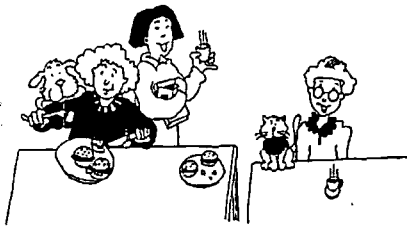
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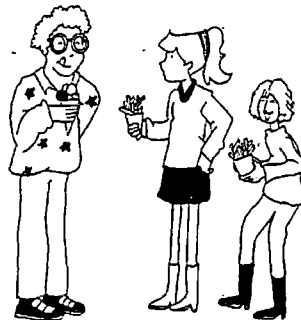
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Página 6

1	Los niños	ven	la tele	en el salón.
2	El perro	negro	juega	cón los zapatos.
3	Hay	dos gatos	con coronas	sobre la mesa.
4	Los gatos	con las coronas	* comer	patatas fritas.
5	Los niños	con el perro	comen	patatas fritas.
6	La bota	en la mesa	es	blanca.
7	Los gatos	de los niños	son	blancos.
8	Hay	dos banderas	en la bicicleta	del niño.
9	La princesa	con los coches	* beber	un café.
10	Los perros	con el zapato	son	blancos.
11	La corbata	del abuelo	es	* negro.
12	Los libros	negros	están	en la mesa.



1.

2.



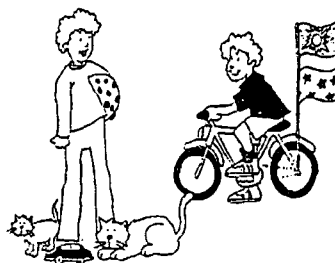
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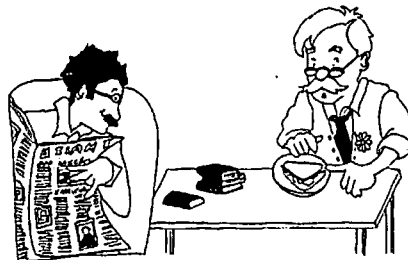
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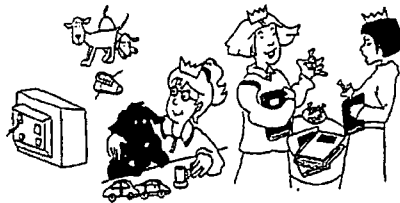
12.

Página 7

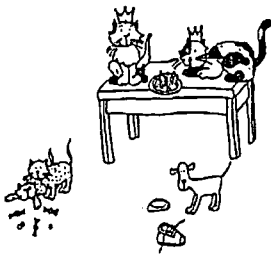
1	La niña	pantalones	alta	lleva.
2	La niña	pequeña	lleva	un vestido.
3	La princesa	con los coches	* beben	un café.
4	Los perros	con el zapato	son	* blanco.
5	El perro	con el zapato	es	* blancos.
6	El perro	juega	con un zapato	blanco.
7	Los niños	con el perro	* come	patatas fritas.
8	El perro	mira	la bota	en la mesa.
9	El abuelo	tiene	un bocadillo	en su plato.
10	Los libros	de los abuelos	son	* negro.
11	El niño	con el perro	* comer	una manzana.
12	Hay	un gato	blanco	en la tele.



1.
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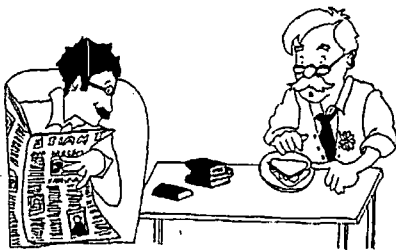
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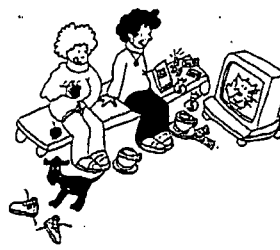
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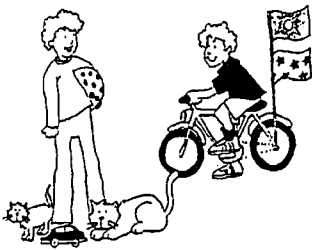
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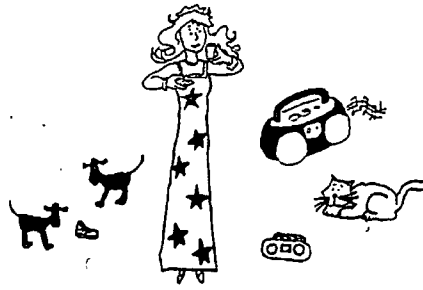
Página 8

1	Los gatos	de los niños	son	* blanco.
2	Los gatos	juegan	con un coche	negro.
3	Los perros	con el zapato	son	* negro.
4	La princesa	con las estrellas	se bebe	un café.
5	La abuela	con el gato	* come	nada.
6	El café	de la abuela	está	caliente.
7	El gato	de la niña	es	* negra.
8	El gato	blanco	es	muy grande.
9	La princesa	con la estrella	* beber	un café.
10	Las princesas	llevan	blancas	coronas.
11	Las niñas	con las botas	comen	patatas fritas.
12	La niña	pequeña	lleva	pantalones.



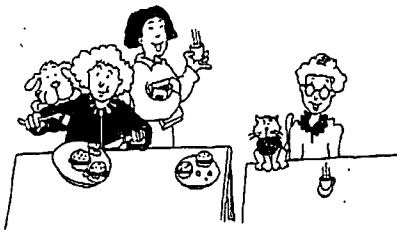
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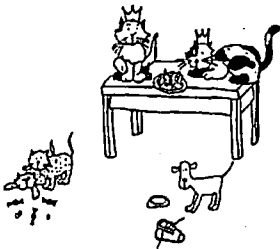


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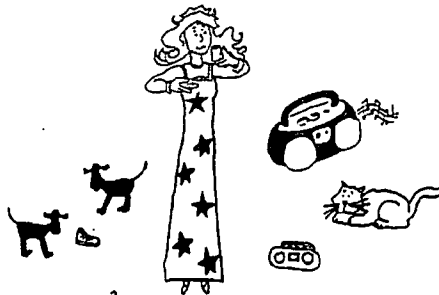
Página 9

- | | | | | |
|----|--------------|-------------------|--------------|-----------------|
| 1 | Los gatos | en el suelo | no llevan | corona. |
| 2 | El perro | con el zapato | * son | * blancos. |
| 3 | La princesa | con las estrellas | * beben | un café. |
| 4 | Los perros | con el zapato | son | negros. |
| 5 | Los niños | ven | la tele | salón en el. |
| 6 | El niño | con el perro | * como | una manzana. |
| 7 | Los niños | con el perro | * comer | patatas fritas. |
| 8 | Sólo | hay | una bota | en la mesa. |
| 9 | Los gatos | juegan | a un coche | negro. |
| 10 | La bicicleta | blanca | tiene | dos banderas. |
| 11 | El niño | con el helado | * son | * altos. |
| 12 | Hay | estrellas | en el suéter | del niño. |



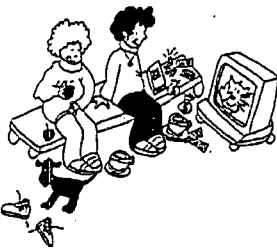
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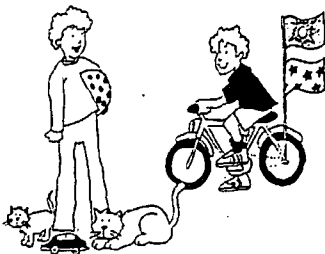
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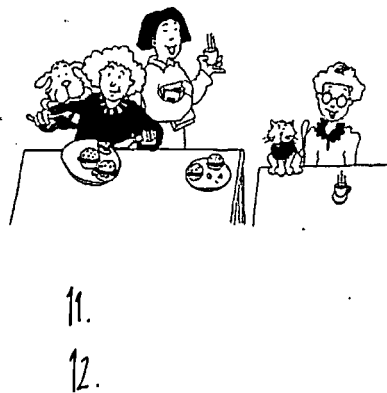
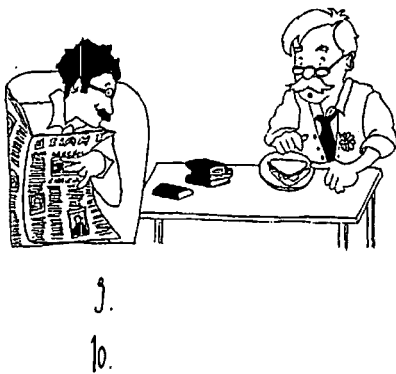
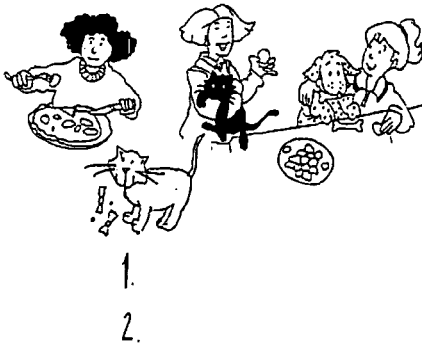


11.

12.

Página 10

1	El gato	con los caramelos	es	* blancos.
2	La niña	*se come	una pizza	grande.
3	La princesa	con los coches	bebe	un café.
4	Los perros	con el zapato	* es	* blanco.
5	La princesa	en la silla	es	pequeña.
6	La princesa	con la estrella	bebe	un café.
7	La niña	con el vestido	es	* pequeño.
8	La niña	alta	lleva	pantalones.
9	El abuelo	mira	el bocadillo	del otro abuelo.
10	Los abuelos	tienen	cuatro libros	y un periódico.
11	Los niños	con el perro	* come	muchas hamburguesas.
12	La abuela	con las gafas	no come	nada.



APPENDIX 6: DAILY ROUTINE - PRODUCTION TASK

Part A: Instructions

The instructions are provided in English here, for the benefit of the reader. During the testing session, instructions were given in Spanish.

Describing a daily routine

I'm going to ask you to describe the daily routine of two people. First we'll do a practice exercise together. Then we'll do the 'real' exercise.

La rutina de Patricia e Inés

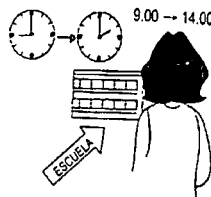
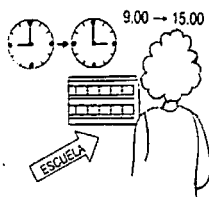


This is Patricia.



This is Inés.

Can you describe the daily routine of these two girls? I'll also ask you some questions about your daily routine and mine.



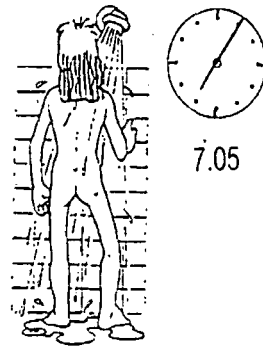
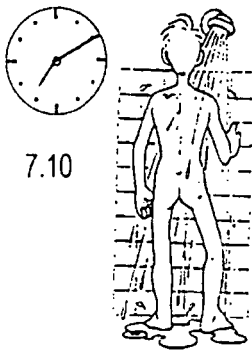
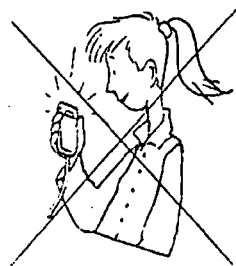
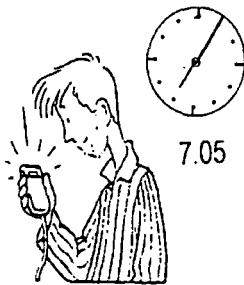
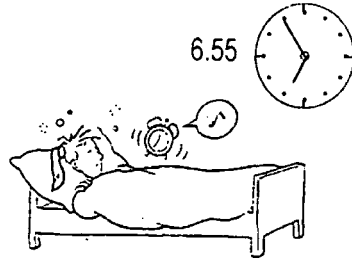
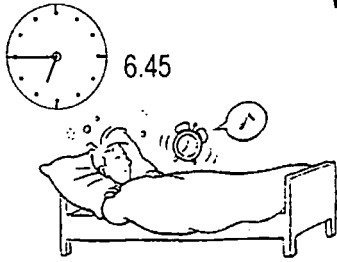
La rutina de Nico y Ana

Can you now describe Nico & Ana's daily routine? The boy is called Nico and the girl is called Ana. This is their daily routine from Monday to Friday (see following three pages). Later I will ask you to describe their weekend routine.

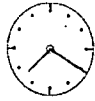


Part B: Pictures used (see following pages for the weekday (p.3-5) and weekend (p.6-8) routines)

WEEKDAY ROUTINE (1)



WEEKDAY ROUTINE (2)



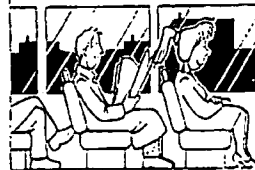
7.20



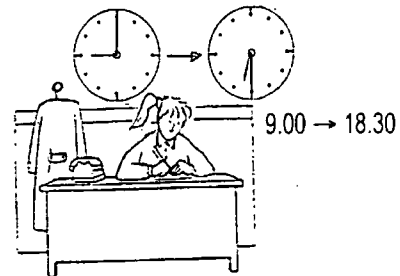
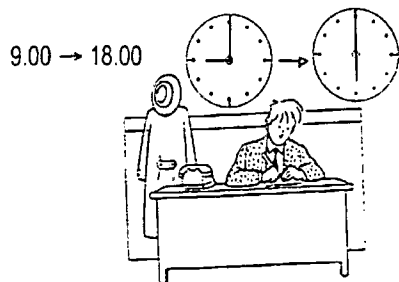
7.30



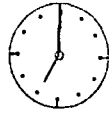
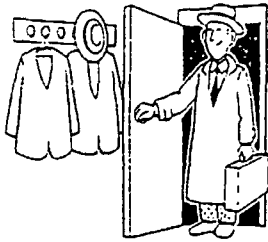
8.00



8.30



WEEKDAY ROUTINE (3)



19.00



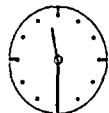
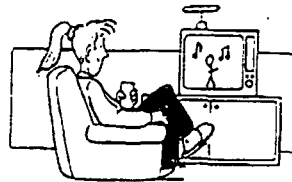
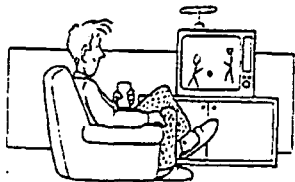
19.30



20.00



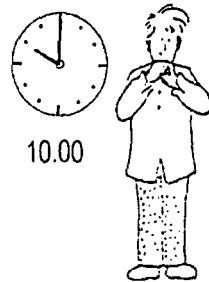
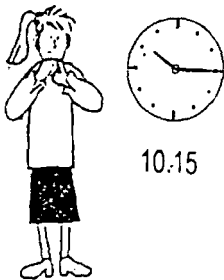
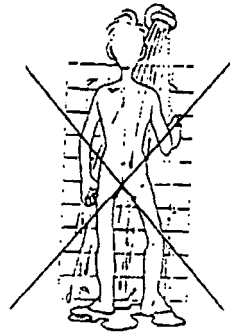
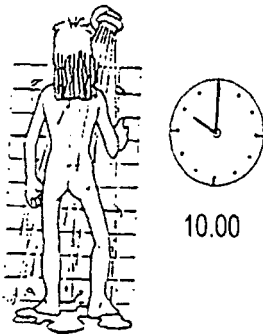
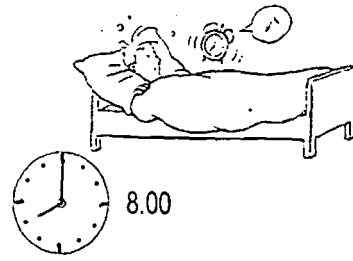
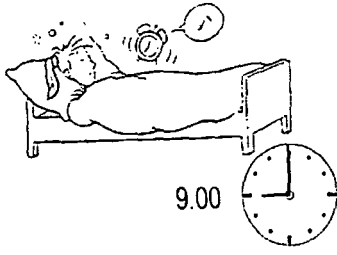
21.00



23.30



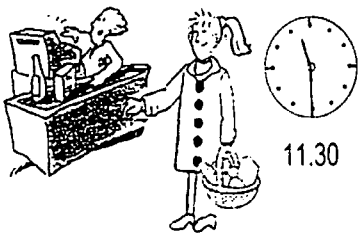
WEEKEND ROUTINE (1)



WEEKEND ROUTINE (2)



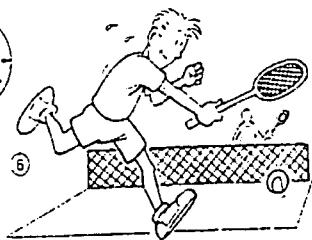
10.30



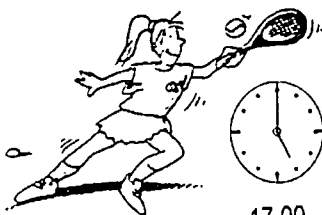
11.30



11.00



15.00



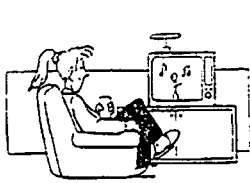
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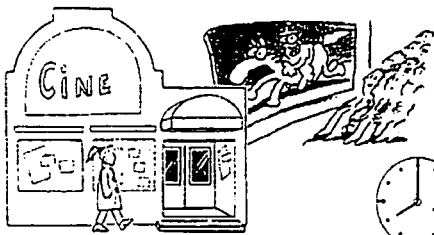
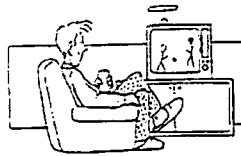
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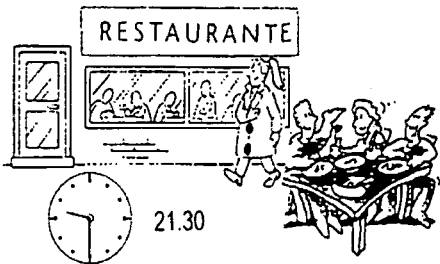
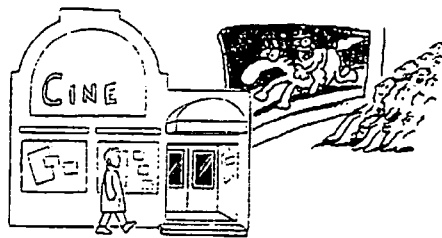
WEEKEND ROUTINE (3)



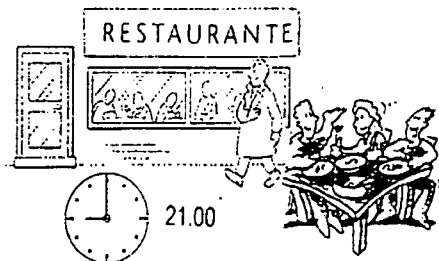
19.00



20.00



21.30



21.00



01.00



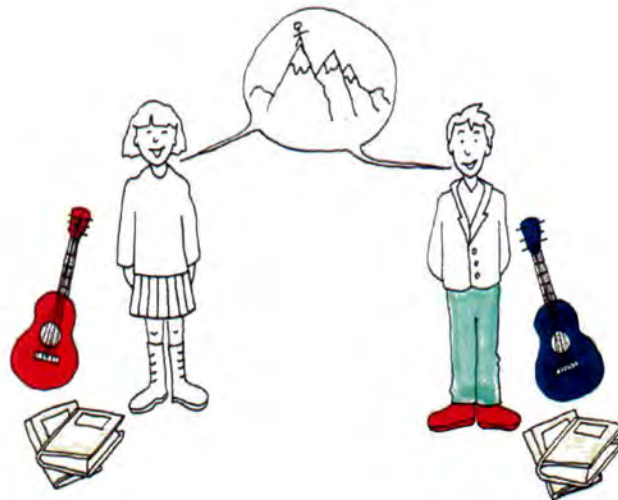
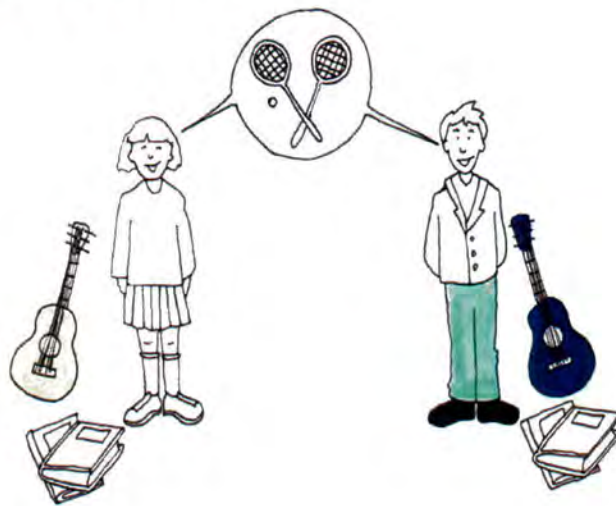
APPENDIX 7: FIVE DIFFERENCES - PRODUCTION TASK

Part A: Instructions

The instructions are provided in English here, for the benefit of the reader. During the testing session, instructions were given in Spanish. A copy of the instructions in the participant's L1 was also available.

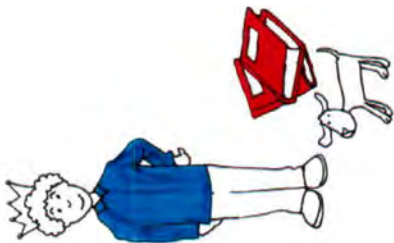
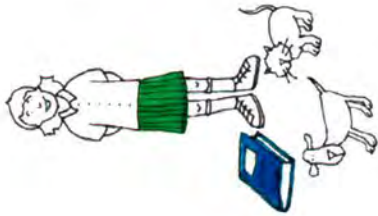
Spot the 5 differences

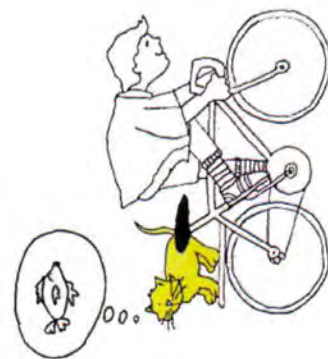
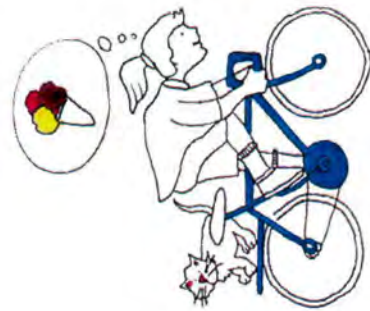
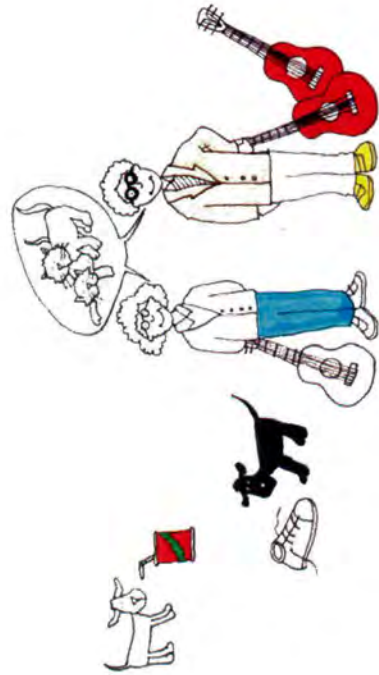
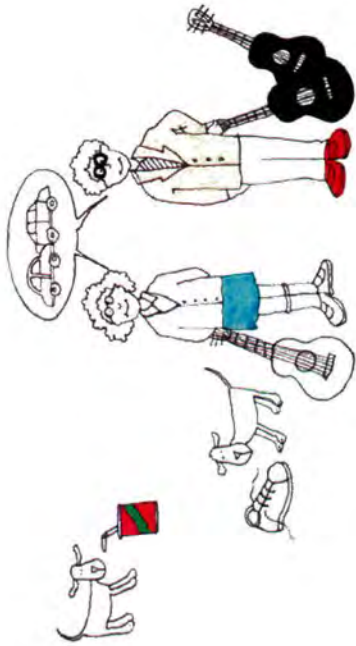
Now we're going to look at sets of pictures. There are *five* differences between the pictures. I'll give you some time to look at the pictures and circle the differences. Then I would like you to describe them to me. We'll do the first one together as an example.

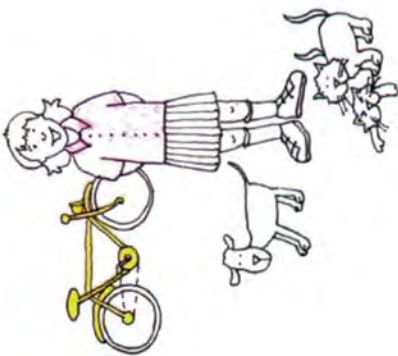
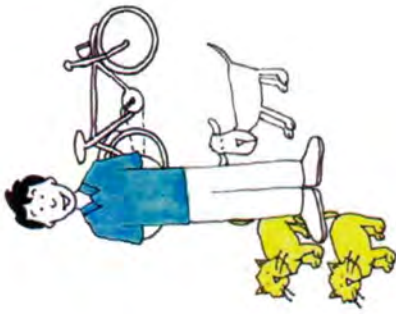
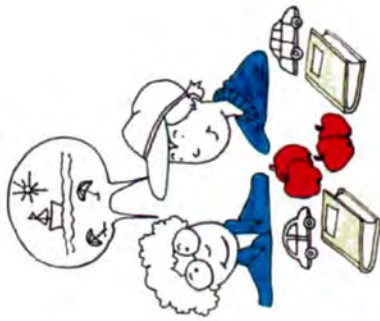


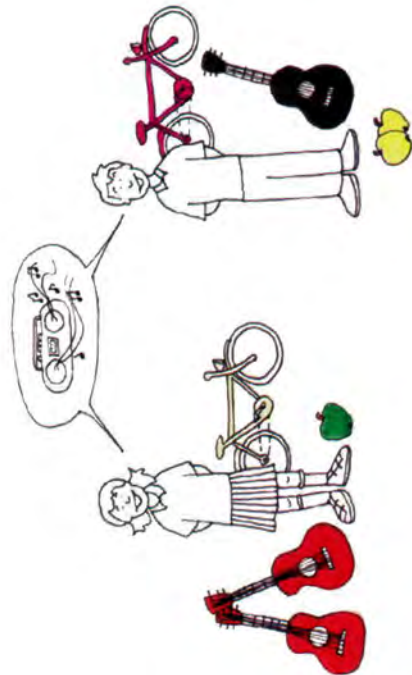
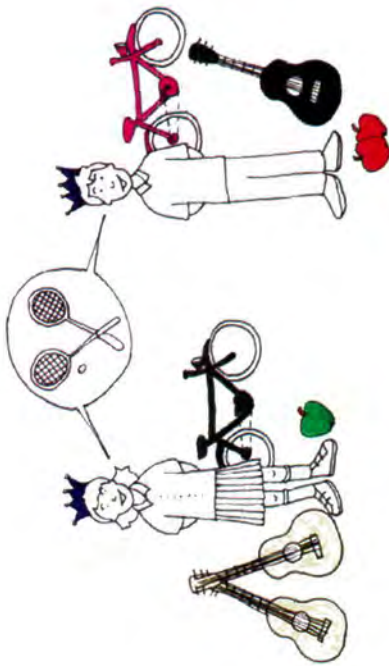
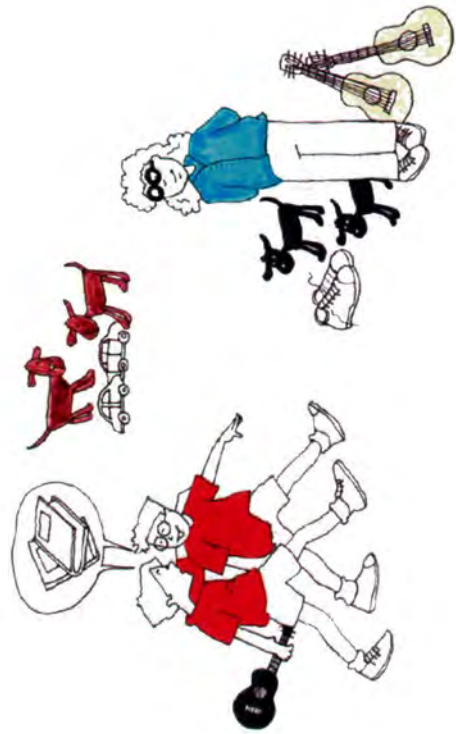
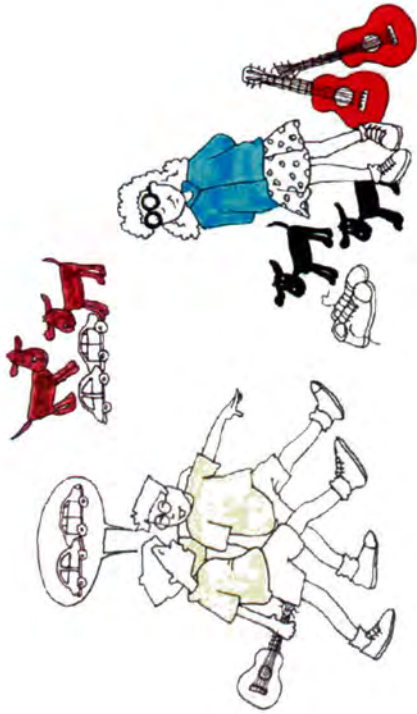
Can you do the same for the other pictures? There are five differences in each picture.

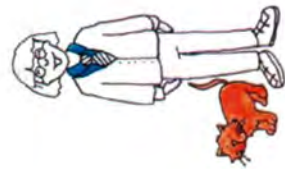
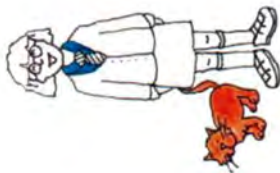
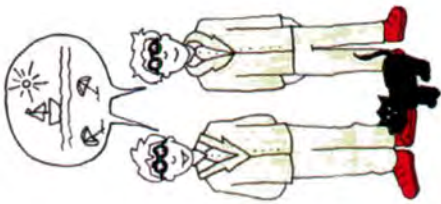
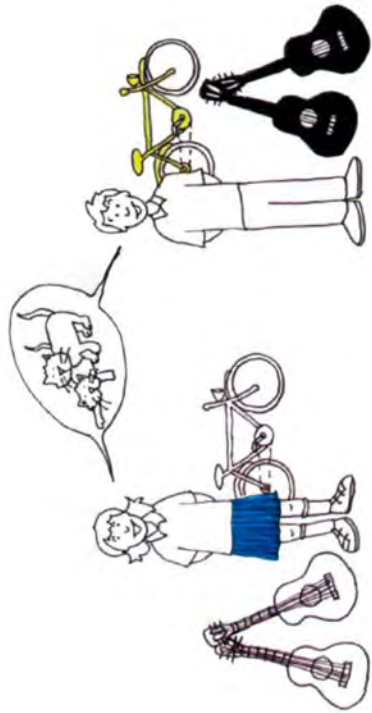
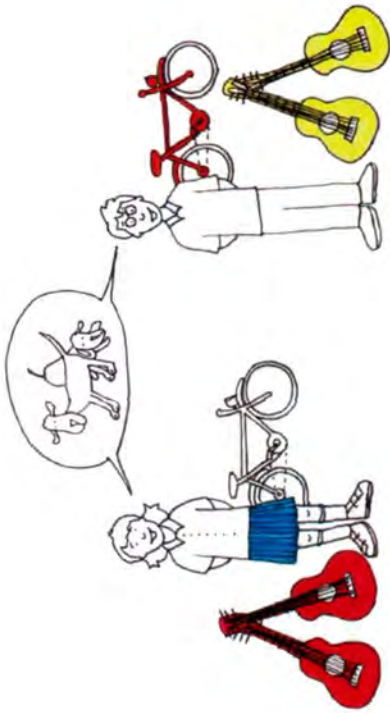
Part B: Pictures used (see following pages – 2 sets / page)











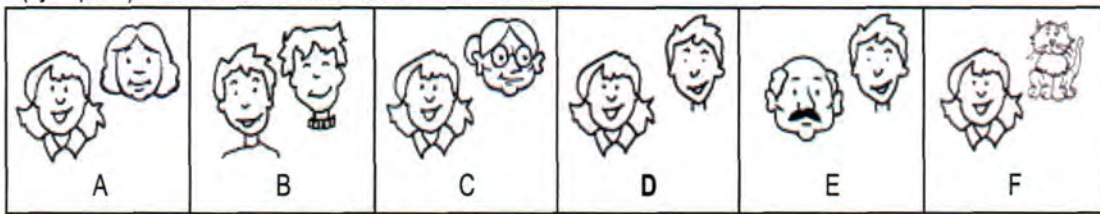
APPENDIX 8: PICTURE SELECTION – COMPREHENSION TASK

Picture task¹

In this exercise you will read and listen to a story about Nico and Ana. The story is accompanied by sets of six pictures. Your task is to choose the picture that corresponds to the last sentence you hear, by circling the appropriate letter (A, B, C, D, E, F). This last sentence is not printed – it is a listening exercise. Please choose only one picture from each set. The following two are examples:

Ana y Nico de vacaciones ...

(ejemplo 1) Ana vive en Londres con su hermano Nico.



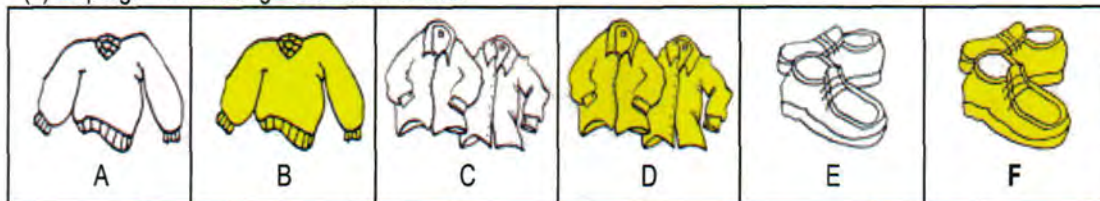
Se van a ir de vacaciones a España y ahora están empacando. Tienen una valija verde que es muy grande. La valija roja es más práctica.

(ejemplo 2) Ana dice: “¿Llevamos *la más práctica?*”



Nico está de acuerdo.

(1) Le pregunta a Ana: “¿Llevo *los amarillos?*”



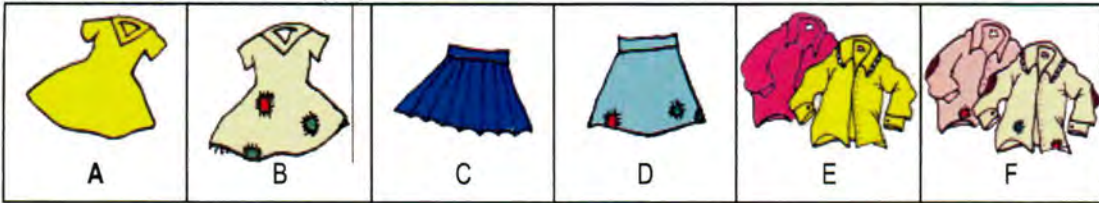
Ana contesta: “Claro, sí.” Nico tiene unos pantalones cortos azules y otros verdes.

(2) Decide *llevarse los verdes.*



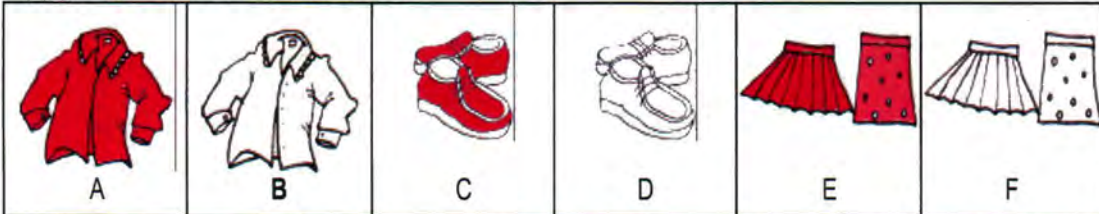
¹ Please note that the words in italics were deleted from the test subjects' copy of the task. Input for the last 3 words of each test item was only provided aurally. Solutions are indicated in bold.

(3) Ana le pregunta a Nico: "Y yo, ¿llevo el nuevo?"



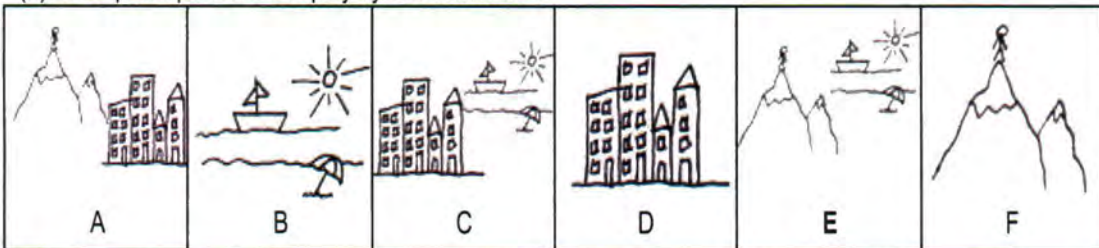
Nico contesta: "Sí, ¿por qué no?"

(4) ¿También te vas a llevar la blanca?"



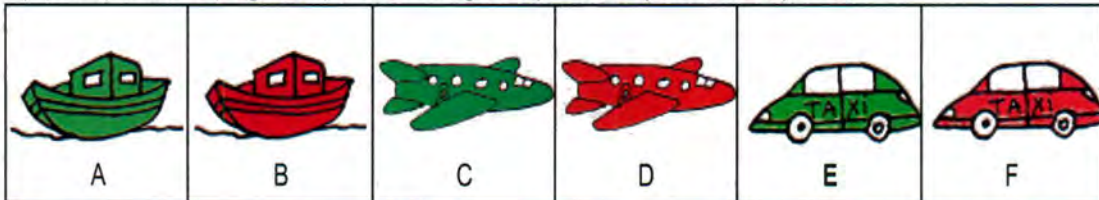
Ana dice que sí.

(5) En España quieren ir a la playa y a las montañas.



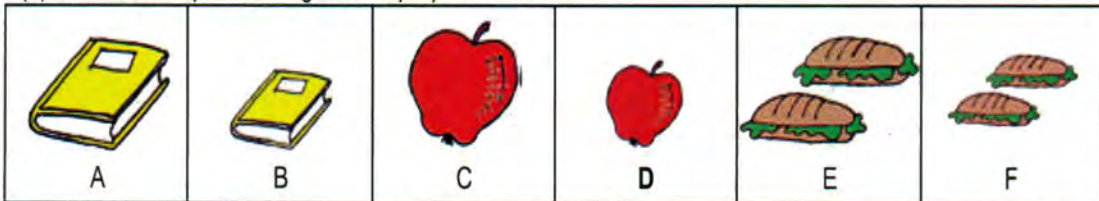
Ana y Nico toman un taxi verde al aeropuerto. Después viajan a España por avión.

(6) Sus padres les preguntan por teléfono: "¿Qué tipo de transporte utilizáis primero?"

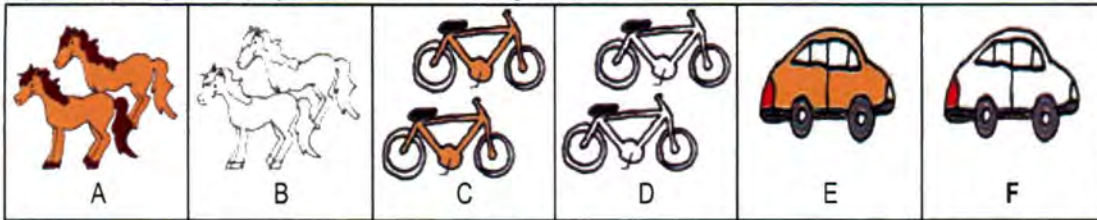


El primer día quieren ir a la playa en bicicleta.

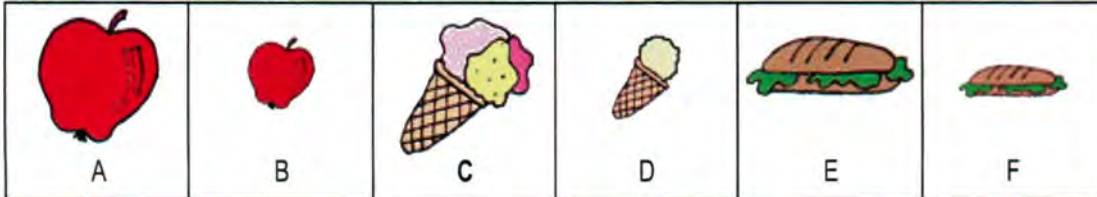
(7) Ana no sabe qué llevar. "¿Llevo la pequeña?"



(8) Cuando llegan a la playa, Nico le dice a Ana: "¿Has visto el blanco?"

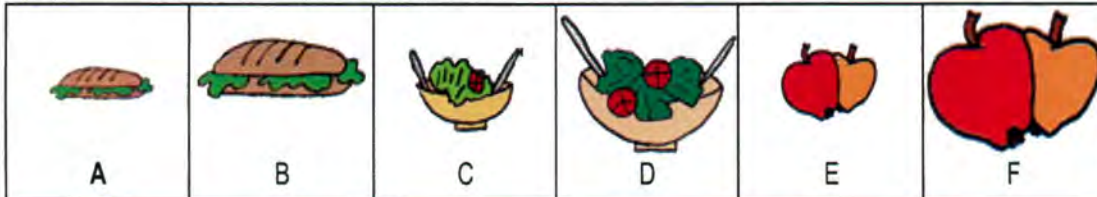


(9) Ana dice: "¡Mira ahí! ¡Ese chico está comiendo un helado enorme!"



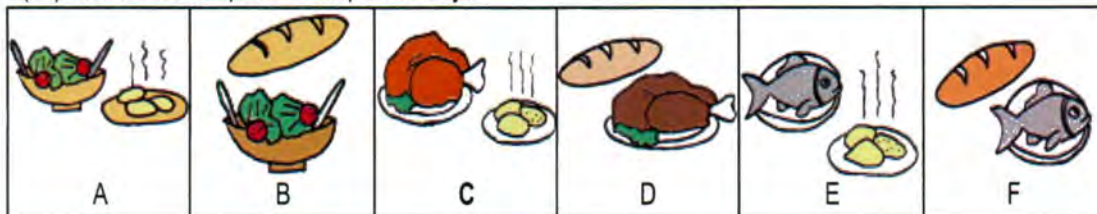
Más tarde, Ana y Nico tienen hambre y se van a un bar para comer algo.

(10) Nico le dice a Ana: "Yo quiero el pequeño."

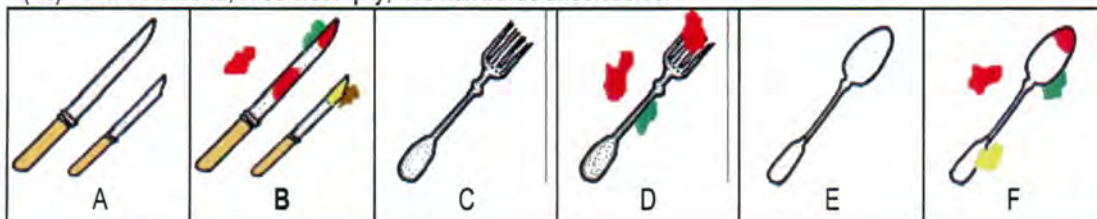


Ana no sabe qué comer. Le pregunta a Nico: "¿Qué te parece mejor, el pollo con patatas o el pescado con pan?"

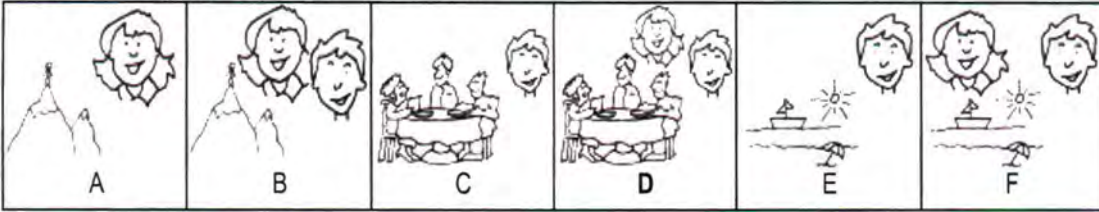
(11) Nico le dice: "El primero me parece mejor."



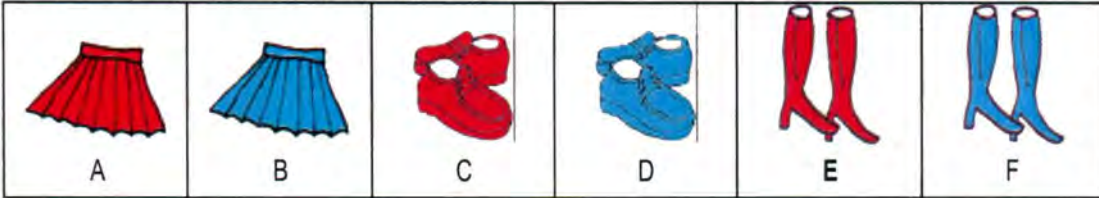
(12) Durante la cena, Nico dice: "¡Ay, nos han traído unos sucios!"



(13) Por la noche los dos salen a un restaurante.

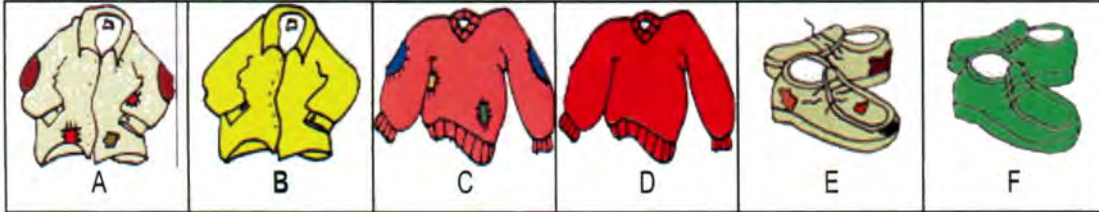


(14) Ana le pregunta a Nico: "¿Me pongo las rojas?"



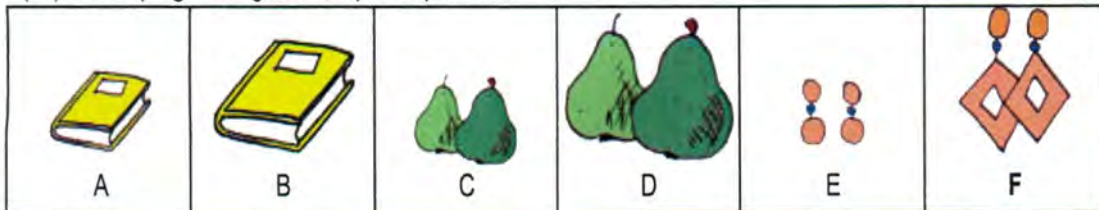
Nico contesta que sí.

(15) Nico le dice a Ana: "Yo me voy a poner la nueva."



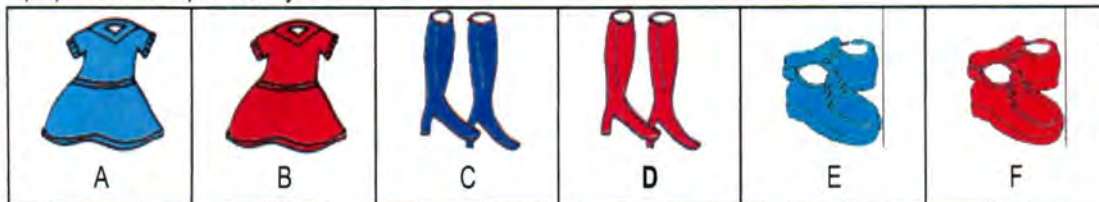
Al día siguiente, Ana se va de compras al centro comercial. Primero, compra unos pendientes grandes. Después, compra dos novelas históricas. Llama a Nico para decirle lo que compró.

(16) Nico le pregunta: "¿Qué compraste primero?"

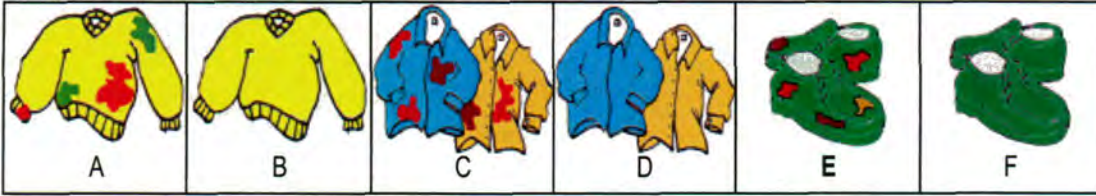


Ana quiere comprar algo más.

(17) Decide comprar las rojas.

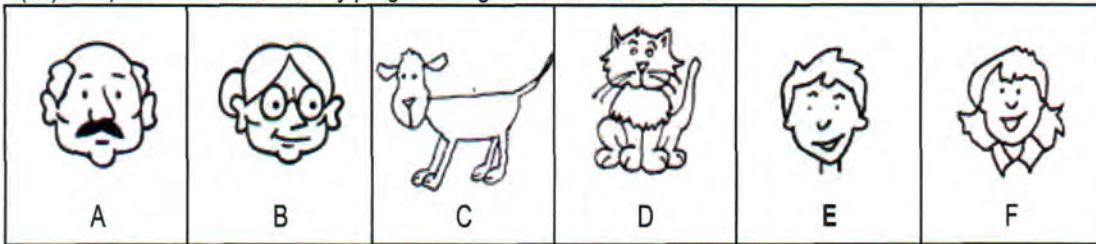


(23) Nico le pregunta: "¿Y yo? ¡No puedo llevar los sucios!"



Cuando los dos están listos, se van a la fiesta. Bailan mucho y se quedan hasta las 3 de la mañana. Después, Ana duerme muy bien hasta las 11 de la mañana. Nico no puede dormir y no quiere levantarse al día siguiente.

(24) Sus padres llaman al hotel y preguntan: "¿Quién está más cansado?"



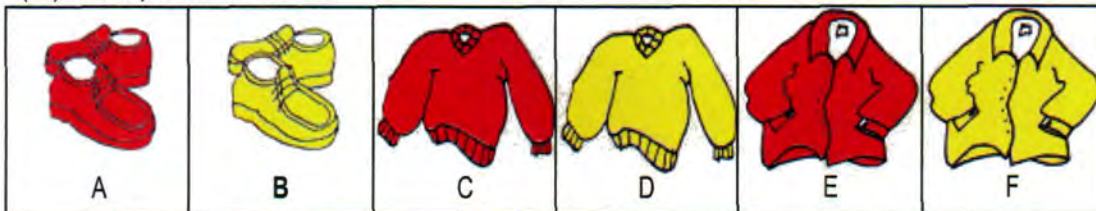
Al día siguiente, los dos se van de compras. Quieren comprar algunos regalos para sus amigos y su familia. Primero buscan un regalo para su madre.

(25) Ana dice: "¡Mira las rojas!"

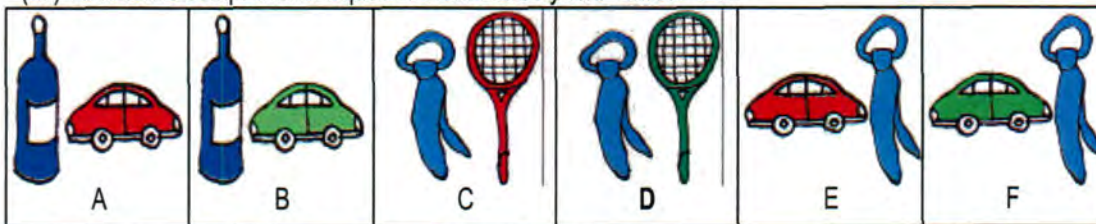


Después buscan algo para su padre.

(26) Le compran unos amarillos.

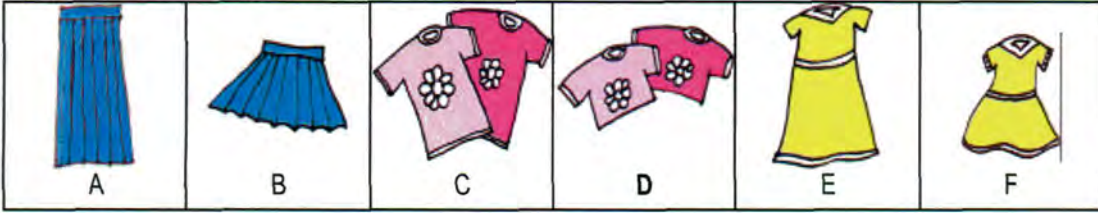


(27) También le compran una raqueta de tenis verde y una corbata azul.



Nico le pregunta a Ana: "¿Qué puedo comprar para mi amiga?"

(28) Ana contesta: "Le puedes comprar las cortas."



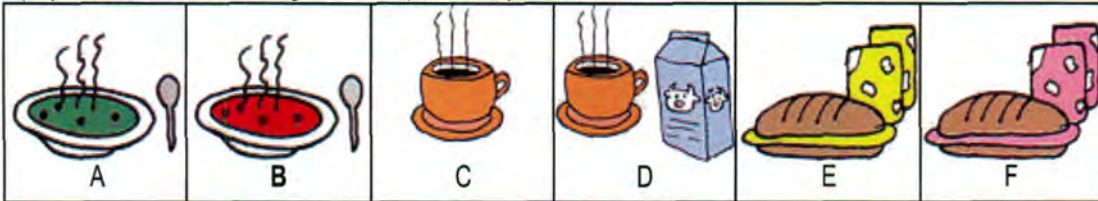
Nico le quiere comprar algo más en la tienda de moda.

(29) Le pregunta a Ana: "¿Le compro la roja?"



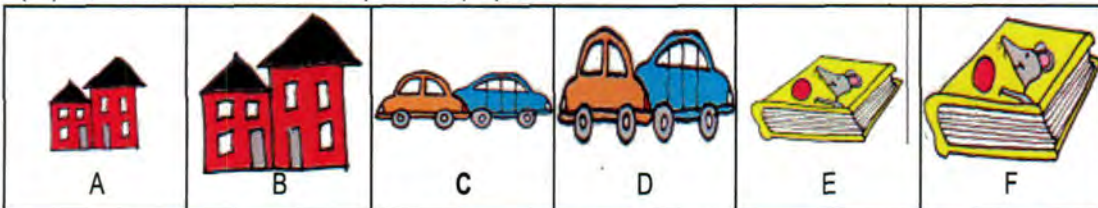
Ana contesta: "Sí, me parece una buena idea." Ana y Nico se van a un bar para descansar un poco. Piden una sopa de tomate, un bocadillo de queso y otro de jamón.

(30) El camarero les dice: "¿Pueden repetirme la primera cosa?"

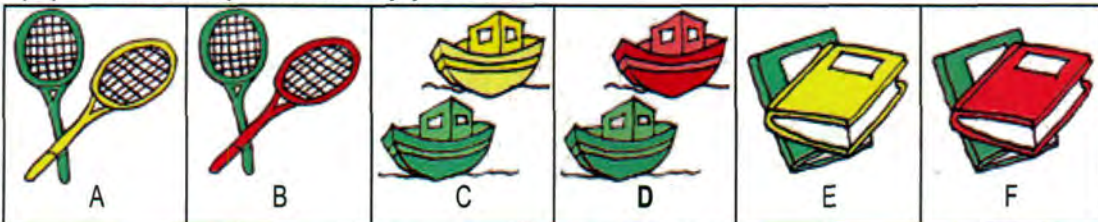


Después, Ana y Nico compran algunas cosas más. En la juguetería, Ana le pregunta a Nico: ¿Qué vamos a comprar para nuestro primo?

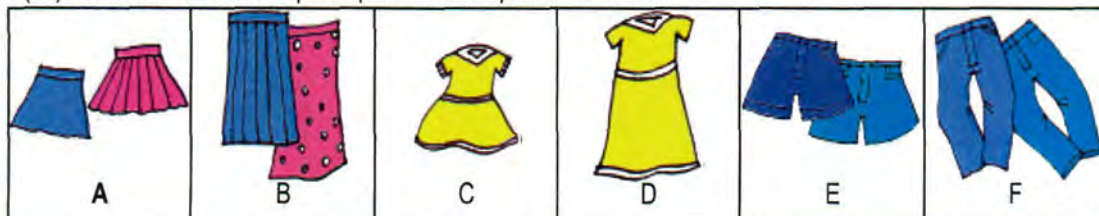
(31) Nico contesta: "Podemos comprarle los pequeños."



(32) También le compran un barco rojo y otro verde.

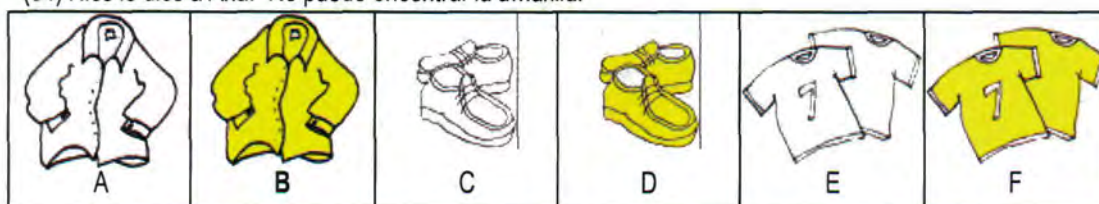


(33) Ana dice: "Y a nuestra prima podemos comprarle las cortas."



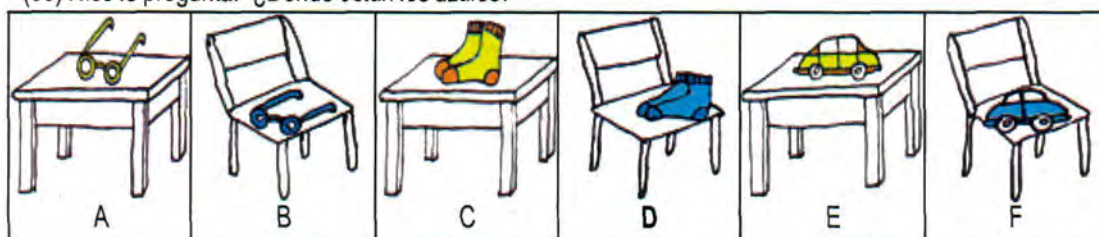
El fin de semana, se preparan para volver a Londres. Están empacando.

(34) Nico le dice a Ana: "No puedo encontrar la amarilla."



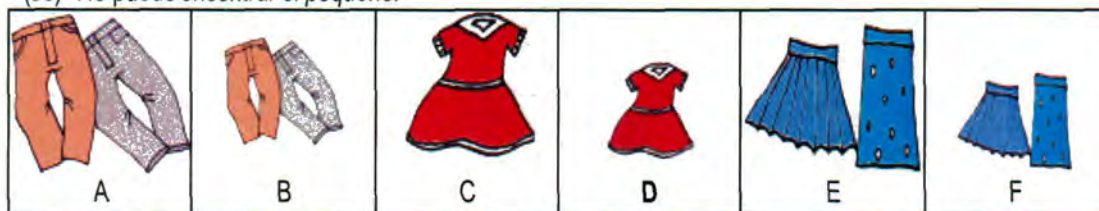
Ana le dice: "¡Mira en el armario!" También hay unos calcetines negros bajo la cama y unos azules en la silla.

(35) Nico le pregunta: "¿Dónde están los azules?"



Ana contesta: "¡Aquí! Yo no puedo encontrar las cosas que compramos ayer. ¡Ay!"

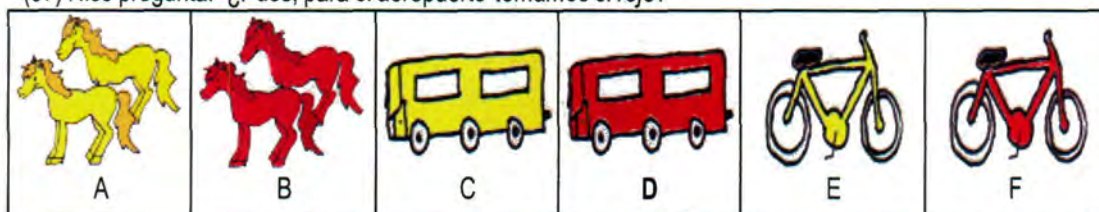
(36) "No puedo encontrar el pequeño."



"¡Ah, aquí!"

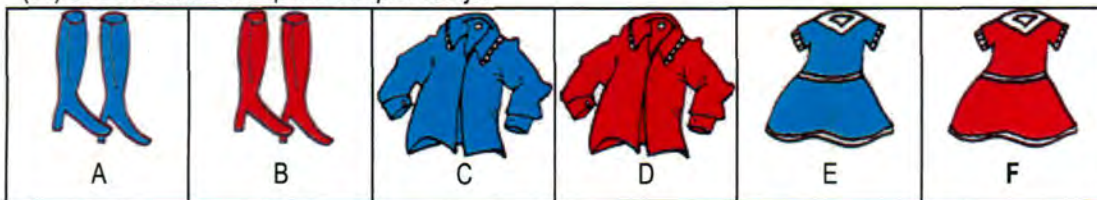
En el hotel les dicen que es mejor tomar un taxi hacia el centro de la ciudad. Después, hay un autobús rojo que los lleva al aeropuerto.

(37) Nico pregunta: "¿Pues, para el aeropuerto tomamos el rojo?"

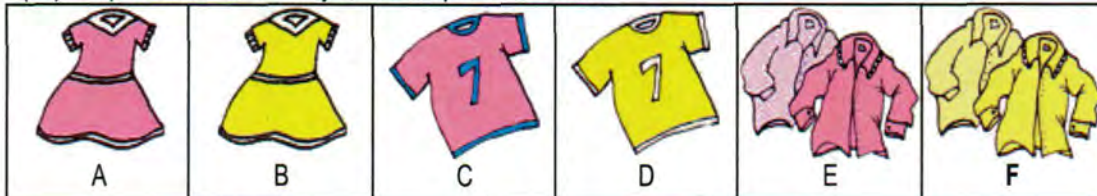


En el avión, Ana lee una revista de moda y la mira con mucho detalle.

(38) Le dice a Nico: "Me quiero comprar el rojo."

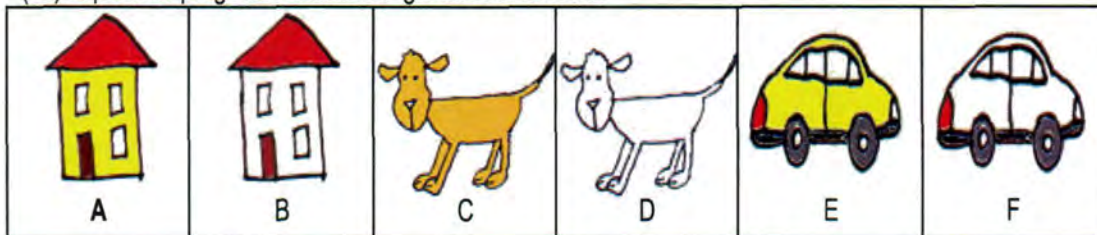


(39) Después dice: "O a lo mejor, me compro las amarillas."



Ana y Nico están muy felices de ver a su familia en el aeropuerto de Londres. Sus padres quieren ver las fotos. Su madre dice: "Me gusta la foto del perro blanco. Pero me gusta aún más la foto de la casa amarilla."

(40) El padre le pregunta a la madre: "¿Cuál es tu favorita?"





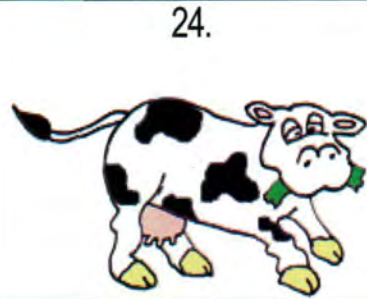
¡Muchas gracias por tu participación!

APPENDIX 9: VOCABULARY TASK

Part A

Please name the objects in the following pictures as follows: *el tren azul*

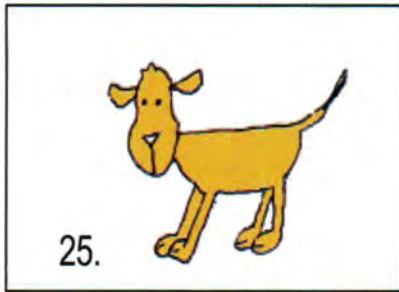
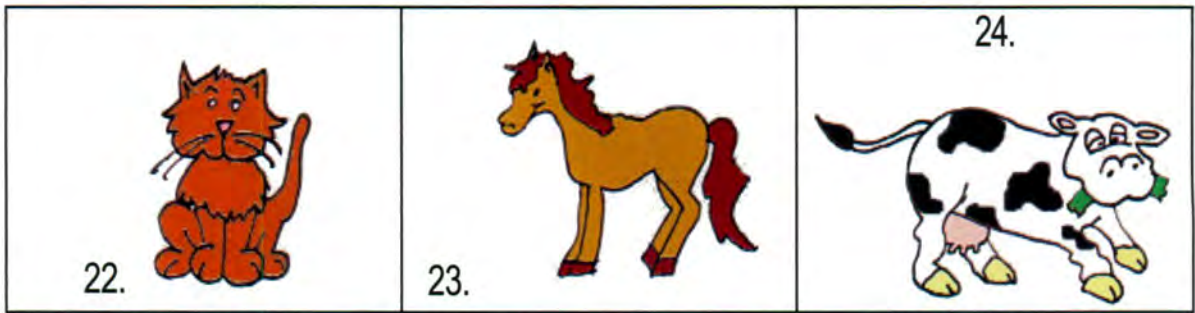
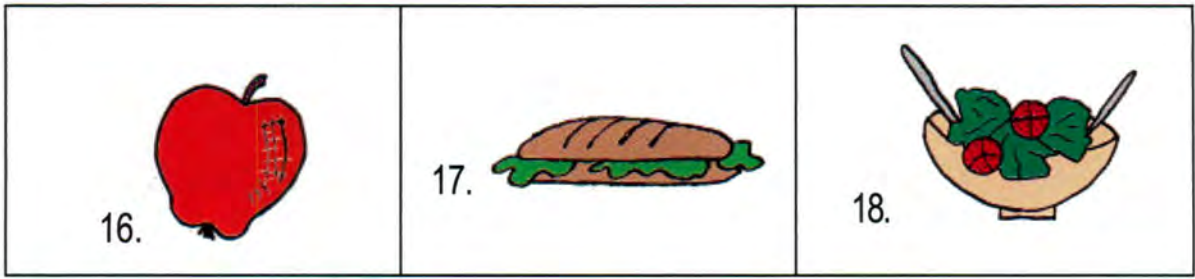
1. 	2. 	3. 
4. 	5. 	6. 
7. 	8. 	9. 
10. 	11. 	12. 
13. 	14. 	15. 



Part B

Please name the objects in the following pictures as follows: *el tren*

1. 	2. 	3. 
4. 	5. 	6. 
7. 	8. 	9. 
10. 	11. 	12. 
13. 	14. 	15. 



APPENDIX 10: ETHICAL CONSENT FORM

*School of Linguistics and Language - University of Durham
Elvet Riverside, New Elvet, Durham, DH1 3JT, UK, Tel: 0191 334 3017*

SECOND LANGUAGE ACQUISITION RESEARCH FOR PHD PROJECT Information for participants

You are invited to participate in a research project conducted by PhD student Lieve Van Espen, from the School of Linguistics and Language, University of Durham.

Purpose of the project

The purpose of the project is to try to find out more about what happens when we acquire a foreign language. Specifically, this project looks at Spanish as a foreign language.

Procedures

Detailed instructions and clear examples of how to complete the task will be given on the day, before you start the actual experiment. You will be asked to participate in the following tasks:

1. Acceptability judgement task

You will listen to a series of Spanish sentences. Each sentence will be repeated once and will be accompanied by a picture which provides a context for the sentence. You will be asked to decide whether the sentences sound OK or not. You will be able to indicate your judgement on the answer sheet by writing √ (OK) or X (not OK).

2. Picture selection task

In this exercise you will read and listen to a story about Nico and Ana. The story is accompanied by sets of six pictures. Your task is to choose the picture that corresponds to the last sentence you hear, by circling the appropriate letter (A, B, C, D, E, F). This last sentence is not printed – it is a listening exercise.

There will also be a short vocabulary task. I will show you pictures of the items that are used in the listening task. You will be asked to name these items.

3. Production task

Part 1: Subjects will be shown pictures of a daily routine. Subjects will be asked to describe this daily routine in their own words.

Part 2: You will be shown sets of 2 pictures. There are 5 differences between the two pictures in each set. You will be asked to describe these 5 differences in your own words.

This task will be recorded.

In addition, you will also be asked to complete a fill-in-the-blanks task.

Potential benefit of research

The results of this research will contribute towards a better understanding of how we acquire foreign languages. They may lead to better teaching and learning methods in the future.

Confidentiality

Any information that is obtained in connection with this project and that can be identified with you will remain confidential. Your name will never be used in any publications: I will use anonymous codes such as 'EL1' for an English-speaking test subject.

Participation and withdrawal

You can choose whether to participate in this project or not. If you volunteer to participate in this project, you may withdraw at any time without giving any reasons and without any consequences of any kind.

Questions about the investigator or the research

If you have any questions or concerns about the research, please feel free to contact the investigator:

Lieve Van Espen, lieve.van-espen@dur.ac.uk, 0191 334 3008.

CONSENT TO PARTICIPATE IN RESEARCH Second language acquisition research for PhD project

Investigator: Lieve Van Espen
Supervisors: Prof. A. Holmberg and Prof. B.D. Schwartz

I agree to take part in this test. I have been selected as a participant because I volunteered to take part.

I acknowledge that the investigator has explained

- what is involved in the test;
- the purpose of the work in this area;
- her commitment to preserving the anonymity of test-subjects;
- her commitment to using the information supplied by the test subjects with confidentiality and impartiality.

I am aware that I may withdraw my participation at any time, and that I am under no obligation to complete the required task.

I am also aware that the production task will be recorded onto mini-disk. The files on the mini-disk will be labelled using an anonymous system (such as 'EL1'); no 'real' names will be used. At the end of the data collection process, the recorded data will be transcribed. The transcribed data will then be analysed and discussed anonymously as part of the current research project or any future projects it may be relevant to.

I have had the opportunity to ask questions about this test, and I have received answers.

Signed

Name in block capitals

Date

At the completion of the project, I will write up a brief description of the findings. If you would like to receive this description, please list either your email address or postal address below.

THANK YOU!

