THE ACQUISITION OF TENSE AND ASPECT BY MOROCCAN LEARNERS OF L2 CATALAN AND SPANISH IN BARCELONA PUBLIC SCHOOLS

by

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ABSTRACT

THE ACQUISITION OF TENSE AND ASPECT BY MOROCCAN LEARNERS OF L2 CATALAN AND SPANISH IN BARCELONA PUBLIC SCHOOLS

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Eulalia Canals

Adviser: Professor Ricardo Otheguy

The present investigation is a cross-sectional quantitative study of the acquisition of Catalan and Spanish past-tense verbs (Preterite, Present Perfect, and Imperfect) by Moroccan children in Catalonia. The data were obtained using elicited story-retell tasks and oral narratives. In both languages, acquiring the correct functional use of verbs is more difficult than making the right lexical or morphological choices. The greatest functional difficulty lies, in both languages, in the acquisition of the Preterite vis-à-vis the Present Perfect. Second in difficulty to the functional dimension is the morphology, where the greatest difficulty in Catalan is in the Present Perfect, whereas in Spanish it is in the Preterite.

These results support a hypothesis that posits that form precedes function. However, they challenge an established position on the acquisition of tense and aspect in Romance languages, which holds that the most difficult functional area for L2 learners of these languages is the difference between perfective and imperfective tenses. The

Moroccan children in Catalonia in fact encounter the greatest difficulty in distinguishing between tenses within the perfective area.

Paradigmatic regularity and verb frequency are two linguistic variables constraining the acquisition of function. The regularity and frequency of the verb favor accurate use of the Catalan Preterite and Present Perfect; verb frequency favors accuracy in the Spanish Preterite and Present Perfect.

With regard to the linguistic variables that constrain the acquisition of the morphological dimension, accurate choice of morphology of the Catalan Present Perfect is favored by the transitivity of the verb and the absence of a periphrastic construction, whereas accuracy of morphology of the Spanish Preterite is strongly favored by the absence of adverbs that lead to the Preterite.

Analyses of the socio-demographic variables that constrain the acquisition of verbs reveal that the older the informants are, the better they acquire the functional dimension of the Preterite and the Present Perfect and, most significantly, that the real L2 of Moroccan children in Catalonia is Spanish; Catalan is an L3 learned at a later age and in a different context.

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INTRODUCTION

This study examines the acquisition of tense and aspect relations in Spanish and Catalan. Specifically, it examines the acquisition of three tenses: the Imperfect, the Preterite, and the Present Perfect. Given the extensive body of work conducted thus far on this topic within the field of second language acquisition, this introduction summarizes the main trends, theories and concerns within the research in order to best contextualize the present study.

The earlier research on the acquisition of tense and aspect has generally focused on the acquisition of functional differences between the imperfective and the perfective tenses (Andersen 1986, Salaberry 1999, Comajoan 2000, López Ortega 2000, Montrul & Slabakova 2002). This is especially the case in studies that involve the acquisition of either Romance or Slavic languages. Most of these studies aim at testing the Aspect Hypothesis, which is grounded in the idea that the emergence of verb morphology is highly dependent on the inherent aspect that the verb's lexical meaning conveys. For instance, a verb that expresses a punctual action such as 'to get home' would more likely be used in a perfective context, whereas a so-called stative verb such as the verb 'to be' would appear first with imperfective morphology in the initial stages of acquisition. This hypothesis, however, does not include any predictions on the functional differences between the Preterite and the Present Perfect, two of the tenses in this study that pose acquisition problems for the informants. The predictive power of the Primacy of Aspect Hypothesis lies on the difference between perfective and imperfective verbs, but it does not inform on which type of verbs (states, activities, achievements or accomplishments) will emerge first in the Present Perfect (as opposed to the Preterite).

The nature of interlanguage variation has also been a focus in a number of studies: Preston (1996), Young (1991), and Regan (1996), among others. They note that linguistic variation is an essential feature of the speech of second language learners, and that second language learners differ among each other in their levels of proficiency as well as in the speed at which they acquire certain features of the target language. The variationist model is appropriate for the study of interlanguage development due to the fact that it can take into account both the linguistic environment and the sociolinguistic situation of the informants as predictors of the variable use of a given structure in their interlanguage. According to the authors who adopt the variationist approach, interlanguage variation can be modeled in a quantitative manner and, given the unlikelihood that one single factor can account for all the variability in a set of data, a multivariate analysis is required. Such multivariate analyses are especially suitable when trying to discern the likelihood of occurrence of the linguistic variable under study given a specific linguistic or sociolinguistic environment and, furthermore, can reveal the relative weight of the different factors associated with that variation.

We address these issues by studying the use of these tenses (Imperfect, Preterite or Present Perfect) in the L2 Catalan and Spanish interlanguage of children of Moroccan origin in Barcelona schools. The objective of the present research is to answer the following questions. First, which of the three tenses (Imperfect, Preterite or Present Perfect) poses the most problems for the L2 speakers as compared to the native speakers in the control group. Second, which dimension of the verb is most difficult to acquire: the lexical meaning of the verb, the verb's morphology or the verb's function. And

finally, which linguistic and sociolinguistic variables can best predict the informants' linguistic behavior.

The present work is organized as follows. Chapter 1 provides basic definitions of tense and aspect, descriptions of the three tenses (Imperfect, Preterite, and Present Perfect) within the two target languages (Spanish and Catalan), and descriptions of the tense and aspect system of the target group informants' first language (Moroccan Arabic or Tamazight). Chapter 2 details the various theories on the acquisition of tense and aspect, and provides a description of tense and aspect acquisition studies that focus on the languages examined in the present study. Chapter 3 offers a general overview of the history and current sociolinguistic situation in the Barcelona Metropolitan Area. Lastly, Chapter 4 presents a detailed account of the research that this study comprises. This includes a comprehensive exposition of the research questions, the study's participants, the procedures and the materials used, followed by the results of the data treatment and a thorough discussion thereof. In the final section, several conclusions are offered which, hopefully, provide some insight into the nature of the acquisition of tense and aspect.

CHAPTER 1

TENSE AND ASPECT

Introduction

This chapter introduces basic definitions of tense and aspect, and describes the three tenses of the two target languages included in the study (Imperfect, Preterite, and Present Perfect in Spanish and Catalan), as well as the past tense systems of the first languages of the informants in the target group, Moroccan Arabic and Tamazight[1].

1. Definitions of tense and aspect

All languages can express actions or situations on a timeline that extends from the present. According to Comrie (1985) there are two ways to relate a situation to the timeline. In the first one, the location of the situation can be associated with a specific point or segment, and in the second, the internal temporal contour of the situation is represented as a point or a stretch on the timeline. Comrie concludes that aspect is concerned with situation-internal time (the second way), whereas tense is relative to situation-external time (the first way). Let us expand on the definition of tense according to different authors and then provide definitions of aspect.

[1] Moroccan Arabic is the variety of Arabic that is spoken in Morocco. The term Tamazight will be used henceforth to refer to the Tamazight language, also known as Berber. The term Berber has some derogatory connotations within the Tamazight-speaking community, and therefore, I will use the term Tamazight, which is the term this community prefers to refer to their own language.

1.1. Tense

Comrie (1985) defines tense as "a grammaticalized expression of location in time" (p.9); tense relates entities to a reference point, and thus it can be also seen as a deictic category (whereas aspect cannot). Tense, however, is not the only means languages have to express time; contextual and adverbial information also contribute to the expression of temporal information.

There are two different ways in which tense can be located in time: one possibility is to include the present moment as the deictic center (the Past, Present and Future tenses all have ties to the present as the deictic center), referred to as *absolute tense*. The other way is to locate the deictic center at some point in time given by the context of the situation, and that is known in the literature as *relative tense*. For instance, some tenses depend on a main clause verb for their temporality to be interpreted.

(1) a. Having read the book, he started writing.
b. Having read the book, I know the History of Latin America better.

In the two sentences above, the time reference of the gerund is obtained by relating it to the time of the verb in the subsequent clause. This way, the time reference of (1a) would be the past of *he started writing*, while the time reference of (1b) would be just past in relation to the present moment (*I know*). According to Comrie (1976), one of the differences between the two sets of languages in the study (Catalan and Spanish vis-à-vis Moroccan Arabic and Tamazight) lies precisely in the difference between absolute and relative tenses. Comrie claims that Imperfect, Preterite, and Present Perfect behave mostly as absolute tenses in the Romance languages, but in Arabic (and Tamazight as

well) they are generally used as relative tenses. We will expand on this issue in further sections.

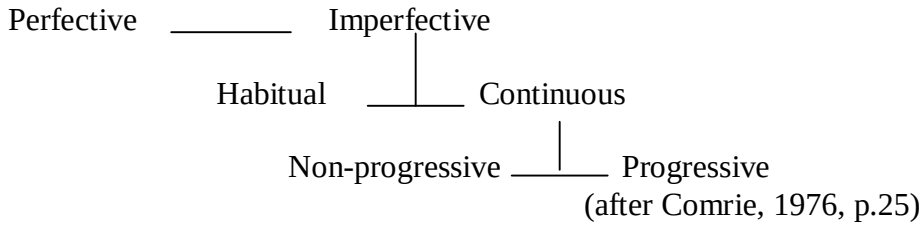
According to Dietrich, Klein & Noyau (1995) tense is a deictic category that helps situate an event somewhere in relation to the time of the utterance. The time structure connects a lexical content to a time span; there are two types of relations between time spans: a) order relations with before and after, and b) topological relations that define either overlap, simultaneity, or inclusion relations between the time spans. There are also some other relevant distinctions such as *time of the utterance* which is the time at which the utterance was uttered, *time of the situation* which is the real time at which the action happened, and finally the *topic time* that is the time as stated in the utterance. Two out of the three categories of time above-mentioned have also been used by Dowty (1986) with a different terminology, namely *speech time* and *reference time* which refer respectively to time of the utterance and time of the situation.

1.2. Aspect

To distinguish aspect from tense, Comrie (1976) identifies tense as a deictic category that relates the time of the situation referred to some other time (usually to the moment of speaking) and aspect as the different ways in which the internal temporal constituency of a situation can be described. Dietrich, Klein & Noyau (1995) give a complementary explanation stating that aspect indicates a certain perspective on the situation. Let us examine extended insights on different types of aspect, focusing on perfective and imperfective aspect.

As Comrie (1976) claims, imperfective aspect presents the background of some event with no reference to the beginning or the end of that situation (unbounded), and making explicit reference to the internal temporal structure of the situation from within. Comrie presents the following diagram to help visualize the subdivisions of imperfectivity.

(2)



(after Comrie, 1976, p.25)

Imperfective can be subdivided into different subcategories: *habitual* describes a situation that is characteristic of an extended period of time, with the situation itself being the characteristic feature of the whole period. In the sentence *when I was ten I used to go to school every day*, the fact that *I used to go to school* is true of the whole period of time of the clause *when I was ten*. *Continuity* is defined by Comrie as non-habitual imperfectivity (*I was ten*). The *progressive* indicates a situation that frames another situation (I *was writing* when the phone rang) as opposed to non-progressive; it can also be defined as imperfectivity not occasioned by habituality.

Some lexical items, mostly verbs, have inherent aspectual meanings such as durativity, punctuality, telicity, dynamicity and stativity. *Durativity* refers to the fact that a given situation lasts for a certain period of time, whereas *punctuality* is a situation that does not last in time. That is, punctual situations have neither duration nor internal structure. As Comrie points out, punctuality and imperfectivity are incompatible; in fact, the imperfect form of any punctual action has a sense of iterativity (i.e. that expresses

repetition). If we change the sentence *the runners reached the goal line* to *the runners are reaching the goal line*, we see that the punctual meaning is lost, and the progressive adds an iterative meaning to the whole clause[2]. A situation that must come to a well-defined terminal point is viewed as *telic* (to sing a song), while an atelic situation has no terminal point (to know French or to sing). A *dynamic* situation involves change, whereas, in order to remain a state, a stative verb does not require an effort from the part of the agent.

At this point, Comrie makes a remark on an important detail, namely, that situations are described not only by verbs themselves, but also by their arguments (subjects and objects). If the sentence *I sing*, for instance, is uttered with a direct object, like in *I sing a song*, it can be claimed to become telic, whereas the first sentence would be considered as an atelic sentence, that is, a sentence which conveys a situation in which there is no mention of its endpoint.

The distinction between telic and atelic has important implications for the study of aspect, since when we combine these with either perfective or imperfective the semantic range of telic and atelic verbs is restricted. When considering the two sentences *I sang a song* and *I was singing a song*, for instance, the telic perfective *sang* when stated as imperfect (and progressive) loses its telic properties. It may be argued that this could be due to the meaning the progressive adds to the sentence. However, we see that in Spanish, a language which has two different verb forms to express perfectivity and imperfectivity (*canté una canción* versus *cantaba una canción*), the imperfect also makes the telic verb 'to sing' lose its telic properties, a fact that cannot be argued to come from the meaning of the progressive, in this case.

[2] The sentence, besides the iterative meaning, also has an inchoative meaning expressed by the progressive which makes the sentence meaning equivalent to the one in *the runners are starting to reach the goal line*.

The perfective aspect presents the totality of the situation referred seen as a whole, with beginning and endpoints (bound). The perfective is also defined as the unmarked member of any aspectual opposition defined in terms of perfectivity. Under this category we can include several past tenses (Past, Pluperfect, among others) which, besides other aspectual meanings, have as their primary meaning a delimited event in the past.

The term perfect (also known as anterior) is used to refer to a past situation that is connected to a present state or to a state with current relevance (*I have been to New York twice* or *I have known him for three years*). There is a debate in the literature on whether perfect should be considered an aspect or a tense. Both Comrie (1976) and Dahl (1985) point out the problematic nature of viewing the perfect as an aspect (although the linguistic tradition has always placed it as such) because the so-called perfect aspect tells us nothing about the internal constituency of a situation but rather it informs us on temporal one. Besides noting the problematic situation of the definition of the perfect as an aspect, none of the authors above suggests any solutions, and they just carry on describing the different types of perfects. The term *perfect* will be used henceforth to refer to the feature that characterizes the Present Perfect tense (past situation or state with current relevance), whereas the term *perfective* will be used to describe the Preterite tense (past situation temporally bound). The issue of whether perfect should be considered to be an aspect or not is not the central inquiry of this dissertation, but it will be addressed later on when describing the Present Perfect tense in Catalan and Spanish (see section 1.2).

Both Comrie (1985) and Schwenter (1994) describe five different types of perfect meanings. The perfect of *result* designates a present state that was brought about by an action in the past, e.g. *John has left* (he's not here, and he's still gone at the moment of speech); the *experiential* perfect that implies that a situation has held at least once during some time in the past leading up to the present, with some knowledge attributable to the agent, e.g. *Maria has been in NYC for a long time*; the perfect of *persistent situation* or *continuative* perfect that indicates that a situation began in the past but continued up until the present time, e.g. *I have been waiting for him for more than an hour*; and the perfect of *recent past* in which the present relevance of the situation of the past is due to temporal proximity, e.g. *He has recently met his daughter*. In this kind of perfect the degree of closeness to or distance from the present moment that is allowed is quite arbitrary, and it takes different forms in different languages. Finally, Schwenter includes the perfect of *current relevance* which shows a past situation that is relevant to current concerns, e.g. *I have met him before* (*so I can introduce him to you*).

Bybee, Perkins & Pagliuca (1994) lay out the different degrees of remoteness that the past tenses can express. They suggest that there are some types of past which are non-specific and which have no cut-off points, namely, the *immediate past* that refers to a situation that happened in the recent past, the *remote past* that tells us about a situation that occurred in the distant past, and the *ancient past* that refers to a situation that took place in ancient or mythic times. There are also four more types of past that refer to the daily cycle for cut-off points: the *hodiernal past* which refers to a situation that took place on the same day as the speech event, the *pre-hodiernal past* which refers to a situation that occurred before the day of the speech event, the *hesternal past* that tells us

about a situation that happened the day preceding the speech event, and the *pre-hesternal past* which refers to a situation that occurred the day before yesterday. We will find these categories useful when talking about the different types of past tense that the languages in this study convey.

All these distinctions of tense and aspect can be grammaticalized in the verb or expressed through lexical means. Although not all languages grammaticalize time reference, all of them do have different ways of lexicalizing it. Yet, the distinction between grammaticalization and lexicalization of aspect is captured by the terms Grammatical Aspect (grammaticalization of the semantic distinctions) and Lexical Aspect also known as Aktionsart (lexicalization of the distinctions independent of how they are lexicalized). Salaberry (1999) states that Grammatical Aspect is an overt category while Lexical Inherent Aspect is covert.

1.3. Vendlerian aspectual categories

Vendler (1967) put forward a classification of the verbs according to their inherent lexical properties and used different tests to find out the aspectual characteristics of the verbs in English. He divided the verbs into four categories, namely, *activities* (to run), *accomplishments* (to run a mile), *states* (to know), and *achievements* (to reach the summit). The first two types, activities and accomplishments, are categorized using the continuous tense test, that is, they can be constructed in the present continuous and the outcome is grammatical. In the case of achievements and states, that test results in the ungrammaticality of the sentence, as we can see in (3a) and (3b).

(3) a. *I am knowing Spanish.
b. *I am reaching the summit.

The test used to differentiate between activities and accomplishments is stated under (4a):

(4) a. If you stop in the middle of X, have you X?
a'. If you stop in the middle of running, have you run?
Yes → activity
a''. If you stop in the middle of running a mile, have you run a mile?
No → accomplishment
b. If you stop in the middle of reaching the summit, have you reached it?

The main difference between activities and accomplishments is that accomplishments are telic, whereas activities are not. Likewise, achievements are also said to have an inherent endpoint, and many authors, Robinson (1995) among them, would say that the answer to (4b) would be negative. However, in this case the test does not help to tell apart the difference between telic and atelic accurately, especially if we apply it to other verbs that are traditionally considered achievements in the literature, such as *to spot a plane* or *to notice a mistake*. Achievements should then be described as punctual events, whereas accomplishments should be categorized as non-punctual.

Vendler does not only appeal to the inherent lexical semantics of verbs to classify verbs into the four categories, but he also states that the lexical aspectual class of a predicate can be determined by a verb's internal and external arguments (5a and 5b), count nouns (5b and 5c), and adjuncts or adverbial phrases (5e and 5f).

(5) a. David ran
b. David ran a mile.
c. David read articles for his Political Science class.
d. David read an article for his Political Science class.
e. David crossed the bridge all night.
f. The crowd crossed the bridge all night.

This way, the activity verb in (5a) becomes an accomplishment by adding a direct object (5b), and the atelic phrase in (5c) becomes telic by adding an indefinite article, as we can see in (5d). In a similar fashion, the sentence in (5e) implies an iterative action, which would restrict the meaning of the sentence to 'David crossed the bridge many times during the whole night'. When using a group noun and the same adverbial phrase *all night*, the meaning of the sentence changes to 'it took all night for the whole crowd to cross the bridge'.

Since these categories have been claimed to be universal cognitively, many researchers have used them in their studies, sometimes introducing some modifications, as we will see as we proceed to examine several of them.

Dowty (1986) adopts Vendler's categories and modifies them slightly by not differentiating between accomplishments and achievements, and considering both of them telic categories. He puts forward the Temporal Discourse Interpretation Principle that addresses the means for interpreting successive sentences in a discourse determined by the following three semantic and pragmatic factors:

(6) a. the semantic analysis of aspectual class using the interval semantics,
b. a single principle for the interpretation of successive sentences in a discourse, and
c. Gricean conversational implicatures and common sense reasoning based on the hearer's knowledge of real world information.

To further develop factor b (6b), Dowty suggests that clauses are to be stated in terms of the notion of truth of a sentence with respect to an interval of time (rather than with respect to a certain moment of time), and therefore presents the following principles along with examples to illustrate each of them:

(7) a. A sentence φ is stative iff it follows from the truth of φ at an interval *i* that φ is true at all subintervals of *i*. *John was asleep.*

b. A sentence φ is an activity iff it follows from the truth of φ at an interval *i* that φ is true of all subintervals of *i* down to a certain limit in size.
John walked from 1 to 2pm, then most subintervals of this time are times at which John walked.

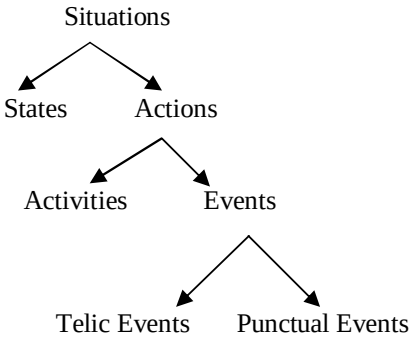
c. A sentence φ is an accomplishment/achievement iff it follows from the truth of φ at an interval *i* that φ is false at all subintervals of *i*.
John built a house from September to December, then it is false that he built a house in any subinterval of this interval (anytime between September and December).

Given a sequence of sentences to be interpreted as a narrative discourse, the reference time of each sentence, namely, the time at which the event or state mentioned by the sentence occurred or obtained, is interpreted to be: a) a time consistent with the definite time adverbials in the sentence, if any; b) otherwise, a time which immediately follows the reference time of the previous sentence.

Dowty's theory for the interpretation of tense implies that both reference time and speech time are contextual parameters of the utterance. The recursive clauses for sentences are stated relative to a pair of times (*i*, *j*), in which the first time *i* is a reference time and the second *j* is the speech time. The semantic clauses for the past, present, and future require that a certain relation obtain between reference and speech time, namely, that the former is earlier than, the same as, or later than the latter.

Andersen (1989) takes from Mourelatos the idea of the existence of a hierarchy between the different Vendlerian categories that is presented in the following diagram.

(8)



Aside from the definition of perfective and imperfective aspect, Bybee et al. (1994) claim that perfect differs from perfective in that it does not need to be marked on several verbs in succession, and it only shows that some action is prior to others in speech. The idea of the perfect expressing a past action that has current relevance can be relevant for the description of the tense-aspect relations in Arabic and Tamazight provided in following sections. Another important claim of Bybee et al. is that only the imperfective category can be relevant both in the present and in the past, whereas the category perfective is usually restricted to the past or the future. Robinson (1995) puts Vendler's categories under scrutiny claiming that the three aspectual contrasts have an implicational relationship, that is, punctual entails telic, telic entails dynamic. He also proposes a linear classification of aspect as shown in the next table:

Table 1.1. Linear classification of aspect

State	**Activity**	**Accomplishment**	**Achievement**
← stative	Dynamic	→	
←	Atelic	telic	→
←		durative	punctual →

(after Robinson, 1995, p. 347)

According to Robinson, there are punctual activities that have not only punctual, but also atelic features. The progressive forms of certain punctual predicates, however, express iteration (*she is jumping*); in addition, punctual predicates can also give a sense of an approaching end-point (in sentences such as *she is waking up*). Achievements imply a preceding process that leads up to the achievement, while punctual activities do not. Accordingly, the progressive form of an achievement refers to the preceding process, and not to the achievement itself. *John noticed a scratch on the woodwork* can be best described as both stative and punctual, punctuality being therefore independent of either stativity or telicity. This last statement gives an important clue for interpreting the sentence that we saw before under (4d). If we consider that punctuality is independent of either stativity or telicity, the problem that we were having in applying the test to differentiate between activities and accomplishments will be solved. The sentence *I am reaching the summit* is a punctual activity and an achievement, and thus the test of telicity (If you stop in the middle of X, have you X?) does not apply. Robinson thus suggests some modifications to the table given above:

Table 1.2. Linear classification of aspect

	← stative	dynamic →	
	←	atelic	telic →
durative	state	activity	durative event
punctual	punctual state	punctual activity	punctual event

2. Tense and Aspect in Spanish and Catalan

This section discusses the meanings and characteristics of the three tenses that will constitute the linguistic data in the study reported in Chapter 5: Preterite, Present Perfect and Imperfect in Spanish and Catalan in Barcelona. In this section, an overview of the basic concepts that have been used to refer to the different tenses will be given, and next, the values of the Preterite, Present Perfect and Imperfect in Spanish and Catalan will be laid out.

As in all Romance languages, both Spanish and Catalan express tense and aspect through verbal morphology. The contrast between the Preterite and Imperfect holds only in the past tense. The same is true of the Present Perfect-Imperfect contrast. Also, the difference between the Preterite and Present Perfect, and the imperfective tense (the Imperfect) is an aspectual rather than a temporal one. Regardless of whether the tense expresses a temporally bound past tense or a past tense with current relevance, in both cases the Imperfect can be used in the same contexts in order to provide some background information on the situation expressed by the other two tenses[3].

As stated in the previous section, Comrie (1976) defines aspect as different from tense: tense is a deictic category that relates the time of the situation referred to some other time (usually to the moment of speaking); aspect conveys the different ways in which the internal temporal constituency of a situation can be seen. Imperfective aspect presents the background of some event with no reference to the beginning or the end of that situation (thus, it is unbound), and makes explicit reference to the internal temporal structure of the situation from within. Imperfective can be subdivided itself into two

[3] The following sentences can illustrate the previous statement:
(1) Juan ya se ha ido porque estaba cansado. 'John has already left because he was tired.'
(2) Juan se fue porque estaba cansado. 'John left because he was tired.'

subcategories; the *habitual* describes a situation that is characteristic of an extended period of time (I used to live in Texas), the *continuous* indicates a situation that frames another situation (I *was writing* when the phone rang) and it can be defined as imperfectivity not occasioned by habituality.

The Imperfect tense in Spanish and Catalan, which does not delimit the boundaries of a situation, indicates imperfective aspect in the past tense. In addition to indicating [–perfective] aspect in the past tense, the Imperfect in both languages conveys habitual, progressive and continuous meanings, as we see in (1a), (1b) and (1c) respectively.

(1) a. Dinava cada setmana a casa dels meus avis (Catalan)
Almorzaba todas las semanas en casa de mis abuelos (Spanish)
Had lunch-3s every det week prep house prep possessive grandparents

'Every week I had lunch at my grandparents house'

b. Estava treballant quan va sonar el telèfon (Catalan)
Estaba trabajando cuando sonó el teléfono (Spanish)
was working-3s when rang-3s det phone

'I was working when the phone rang'

c. Era enfermera. (Catalan and Spanish)
Was-3s nurse

'She was a nurse'

In the Spanish and Catalan spoken in Barcelona there are two different morphological markers that express a past situation, namely, the Preterite and the Present Perfect.

(2) a. Vaig comprar un llibre (Catalan)
Past-1s aux to buy det-indef. book
'I bought a book'

a'. He comprat un llibre (Catalan)
Perfect-1s aux past participle 'buy' det-indef. book
'I bought a book'[4]

b. Compré un libro (Spanish)
Bought-1s det-indef. book
'I bought a book'

b'. He comprado un libro (Spanish)
Perfect-1s aux past participle 'buy' det-indef. book
'I bought a book'

In Catalan, the Preterite is formed with an auxiliary *anar* 'to go' and an infinitive verb (2a), whereas in Spanish it is just a synthetic form of the verb inflected with the Preterite *compr-é* (2b). In both Catalan and Spanish, the Present Perfect is formed with the auxiliary *haber* and a verb in the past participle form (2a', 2b').

In most Peninsular Spanish dialects (and certainly in the Spanish spoken in Barcelona) there is a difference between Preterite and Present Perfect. The Present Perfect has an additional meaning that connects the events expressed by the verb to the moment of speaking. The perfect meaning has been traditionally defined as a past action with current relevance or an action initiated in the past which continues into the present (Alarcos 1947 and 1994, Henández Alonso 1984).

[4] The examples under (2a') and (2b') are intentionally translated into English using the English Simple Past instead of the English Present Perfect in order to emphasize that the Spanish and the English Present Perfect are not always equivalent. This statement will become clearer below.

Both Catalan (Alturo 1998 and 1999) and Spanish have all the types of perfect proposed by Comrie (1976) and Schwenter (1994) discussed in the previous section except for the perfect of *persistent situation* (e.g. *I have been teaching in this school for five years*); in order to convey the same meaning, Catalan and Spanish prefer to use the Present tense: *Trabajo en esta escuela desde hace cinco años*. Although all the other types of perfect are used in current Spanish and Catalan in the Barcelona area, there is a very noticeable trend by which every type of perfect of the ones mentioned by Comrie (1976) is used to its limits. The range of possibilities of using the Present Perfect in each case is expanding, and this tense is becoming extremely productive[5].

Dowty (1986) notes a trend that is occurring in Spanish and Catalan narratives in which the use of the perfect of result is preferred over the use of a Present tense in order to describe a present situation. Accordingly, the Present Perfect is becoming extremely productive. This expansion of the Present Perfect to its limits can also be seen in the perfect of recent past (as Comrie (1985) already points out), where the scope of *recent* can be expanded to any context in which temporal adverbs use the determiner *this* as in *this morning/week/month/year*, like in *Esta mañana/semana/mes/año he visto a Juan tres veces* 'This morning/week/month/year I have seen John three times'.

In addition, recent studies such as Schwenter (1994) (although Comrie 1976 had already taken note) have suggested that in certain peninsular Spanish dialects one can observe an ongoing grammaticalization process from perfect to just perfective in the

[5] To provide just one example, the so-called perfect of result in Spanish and Catalan is equivalent (in meaning) to the use of a Present of a stative verb as we can see in the examples below:

a. Se ha ido. (Spanish) 'She has left'
Se n'ha anat. (Catalan)

b. No está. (Spanish) 'She is not here'
No hi és. (Catalan)

Present Perfect. That is, the Present Perfect tense, besides its traditional perfect or anterior meaning that connects a past event to the present deictic center (expressed by the different types of perfect mentioned above) is used to refer to a bound past situation without any reference to its connection to the present, that is, without any current relevance[6]. Schwenter argues that in other Romance languages (such as French) the Present Perfect tense also started taking perfective functions, the specificity of *current relevance* became generalized, and the Present Perfect began to invade the semantic domains of a the Simple Past or Preterite.

In Catalan and Spanish, as we have already mentioned, the Present Perfect has become commonly used with temporal adverbs such as 'today', 'this morning/year/week/ month'. On the other hand, the Preterite is usually accompanied by adverbs such as 'yesterday' 'last night', 'last week', 'last month', and so on. Clauses that combine adverbs that are usually expressed together with the Preterite in a Present Perfect clause (3a) would be rendered as ungrammatical by any Spanish-speaker across dialects[7] (also noted in Alturo 1997).

[6] The sentences below illustrate this point:

i. Esta mañana María me ha dicho hola y se ha ido corriendo a clase.
'This morning Mary said hi to me and run to her class.'
ii. Esta semana he trabajado mucho.
'This week I worked a lot'
iii. Este mes he hecho mucho deporte.
'This month I worked out a lot'

[7] However, it should be noted that there is a recent trend in some parts of Castile by which sentences as (3a) would be rendered as perfectly grammatical, although it is not a widespread phenomenon (Serrano 1994). The fact that the scope of the Present Perfect can be broadened would just confirm Schwenter's theory of an ongoing grammaticalization process by which the Present Perfect will take over the perfective meaning, while the Preterite will be gradually abandoned, as it happened with French's *Passé Composé*. This is something that Harris (1982) had already pointed out.

(3) a. *Ayer he comprado un libro. (Catalan)
Yesterday Perfect-1s aux past participle 'buy' det-indef. book
´Yesterday I have bought a book´

b. *Ahir he comprat un llibre. (Spanish)
Yesterday Perfect-1s aux past participle 'buy' det-indef. book
´Yesterday I have bought a book´

The same would hold for Catalan as we see under (3b). On the other hand, the use of Present Perfect adverbs in Preterite clauses, although not common in Castilian Spanish, would not be considered ungrammatical, but odd, hence the question mark on (4a) below.

(4) a. ?Esta mañana compré un libro. (Spanish)
This morning bought-1s 'buy' det-indef. book
´This morning I bought a book´

b. *Aquest matí vaig comprar un llibre. (Catalan)
This morning past-1s aux to buy det-indef. book
´This morning I bought a book´

In Catalan, however, the combination of Present Perfect adverbs and Preterite clauses would be regarded as ungrammatical (4b). This difference between Catalan and Spanish is probably due to the fact that the sentence in example (4a) is perfectly grammatical and common in the vast majority of Spanish dialects (in Latin America, Galicia, most parts of Andalusia, and the Canary Islands) where the Present Perfect has a much more restricted use[8].

[8] The widespread meaning of the Present Perfect in most Latin American dialects (except in Santiago del Estero, Argentina, according to Kempas 2002) and some Peninsular ones corresponds to the traditional pre-hodiernal (before today) meaning, and it includes mostly the experiential perfect type, whereas all other types of perfect are expressed using other tenses preferably.

Besides being a past of current relevance which makes its remoteness degree situated as far back as the event that it tells us about, the Barcelona Spanish and Catalan Present Perfect, according to Bybee et al. (1994), would be categorized as having mostly (but not only) a remoteness degree of immediate past or hodiernal, whereas the Preterite would take all the other remoteness degrees[9].

3. Tense and aspect in Moroccan Arabic and Tamazight (Tarifit and Tachelhit varieties)

There are two complementary explanations of how past tense is realized in Arabic and other related Afro-Asiatic languages, also referred to as Hamito-Semitic languages, Tamazight among them. According to the traditional view (Lamuela 2001, Sánchez 2001 and Shlonsky 1997), the main difference between Catalan and Spanish on the one hand, and Arabic and Tamazight on the other, as far as tense and aspect are concerned, is that in the two Hamito-Semitic languages the information conveyed by the verb morphology is mainly aspectual, and informs mostly the notions of perfectivity and imperfectivity. Temporal information (past, future, pluperfect, etc.), mood (subjunctive vs. indicative) and modality (possibility, conditionality, etc.) are secondary, and they are expressed through verb morphology in combination with other contextual temporal information in the clause, namely temporal adverbs, copular and auxiliary verbs, periphrastic verbal expressions, and modal and negative particles. The following examples are from Holmes (1995):

[9] See page 10 for a complete list of all the remoteness degrees put forth by Bybee et al. (1994).

(1) a. yaʔkulu llaħm
eat-3masc.sing -perfective meat
'He eats/is eating meat'

b. kaana yaʔkulu llaħm
was-3masc.sing eat-3masc.sing -perfective meat
'He used to eat/was eating/was going to eat meat'

(2) a. ʔakalta llaħm
ate-2masc.sing +perfective meat
'You ate/have eaten meat'

b. kunta ʔakalta llaħm
were-2masc.sing ate-2masc.sing +perfective meat
'You had eaten meat'

This way, the imperfective form can express imperfectivity either in the present or the past, depending on the temporal nature of the event or the linguistic context, as we can see in (1a). In (1b) we observe that the imperfect form plus the so-called past auxiliary (also called past particle) convey imperfective aspect in the past. The other form of the verb that we see in the examples in (2) is the perfective form, which by itself expresses an event or situation that has already taken place, and that presumably can be translated as a Simple Past or as a Present Perfect. If we insert the past auxiliary into a sentence constructed with the perfective form, as we see in (2b), we obtain a sentence in which an event or situation is located in the past and which has its reference point also in the past (so-called Pluperfect tense).

(3) a. Qaraaʔ arrajulu thelika al kitab hadithan.
read-3masc.sing +perfective the man that the book recently
'The man has recently read that book'

b. Thahabe arrjulu ila al wileyet almuttahida marratein.
went-3masc.sing +perfective the man to the US twice
'The man has been to the US twice'

Although the traditional literature has attempted to translate the perfective form of the verb as either a Simple Past or a Present Perfect, the examples under (3) show that there is no specific difference in the verb form between Simple Past and Present Perfect that would allow the Present Perfect translation. The fact that Arabic does not have a distinction between Simple Past and Present Perfect is a crucial point in order to understand the problems Arabic-speakers can face learning languages which have both forms. Comrie (1976) contradicts this fact, and claims that Arabic has specific Perfect forms formed with the particle *qad* and the perfective form of the verb. However, he does not give any examples on how this tense works, or which of the traditional perfect meanings the Arabic Present Perfect conveys.

The sentences under (3) could be translated as 'the man recently read the book' and 'the man went twice to the US' because in both sentences the verb has the same [+perfective] form that we saw in the examples under (2). Therefore, the translation using the Present Perfect seems to be done in order to accommodate the Arabic examples into the English language.

Fassi-Fehri (1993) has a view of the situation which differs from the traditional one that we have just laid out. He notes that inflected verbs in Arabic alternate the expression of tense and aspect. According to Fassi-Fehri, Arabic (and Tamazight as well) has a binary inflectional system based on the opposition between two forms. For

example, there is a form of the verb *katab* 'to read' which expresses anteriority and perfectivity (5a, 6a) depending on the context of the sentence (expressing Past Perfect or just Past tense if we want to use the equivalent tenses in Romance languages), and a form of the verb *y-aktub*, which denotes –perfective (5b, 6b, and 6c), or the equivalent to Present, Imperfect or Future tenses. Thus, Arabic verbal inflection encodes a [±anterior] dichotomy, which is temporal in nature, in addition to a [± perfective] distinction, which is aspectual.

(5) a. Kataba risaalat-an (Arabic)
write-3ps +perfective letter-accusative
'He wrote a letter'

b. Yaktubu risaalat-an (Arabic)
write-3ps –perfective letter-accusative
'He is/was writing a letter' or 'He writes a letter'

Sánchez (2001)

(6) a. War sγiγ ca (Tamazight)
neg. buy-1ps something
'I didn't buy anything'

b. Ttuγa war ttetteγ (Tamazight)
anterior particle neg eat-3ps –perfective
'He wasn't eating'/ 'No comía'

c. Tiwecca ad ruḥeγ γer Rrif (Tamazight)
tomorrow non-accomplished particle go-1ps –perfective to Rif
'Tomorrow I'll go to the Rif'

(Lamuela, 2001)

In addition, Comrie (1976) states that the difference between the perfective and imperfective in Arabic is one of relative tense and not only of aspect. Namely, the perfective indicates both perfective meaning and relative past time reference (anterior tense), while the imperfective indicates imperfectivity regardless of tense reference.

After having reviewed the basic definitions of tense and aspect, and having provided a thorough description of how both the target and the L1 languages included in the study deal with the three past tenses, the next chapter will examine the different points and theories on the acquisition of tense and aspect in SLA, and the several studies that focus on tense and aspect acquisition studies in Romance languages.

CHAPTER 2

ACQUISITION OF TENSE AND ASPECT

Introduction

Second language acquisition studies typically approach the acquisition of tense and aspect focusing on different points of tense and aspect marking in general, and past tense marking in particular. The different points and theories on the acquisition of tense and aspect in SLA will be laid out first, and then we will proceed to describe tense and aspect acquisition studies that focus on the languages dealt with in the present study.

1. SLA theories on the acquisition of tense and aspect

In the following sections we will examine several theories on the acquisition of tense and aspect in second language acquisition.

1.1. From morpheme studies to meaning oriented studies

According to Bardovi-Harlig (1999) and (2000), the first studies to address the acquisition of tense and aspect were the so-called morpheme studies of the 1970s and 1980s. These studies focused on the emergence of tense and aspect morphology of the verbs without paying any attention to either its context or its meaning. Morpheme studies mostly revealed the order in which the different tenses would appear in the interlanguage[10] of the informants. They also attempted to discover the order of acquisition of regular versus irregular morphology, but the authors did not reach an

[10] Selinker (1972) defines the term interlanguage as the language produced by learners, both as a system which can be described at any point in time as resulting from systematic rules, and as the series of interlocking systems that characterize learners' progression.

agreement, for different studies pointed to different directions. All these studies were mostly conducted with L2 English learners and they all agreed on the fact that form emerges before function.

The morpheme studies have been criticized by Bardovi (2000) for the fact that they focused for the most part on the endpoint of acquisition, therefore ignoring the developmental stages of the learners. It is also assumed by the critics of morpheme studies that form and meaning should be considered separately given that there will always be more mistakes, for instance, in the functional use of the Imperfect vis-à-vis the Preterite in Spanish than in using the morphology of each tense separately, even in advanced learners.

In later studies, morphology started to be considered as the surface realization of a semantic system. The researchers began to focus on the investigation of the expression of semantic concepts expressed via the distribution of verbal morphology that is informative of the underlying semantic system of the interlanguage. These studies had a more universalistic approach than the early morpheme studies, and thus took into account a broader range of languages (Bardovi-Harlig 1998, Bayley 1994).

Bardovi-Harlig (1999) states that the following step in language acquisition studies are the so-called meaning-oriented studies or the concept-oriented approach, which is characterized by the examination of the various linguistic devices the learners use to express temporality. The means of expressing temporal relations range from pragmatic means (scaffolding[11], chronological order, and implicit ordering), to lexical

[11] Scaffolding is a term used to refer to the process by which instructors teach learners the important key features of a concept using an oral dialogue, allowing learners to build upon their prior knowledge. In this case scaffolding refers to the use of metaphors through which L2 learners express temporality without using inflected verbs.

means including the use of adverbials, to morphological means (the emergence of morphology to mark temporal relations) which are guided by different theories, such as the Aspect Hypothesis and the Discourse Hypothesis, as well as some functional approach (Meisel 1987 and Véronique 1987). All of the above theories will be discussed in the following sections.

Dietrich et al. (1995) can be regarded as an example of a meaning-oriented study. The project consists of a longitudinal study of 40 adult immigrants learning the language of their respective host countries. Specifically, it follows the acquisition of English by Punjabi speakers, of German by Italian and Turkish speakers, of Dutch by Turkish and Arabic speakers, of French by Arabic and Spanish speakers, and finally of Swedish by Spanish and Finnish speakers by conducting conversational interviews and film retell tasks. Due to the wide scope of the study, the authors are able to draw some remarkable general conclusions about developmental sequences in second language acquisition.

Dietrich et al. state that there are many ways in which temporality can be encoded in natural language: by grammatical categories of tense and aspect, temporal adverbials, particles such as tense markers, internal temporal features of the verb, and verb clusters, among others. Many studies that have exclusively focused on the acquisition of temporal morphemes are criticized by Dietrich et al. on the basis of three essential points. First, given that tense and aspect markers are language-specific devices, it would be better to have language-neutral characterizations to describe the features expressed by tense and aspect markers. Secondly, the concentration on tense/aspect marking ignores the interplay of verb inflection with other ways to express temporality. Finally, the importance of covert contextual information is also put in the foreground.

The results of Dietrich et al.'s study show that the expression of temporality exhibits a sequence from pragmatic to lexical, and then to grammatical devices; that is, the sequence develops from discourse principles such as chronological order[12] and scaffolding, to lexical means such as adverbials and connectives, and finally to verbal morphology.

The authors suggest the existence of three stages of development. The first stage consists of lexical bare elements without grammatical organization (no government, no functional inflections), but utterances comply with a principle of natural (or chronological) order. Speech is heavily context-dependent, but we already notice the presence of some deictic pronouns. In the second stage, the learners' speech shows uninflected verbs without case marking, but with a clearer organization of the sentence structure. Some lexical verbs in a base form can emerge (infinitive, gerund or some invariable inflected form), and there is an increased repertoire of temporal adverbials present, and some boundary markers such as 'start' or 'finish'. Finally, in the last stage, Dietrich et al. observe the coexistence of various morphological forms without appropriate functions, and an increase of temporal adverbials. They also find that tense marking precedes aspect marking (something that counts as counter-evidence for the Aspect Hypothesis that will be laid out in the next section), and that overall irregular morphology precedes regular morphology.

According to Meisel (1987), the aim of any longitudinal study on L2 acquisition should help disclose "communicative and cognitive constraints on the use of

[12] According to Klein (1994), the principle of chronological order (also referred to as the principle of natural order) has been said to account for the lack of complex temporal features in the language use of early learners. Klein's principle states that in two subsequent related events, reference to the earlier event is made first, that is, the order of the utterance of the events corresponds with their order of occurrence.

morphological and syntactic devices to code the intended message" (p.206). He reports the results of a longitudinal study on German L2 acquisition by adult Italian-, Portuguese- and Spanish-speakers. The data reveal that there is a developmental sequence on the expression of temporality that ranges from adverbials, through present perfect, past tense of the verb 'to be', past tense of the verb 'to have', and to the emergence of past tense on modals. The appearance of all these is used to accomplish several functions in the language, the earliest is to refer to individual evolution, then to relate events in the past, and only in latter stages to provide background.

Véronique's (1987) study aims at finding out the devices that Arabic- and Tamazight-speakers use in order to express past tense in French in a conversation with a native speaker. The author devotes special attention to the informants' variation in recounting past tense events according to their level of proficiency in French. The analysis of the data proved that the division between lower proficiency and higher proficiency informants was an appropriate one. Lower proficiency informants use verb stems mostly in foreground discourse, whereas they use verb forms plus a past morpheme in the background. In higher proficiency informants the intricacy of the past tense discourse makes the two types of verbs occur both in the foreground and in the background. Véronique also points to a sequential appearance of the different devices to express past tense, namely the principle of natural order (in his own words, reliance on the discursive principle: first happened, first mentioned), reliance on the shared knowledge of the world, use of calendrical expressions and spatial reference, use of adverbials, and finally the use of elementary verb morphology.

Following the path that both Meisel and Véronique take, von Stutterheim (1991) examines the linguistic systems that the learners construct when acquiring an L2, and the manner in which these systems express particular conceptual categories, such as tense and aspect. Von Stutterheim states that languages usually start expressing temporality through pragmatic means, then lexical means, and finally grammatical ones. The study investigates the time concepts and sub-concepts that are expressed first, as well as the means or devices used to convey temporal references and temporal relations. The data are elicited through spontaneous conversations with Turkish-speakers acquiring German in Berlin in a naturalistic way. The analysis of the data from von Stutterheim's study provides us with a list of means by which temporal relations are expressed in discourse. Semantic, pragmatic, and lexical means are used in the beginning stages, whereas at later stages we find grammatical marking of verbs in addition to the aforementioned means.

1.2. Primacy of Aspect Hypothesis

Some of the research done in the acquisition of tense and aspect both in First and Second Language Acquisition has adopted Vendler's categories in order to reach an understanding of the order of acquisition of the different tenses, and the aspectual distinctions that each brings. The claim that the lexical meaning of the verb determines the acquisition of tense and aspect morphology is included in the *Primacy of Aspect Hypothesis* (also referred to as Lexical Aspect Hypothesis, Aspect Hypothesis or Primacy of Aspect[13]). The category of aspect is primary in the sense that target language verbal morphemes, independent of their function in the target language, are first used by the

[13] When reviewing the articles, I will use the three terms interchangeably according to the choice of each author.

learner to mark aspect. The most current formulation of the Aspect Hypothesis claims that in the acquisition of tense and aspect markers of verbs, first and second language learners will initially be influenced by the inherent semantic aspect of these verbs or predicates.

In languages that encode the perfective-imperfective distinction, the hypothesis predicts that activity verbs, achievement verbs, and accomplishment verbs will be inflected with the perfective in the first stages of acquisition, while stative verbs will first appear with imperfective morphology. The first formulations of the Primacy of Aspect Hypothesis, as reported in Bardovi-Harlig (2000), were more concerned with confirming that in the very first stages of acquisition, learners made aspectual distinctions even when using bare forms of the verb (appealing to the lexical aspect of the verb). However, the studies conducted ended up concluding that the hypothesis should be refined (using the Vendlerian categories, for instance) since the fact that the learners were making aspectual distinctions was difficult to prove in the first stages of acquisition when verbal morphology has yet to appear.

The first study done in First Language Acquisition testing the Primacy of Aspect Hypothesis, Antinucci and Miller (1976), gives evidence that supports the hypothesis. A tendency to use present forms for durative verbs, and past forms for achievements and accomplishments is revealed in the longitudinal study of seven Italian-speaking children. The authors attributed this fact to some sort of cognitive deficit of the children at this stage of development (between 1;6 and 2;6 years old). In contrast, there are some studies on Spanish first language acquisition, such as Fernández Martínez's (1994) study of Maria between ages 1;7-3, that show that tense is marked first instead of

aspect, posing apparent problems for the Primacy of Aspect Hypothesis. However, Fernández Martínez does not specify the nature of the verbs (whether they are achievements, accomplishments, activities, or states) in which tense is first marked, and thus her study cannot be considered as acceptable evidence against the Primacy of Aspect Hypothesis.

In most of the studies that are discussed here, we can find other important hypotheses and principles that provide interesting insights to the hypothesis defined above. According to Bardovi-Harlig (2000), the *Defective Tense Hypothesis*, which is yet another version of the Primacy of Aspect Hypothesis, claims that only telic verbs will receive past-tense inflections in the first stages of first language acquisition. This way, tense distinctions will be redundant and will only accompany aspectual distinctions, and only references to an immediate past will be made. A relative interpretation of the Defective Tense Hypothesis would predict that, in early stages, past inflections are predominantly attached to achievement and accomplishment verbs.

Andersen & Shirai (1994) suggest that there are three basic principles that establish the similarity of tense-aspect morphology, namely, the C*ongruence Principle*, the *Relevance Principle*, and the *One-to-one principle*. The C*ongruence Principle* (also referred to as the *Redundant Marking Hypothesis* by Shirai 1993) proposes that learners will use the morphology whose meaning is most similar to that of the verb's inherent lexical meaning. The *Relevance Principle,* as formulated by both Bybee (1985) and Slobin (1985), states that learners will use the morphology that is relevant to the verb the nearest possible to that same verb. Andersen & Shirai (1994) point out that these morphemes will be acquired earlier and faster than other morphology. This principle also

helps the learners find the morphological markings relevant to the inherent aspectual meaning of the verb. Finally, the *One-to-one principle* notes that, initially, learners associate one form or morpheme with one function or meaning, and when that principle is broken by the appearance of a new form, the learner tries to reconstruct that system assigning one new exclusive function to this new form or morpheme. These three principles are said to interact in shaping the process of acquisition, and they are the base for the Lexical Aspect Hypothesis.

In a case study of Anthony, an English speaker learning Spanish, Andersen (1986) gives evidence that supports the Defective Tense Hypothesis, namely that morphological inflection to express aspect appears before tense, and that inherent aspect plays a major role in the use of the Preterite. His predictions that Preterite would be used before Imperfect to express punctual and completive events with action verbs, and that a neutral form of the verb would be used in all other cases, are all confirmed. Finally, the hypothesis that person and number agreement between verb and subject will develop independently of the expression of tense and aspect is also confirmed.

The same Defective Tense Hypothesis is also tested and validated in Andersen (1991). In this study, he deals with natural acquisition of Spanish by 16 English speakers, but he reports only quantitative data by two informants (who had been learning Spanish for two years), at two different periods: ages 8 and 10, and 10 and 12 respectively. The study is especially important because it suggests the existence of eight different developing sequences for the acquisition of the Preterite-Imperfect relations in Spanish. Andersen claims that the Spanish Preterite and Imperfect inflections are initially interpreted as markers of inherent aspect. In later stages of acquisition, all verbs with past

reference are marked for past, but only in ways consistent with the inherent aspect of the verb, that is, punctual and telic verbs receive Preterite, while atelic predicates receive Imperfect.

One major criticism to all the hypotheses laid out above could be raised if the speech of adult native speakers did not show the distribution of verbs according to the stages contained in the Primacy of Aspect Hypothesis. Andersen and Shirai (1996) report on studies that confirm that native speakers' speech complies to a great extent with the Primacy of Aspect Hypothesis. However, it is only when examining the input in both first and second language acquisition (infant-directed speech and adult native speakers' speech to non-native speakers) that Andersen and Shirai conclude that the input is biased in a way that is absolutely congruent with the Primacy of Aspect Hypothesis. This fact is captured in the *Distributional Bias Hypothesis* that claims that "native speakers will exhibit the same distributions of morphological marking on selected verbs (according to their inherent semantics) that are found in the learners" (p.560).

In sum, lexical aspect influences the patterns of distribution of past verbal morphology in initial and later stages of morphological development. Given that all natural use of tense-aspect morphology occurs in a specific context, it is also important to investigate the influence of discourse structure on the distribution of emergent morphology.

1.3. Discourse Hypothesis

Studies done from a context-based approach view grounding as a discourse function that determines the choice of Perfective or Imperfective with different types of verbs at different moments in the speech. The *Discourse Hypothesis*, as laid out in

Bardovi-Harlig (2000), claims that there are two types of grounding, *foregrounding* and *backgrounding*, and some type of verbs are more likely to emerge in one of them than the other. Namely, the Preterite morphology appears mostly in the foreground, whereas Imperfect morphology is expected to emerge in the background. According to Bardovi-Harlig (2000), foreground refers to the part of speech whose order matches the order of the events it reports, especially punctual and complete events rather than durative, repetitive, habitual, or ongoing ones. Background, on the other hand, supports the foreground by providing supportive material that elaborates on the events in the foreground, or evaluates them. The Discourse Hypothesis predicts that the level of proficiency will determine the distribution of verbal morphology relative to grounding. This way, beginners' speech will mainly consist on foreground due to the tendency of beginner students to rely on chronological order to convey temporality. In later stages of acquisition, we will find both types of grounding, with the Preterite emerging in the foreground, while the Imperfect appearing mostly in the background.

Evidence for the hypotheses above can be found in Comajoan's (2000) study of second language acquisition of Catalan by English speakers, where the author tests both the Discourse and the Aspect Hypotheses. Although both hypotheses are confirmed, he states that the Discourse Hypothesis gives more robust results overall; apparently, in Catalan second language acquisition, Preterite morphology emerges in the foreground, whereas Imperfect morphology emerges later and in the background. In a similar way, López-Ortega (2000) finds that both Discourse and Aspect Hypothesis interact in complementary ways in the development of the aspectual systems in Spanish second

language acquisition. The Preterite is again used mostly to mark foreground information, while the Imperfect tends to mark information on the background.

Bardovi-Harlig (1998) also discusses the two competing hypotheses regarding the distribution of the emergence of tense-aspect morphology, and she states that a description of the distribution of emergent verbal morphology must rely on both discourse structure and lexical aspectual category. In her analysis of the oral narratives of 37 learners of English of five different language backgrounds (Arabic, Spanish, Korean, Japanese and Mandarin), she finds that achievements are inflected regardless of grounding, whereas accomplishments and activities show sensitivity to both grounding and lexical aspect. Although accomplishments and activities show greater past-tense use in the foreground than in the background (sensitivity to discourse), accomplishments show higher use of past than activities (sensitivity to aspectual category).

Bardovi-Harlig (2000) claims that there is a hierarchy that predicts which verbs in a narrative will be first inflected by the learners:

(17) achievements → foreground accomplishments → background accomplishments → foreground activities → background activities

Achievements are most likely to be inflected in the Simple Past, accomplishments are the next most likely, although foreground accomplishments show higher rates than background. Activities are the least likely of all the dynamic verbs to carry Simple Past morphology, and again foreground activities show higher rates of Simple Past than activities in the background.

All the studies discussed so far which test either the Aspect or the Discourse Hypotheses do not pay special attention to a common phenomenon in the data they elicit,

which is the use of the present tense in order to convey past tense, the so-called Conversational Historical Present (CHP henceforth). According to Wolfson (1982) the alternation between the past and the CHP is a stylistic device that helps the speaker illustrate a change in scene (or change of footing) when narrating a story. Most of the studies presented in this section and the section before would code the occurrence of a verb in the present as a verb not marked in the past, regardless of its possible function as a verb used in the CHP style. Therefore, in this kind of studies, and especially the ones that elicit narrative and story retells, the verbs that are used in the CHP style should either be left out or coded as such.

1.4. Variationist approaches to SLA

The Labovian variationist model of language[14] is a dynamic one that accounts for variation and change over time in speech within a community. It seems likely that such a model would also account for variation and change in the development of a learner's second language. Indeed, variationist models have been applied successfully to the study of second language acquisition, as we will see below.

It has been argued that the speech of second language learners is even more subject to change, development and variation than that of native speakers. First, second language learners differ among each other in their levels of proficiency as well as in the speed at which they acquire certain features of the target language. It has long been assumed that linguistic variation in the process of the acquisition of a second language is not random, especially after Selinker's concept of interlanguage was put forward. As

[14] Labov (1963) and (1966) set the bases for variationist sociolinguistics which studies language variation and change focusing on the use of the vernacular.

mentioned earlier, Selinker (1972) defines interlanguage as the language produced by learners, both as a system which can be described as resulting from systematic rules, and as the series of systems that characterize the progression of the learner. The notion of interlanguage can be regarded both as a system in its own right and as a dynamic system that evolves over time. The observed variation of a given interlanguage form at a certain point can be due to either the linguistic development of the individual, sociolinguistic factors, or a combination of the two.

Preston (1996) provides an overview of second language acquisition research and notes its relationship to quantitative sociolinguistics. The limitations of second-language researchers' use of variation methods, models, and concepts are discussed, and recent research is described showing the value of quantitative analysis in enhancing our understanding of language acquisition. Preston refers to the earliest works on language variation which were, according to him, the historical linguistics works on dialects by the European Neogrammarians of the nineteenth century that were conducted under the premise that sound change was without exception. The work of the Neogrammarians set the ground for studies such as the ones by William Labov. Labov claimed that the alternative use of two or more equivalent forms in the language is not random, and that each variant’s frequency of use is influenced by different factors (style and linguistic context, among others). In a similar manner, interlanguage variation could be said to be systematic, and thus its systematicity could in principle be accounted for by looking at the role of different contributing factors.

Tarone & Liu (1995) also address the issue of systematic interlanguage variation which occurs when a learner produces different variants of a particular interlanguage

form either in varying linguistic environments or under different social conditions, such as different interlocutors or physical locations. Theoretically, a learner may seem to have mastered a form in one social context, but in another context the same learner can produce a quite different variant, and sometimes even an inadequate form. Some authors believe that interlanguage variation across contexts can be related to change in the level of knowledge of the target language over time. Tarone's study presents some data that serve to support the hypothesis that interlanguage performance is related to diachronic second language acquisition. The social situations of individuals contribute to interlanguage variation, in this case, variation across individuals.

Preston's (1996) reports the first studies that use the variationis approach to account for second language acquisition: Dickerson (1974) and Dickerson (1976). These two studies conclude that the variationist model is appropriate for the study of interlanguage development, and that the linguistic environment is a predictor of the variable use of a structure in the learner's interlanguage. Furthermore, these kinds of studies are capable of showing linguistic change in the individuals' interlanguages provided that the data are collected in a prolonged period of time.

Many variationist studies employ the VARBRUL[15] statistical program (to mention just some of them: Bayley 1994, Regan 1996, and Young 1989), which is mostly used in order to determine the probabilistic weight of each of the variables that are said to influence a specific linguistic form in a linguistic output. Young and Bayley (1996) devote a whole chapter to the applicability of VARBRUL to studies that research interlanguage variation. The authors hold that interlanguage variation can be modeled in

[15] VARBRUL stands for Variable Rule, and it is a statistical program specifically designed for studies done within the variationist tradition in sociolinguistics due to its capability to, for instance, deal with the distributional imbalances of linguistic features in sociolinguistics.

a quantitative manner, and that it is unlikely that one single factor can account for the variability in a set of data. Accordingly, they suggest that the multivariate analysis that VARBRUL offers, like that of other statistical programs, such as SPSS[16], is the most suitable in order to find out the likelihood of occurrence of the linguistic variable under study, given a specific linguistic or sociolinguistic environment. Likewise, the same statistical procedure can also reveal the relative weight of the different factors associated with that variation.

Young (1991) states that two dimensions of language variation can be observed in each stage of an individual's interlanguage. The vertical dimension, which gives information about variation and which accounts for the linguistic context of each utterance, and the horizontal dimension, which reports developmental information. The latter one can be helpful to track both structures that change over time, and the different developmental stages of acquisition. According to Meisel et al. (1981), however, this horizontal dimension is insufficient to account for the totality of variation found in interlanguage. In each stage of interlanguage development, individual variability will also play a role in the overall amount of variation.

Summarizing so far, some variation within the speech of individuals at different points in time may be attributable to developmental processes. Other variation may be attributable to the general processes of adaptation of speech to the context of the situation. And finally, the sociolinguistic situation in which the subjects find themselves as members of a specific linguistic and ethnic community should also be included as a possible contributor to interlanguage variation. This is especially important when trying

[16] SPSS (Statistical Package for the Social Sciences) is a statistical program used in order to analyze quantitative data. It is also one of the most commonly used across several disciplines: sociolinguistics, sociology, and psychology, among others.

to account for interlanguage variability between individuals in the context of immigration given that individual differences in second language acquisition should be viewed as stemming partly from the sociolinguistic situations of the learners. The sociolinguistic situation can be measured combining all the sociolinguistic variables available for each individual. Factors such as sex, age, socio-economic status, age of arrival, length of residence, level of proficiency in the L1, level of literacy in the L1, and degree of use of L1, among others, will help determine the individual's sociolinguistic situation.

We will now take up other research that approaches interlanguage variation from a variety of perspectives, that is, it focuses on different linguistic aspects of the interlanguage of second language learners. Variation in L2 acquisition has been investigated focusing on a number of linguistic areas, but mostly on morphology (Young 1989 and 1991) and phonology (Bayley 1994).

In Bayley (1994) interlanguage variation is investigated with the focus on past tense marking in Chinese-English. In this study, evidence is presented to support the idea that variation in interlanguage past tense marking is systematically conditioned by linguistic, social, and developmental factors. The results are discussed in terms of the effect of phonetic saliency on verb type, the effect of the phonological environment on the marking of non-syllabics, grammatical aspect, and past tense marking. Learners tend to especially mark phonetically salient forms and perfectives. Young (1989) also uses a multivariate analysis to account for the variation in *-s* marking on semantically plural count nouns in the spoken English interlanguage of native speakers of Chinese. The multiple factors that influence –s marking include the situational context of the interview, stage of acquisition (overall proficiency in English), linguistic environment (i.e.,

linguistic features of the noun stem and its phonological environment), and communicative redundancy (i.e., the tendency to eliminate redundant marking of plural in the same clause). The first three hypotheses are confirmed, but the last factor shows a significant effect but in the opposite direction to that predicted, that is, salient plural markers favor redundant marking of plural on the head noun, while the lack of any other plural mark in the clause highly disfavors the marking on the head noun.

Regan's (1996) study of the acquisition of French negation by advanced Irish learners provides indications of how the learners' grammars change over time. The results indicate that target-like negation increased after a stay in France, but also that many other variables contributed to the process of acquisition of target-like negation. The other variables were style (formal versus informal), the lexicalization of negation forms, the subject, the following segment, the presence of object clitics, and clause type.

Berdan (1996) reanalyzed data from an early second-language acquisition study (Alberto's data on the acquisition of negation in English as reported by Schumann 1978). Berdan's reanalysis shows an effect of both time and linguistic (syntactic and discourse) context on the acquisition of negation. Berdan demonstrates the possibility of a model of language acquisition that reflects a continuous dynamic process, as opposed to unsystematic variation and lack of progress over time (which was the outcome of the previous analysis of the same data by Schumann). The use of a multivariate analysis on language acquisition data is justified by stating that such types of studies can show the effects of contextual variables simultaneously, and its statistical extension can additionally accommodate continuous change over continuous time providing a model that is more descriptively adequate.

1.5. Generative approaches

Studies that adopt a Generative approach to explain second language acquisition are primarily concerned with whether or not the learners have access to Universal Grammar (UG, henceforth) in the process of acquisition. In the case of lack of access to UG, they should try to elucidate which learning device is responsible for the process of acquisition of a second language. Epstein et al. (1996) lay out three different hypotheses that have been formulated, each proposing a model with different levels of access to UG. The *Partial Access Hypothesis* claims that second language learners have lost access to UG parameters, and that UG principles are available only through their first language. Thus, UG principles do not guide the acquisition sequences of second language learners. On the other hand, the *Full Access Hypothesis* denies any role of first language set parameters in second language acquisition, while learners' access to UG determines their analysis of the second language input and the assignment of second language parameters directly. Therefore, second language acquisition is totally constrained by UG. Finally, the *No-access Hypothesis* states that second language learners have no access to UG, neither through their first languages nor directly from their second languages. Slabakova (1999) mentions yet another hypothesis, the Full Transfer/Full Access Hypothesis, equivalent to the Partial Access Hypothesis, by which in the initial stages of second language acquisition the full first language grammar is the whole basis for the second language. At the same time, all UG parameter values are fully available to the learners, since there is an initial transfer and subsequent successful resetting of parameters. Slabakova (1999) shows that Slavic learners of English transfer the Slavic value of the parameter under

investigation (the parameter of aspect) providing evidence for the Full Transfer/Full Access Hypothesis.

Montrul and Slabakova (2002) explain the process of acquisition of tense and aspect from the Minimalist Program approach, in which the link between morphosyntax and semantics is stressed. Functional categories (complementizer, agreement, tense, determiner, and negation) consist of sets of formal features (case, number, gender, finiteness) and related morpho-phonological forms. Some of the features are strong and need to be overt morphologically and checked overtly in the syntax, and some others are weak, they tend to correlate with lack of morphology, and they are checked at LF (logical form). Since features are universal but the clausal architecture is not, functional categories are taken to be the main locus for variation between languages. Thus, languages vary either with respect to the realization of particular functional categories in the clausal structure or with respect to the strength of the features. In first language acquisition, children select from a universal inventory the features relevant to their language and learn to associate these with morphemes. Parameter values are encoded in the lexical entries of functional categories or in the strength of associated features.

The same authors turn then to the question of whether or not functional categories are acquirable in a second language, and they give evidence that supports the Full Transfer/Full Access Hypothesis. From a minimalist perspective, aspect is said to head a functional projection, AspP, where the feature [± perfective] are checked. They assume the existence of an association between the acquisition of overt morphology and the formal features of functional categories, and thus the existence of a strong connection between the acquisition of the inflectional morphology and the semantic interpretation of

these aspectual tenses. In the case of Spanish (and also Catalan) all aspectual classes of the verbs can be expressed either with the Preterite or the Imperfect:

(18) a. STATIVE: El coche *costaba* dos millones en 1998. (Preterite)
'The car's price was two million in 1998'
El coche *costó* dos millones. (Imperfect)
'The car's price was two million'

b. ACTIVITY: *Salí* de casa a las 12. (Preterite)
'I left the house at 12'
Salía de casa a las 12 todos los lunes. (Imperfect)
'I used to leave the house at 12 every Monday'

c. ACCOMPLISHMENT *Escribí* una carta. (Preterite)
'I wrote a letter'
Escribía un carta todos los días. (Imperfect)
'I was writing a letter every day'

d. ACHIEVEMENT *Alcancé* la cumbre del Everest. (Preterite)
'I reached the Everest summit'
Alcanzaba siempre la cumbre del Everest. (Imperfect)
'I used to reach the Everest summit every summer'

As we see above, however, the choice of either tense affects the semantics of the verb, that is, the sentences constructed with the Preterite have a bounded interpretation, whereas the sentences that use the Imperfect must be interpreted as unbounded. English associates the feature value [+perfective], which encodes boundedness, with all eventive predicates except statives, thus the ungrammaticality of **I'm being*. By the same token, the interpretation of statives in the Simple Present cannot be [+ perfective], in fact, stative verbs are neutral as to the perfective/imperfective value. In Spanish nonetheless, AspP is associated both with [± perfective], therefore Spanish checks both [±perfective] through the use of the Preterite and the Imperfect morphology respectively, while in English only eventive predicates check [+ perfective] features through Simple Past tense morphology.

In the aforementioned study of English speakers learning Spanish as an L2, Montrul and Slabakova tested whether the acquisition of features is possible in a second language, and whether knowledge of morphosyntax and semantics is related or dissociated in interlanguage grammars. Learners performed both a narrative task and a sentence conjugation judgment task. The results for both tasks show that all groups (beginners, intermediate, and advanced learners) discriminated semantically between the two tenses. However, only advanced students and some intermediate ones appeared to have acquired the semantic implications associated with the Imperfect and the Preterite. The intermediate learners who do not know the Preterite/Imperfect morpho-phonology are not sensitive to the semantic contrast between these tenses. The authors therefore conclude that the acquisition of morphology precedes the acquisition of semantics, and that there is a relationship between the acquisition of tense and aspect morphology and the acquisition of the bounded/unbounded semantic distinction associated with these tenses. Both conclusions support the Full Transfer/Full Access hypothesis since the formal features associated with AgsP are acquirable and unimpaired, and knowledge of morphology precedes knowledge of semantics.

Evidence for the fact that semantic distinctions require rich morphology can be also found in studies that deal with language attrition, such as Montrul (2002). Her study of the speech of Spanish-English bilinguals living in the United States shows that the simplification of Imperfect and the Preterite morphology in first language attrition exhibits the loss of the semantic implications that these two tenses carry. The study consisted of a morphology recognition task, an oral production task, and an interpretation task especially aimed at measuring the ability to recognize the semantic implication of

the two past tense forms with accomplishment, achievements, and stative verbs. Bilinguals who exhibit simplification of Preterite/Imperfect morphology also exhibit loss in the semantic implications of these tenses.

Silva-Corvalán (1991 and 1994) and Zentella (1997) also observe, in the speech of second generation bilinguals in the process of first language attrition, a very different use of tense and aspect markers compared with monolinguals. These deficits can be found in production and comprehension.

Montrul examines the dissociation between formal features and morpho-phonological spell-outs that has taken center-stage in debates on UG accessibility in second language acquisition. Two different explanations have been attempted, namely that variability in the use of second language inflectional morphology is due to surface morphological difficulties or that errors with morphology are indicative of deeper deficits in linguistic knowledge. In her study Montrul finds that the second statement holds true.

Most studies on acquisition of tense/aspect show that the Preterite tense is acquired first, and it appears with telic events (accomplishments and achievements); the Imperfect is acquired later, and it is mapped to atelic predicates (activities and states). Only in the last stages of acquisition can the Imperfect appear with achievements and the Preterite with stative verbs. The assumption for Montrul's (2002) study is that the process of language attrition will resemble that of language acquisition but in reverse order. The results show that both morpho-phonological spell-outs and features of the Spanish functional category AspP are affected for some bilinguals. Likewise, in the production task, bilinguals show inaccuracy with stative verbs in the Preterite and achievement verbs in the Imperfect, therefore resulting in evidence of simplification of the tense/aspect

system. At this stage of language attrition bilinguals behave as intermediate and advanced second language learners of Spanish with English as their first language. Montrul raises an important question about whether the data patterns observed should be interpreted as reflecting incomplete first language acquisition or reflecting language loss due to imbalance use of L1.

2. Acquisition studies of tense and aspect in Romance languages

Evidence from most existing studies examining Spanish and Catalan second language acquisition (Andersen 1986 and Comajoan 2000, among others), shows that the Preterite is the first past inflection to appear, followed by the Imperfect. In contrast, conversational data suggest that Preterite and Imperfect emerge at the same time with tentative uses of both in the second and third months of acquisition, and robust use in the sixth month, as Bardovi-Harlig (2000) points out.

The role of lexical semantics (and thus, of the Lexical Hypothesis) in the selection of Preterite or Imperfect verbal morphology among English students learning Spanish as a second language is assessed in Salaberry (1999). The Lexical Hypothesis predicts that the use of Imperfect would spread from stative verbs to non-stative verbs, and the use of Preterite would do so from punctual verbs (achievements) to non-punctual verbs up to statives. Salaberry reports the results of a film retelling task and a role play retelling task which show that the use of past tense verbal morphology is independent of the effect of the inherent lexical aspectual value of the verbal predicates, at the beginning stages of acquisition. Beginners seem to use a single default past tense marker across lexical aspectual classes, and although one could argue that they use it with some verbs but not

with others, it could be that the use of this morphology does not reflect knowledge of the semantics of those markers. Salaberry points out that at intermediate stages, the Lexical Hypothesis begins to work, and the highest degree of association of atelic verbs and Imperfect, and telic verbs and Preterite is found among advanced students.

The results of a study reported by Salaberry (2000) confirms that in the beginning stages the Lexical Aspect Hypothesis does not apply, although it seems to hold true for subsequent stages. The effect of lexical aspect thus becomes stronger in direct correlation with the level of experience in the target language. At the beginning stages, learners use a default marker of past tense to mark verbal endings conveying past time reference (not accounted by the Lexical Aspect Hypothesis); in the following stages, they start marking Preterite in telic events and statives; and by the end stages they should be able to mark tense and aspect irrespective of the inherent lexical semantics of the predicate. At the same time, Salaberry finds that the default marker of past tense morphology seems to be the Preterite at all stages.

Andersen (1991) puts forward eight developing sequences of second language Spanish acquisition drawn from the data of a longitudinal study of two young English speakers (ages 8-12) learning Spanish in a natural setting. At stage 1 learners produce present forms, mostly third person singular with no inflection, but by stage 2 they start using the Preterite for punctual events as opposed to the Present, which continues to be the unmarked form, just as the Defective Tense Hypothesis would predict. States begin to appear in the Imperfect, and activities and telic events appear still in the present at stage 3, and by stage 4 the Preterite extends to the telic events, and the Imperfect spreads from the statives to activities (since they share durativity with states). The system at this point

is making a one form per meaning distinction only, unlike the native Spanish system that allows any verb to be in each of the past forms. At stage 5, telic events begin to appear in alternate forms (Preterite and Imperfect), since both of them have a durative and a punctual element, and at stage 6 inherently durative verbs can be viewed as reduced to a certain point (from *jugaba* to *jugó un partido de fútbol*). In the last two stages, inherent punctual events are represented in terms of their internal construction, so one can see their short-lived durativity, for instance, *breaking* can be seen as an ongoing process (stage 7), and finally states can be represented as a whole, having a beginning and an end (stage 8). These developmental stages have been tested in other longitudinal studies on the acquisition of Spanish such as Robinson (1995) where they have proven to hold, although one could argue that the Vendlerian categories are not sufficient to describe in depth the developmental stages on the acquisition of tense and aspect. A thorough description of the acquisitional stages would have to take into account other ways of conveying tense and aspect that contribute to the expression of these two categories (Aktionsart or grammatical Aspect).

One of the few studies on the acquisition of Catalan as a second language is Comajoan (2000), who provides evidence for both the Aspect and the Discourse Hypotheses. In this case the informants are English native speakers, some of whom have some previous knowledge of another Romance language (either Spanish or French). Just as it was the case for Spanish, in the acquisition of Catalan as a second language, beginners mostly use present to refer to past contexts, and only after receiving some instruction on past morphology, the Preterite forms emerge and continue to develop. The Imperfect morphology emerges later and does not develop as much. Comajoan observes

that the Preterite morphology emerges first in telic predicates (achievements and accomplishments), and later spreads to atelic ones (state and activity), and that Imperfect morphology does the opposite, all of which is in accordance with the Aspect Hypothesis.

Besides testing the Aspect Hypothesis, Comajoan goes on to testing the appropriate use of each form and he concludes, as we can see under (18), that appropriateness is higher in the Imperfect than in the Preterite in the statives, activities have even higher appropriateness percentages, but telic predicates show higher appropriateness percentages for the Preterite than for the Imperfect. The appropriate use in achievements seems to be extremely high, although it is still much higher in the Preterite than in the Imperfect.

(21) Appropriate use of the Preterite:
accomplishments 94%, activities 91%, achievements 89%, states 83%

Appropriate use of the Imperfect:
activities 95%, states 90%, accomplishments 74% achievements 36%

The Discourse Hypothesis is also tested and confirmed with even stronger results than the Aspect Hypothesis. Comajoan concludes that the highest rates of past morphology use are accounted for by the two hypotheses. The emergence of past morphology is related to the aspectual characteristics of the predicate; Preterite emerges before the Imperfect, and it occurs more in telic predicates, while the Imperfect occurs more with atelic predicates. The distribution of Preterite and Imperfect follows an aspectual pattern: along the two stages, the use of the Preterite increases mostly in telic classes, and the Imperfect in atelic ones. Appropriate use of past morphology is related to the aspectual characteristics of the predicates, as shown by the least appropriate uses of

the Preterite found in atelic categories and the least appropriate uses of the Imperfect in telic ones.

A major criticism of all the studies reviewed in this section could be that most of them involve first language English learners of Spanish or Catalan. Such studies on second language acquisition of Spanish and Catalan should have included informants whose first languages are typologically different from English if they aimed at corroborating the universality of results of their studies.

This chapter has shown that the main concern in studies that deal with tense and aspect in Romance languages is the acquisition of the functional difference between the perfective vis-à-vis the imperfective tense in the past. The fact that all the authors regard this difference as one of the most difficult to acquire is in part due to the limitation of their studies that always choose informants whose L1 is English. In studies whose informants have other L1s, this distinction may be acquired fairly easily, and acquisition difficulties would lie somewhere else in the informant's interlanguages.

In this chapter we have examined several theories on the acquisition of tense and aspect in second language acquisition, as well as different tense and aspect acquisition studies on Romance languages. In the following chapter we will provide an overview of the sociolinguistic situation in the Barcelona area focusing on both historical and current information about the different languages that are spoken in the several speech communities of the region.

CHAPTER 3

SOCIOLINGUISTIC SITUATION IN BARCELONA

Introduction

In this chapter we will first review the sociolinguistic history of Catalonia to date, taking into account the languages spoken in the region as a result of immigration patterns. We will also address the current nature of the educational system in the region focusing on its linguistic situation.

1. Sociolinguistic history of Catalonia

There are three predominant minority languages in Spain: Galician, Basque, and Catalan. Catalan is the indigenous language of the Catalonia Autonomous Community. It is also spoken in Andorra and in some areas of the neighboring regions of Valencia, the Balearic Islands, and Aragon. Historically, in addition to Catalan, Spanish has almost always been spoken in Catalonia, mostly as a second language, but also as a first language by a minority elite usually holding administrative positions.

Since the beginning of the twentieth century, Catalonia, due to its position as one of the most industrialized regions in Spain, experienced periodic waves of immigration from other parts of the country mainly from Murcia, Extremadura, Andalusia, and Galicia. As a consequence, in less than a century Spanish speakers outnumbered Catalan speakers in the Barcelona metropolitan area.

The terms “Spanish speaker” and “Catalan speaker” have been traditionally used to designate the person’s first language, although in practice these terms have actually become a way of establishing group identification, since the language is perceived as the

common bond that gives a sense of group identity, as Edwards (1984) notes. Linguistic and cultural identification intermingle and help shape the identity of the speakers coming from different backgrounds (including immigrants). In the case of Barcelona, the term "immigrant" has traditionally been used just as much as "Spanish speaker" to refer to migrants who came from the rest of Spain.

The bilingual situation in Catalonia was jeopardized by the cultural and political oppression of Francisco Franco's dictatorship (1939-1975). During this period the use of Catalan language was banned from all public arenas. As a consequence, use of Catalan was relegated to be used within the family. In this situation, the survival of Catalan was largely dependent upon the existence of an underground movement that helped preserve the Catalan standard norm through various cultural manifestations. This persisted until the end of the Franco regime. Soon after Catalonia re-gained its autonomy, the Catalan Normalization Law was passed in 1980. The creation of guidelines for a language policy was seen as one of the major steps toward reestablishing the use of Catalan in all public arenas. Despite all the efforts of the Catalan Normalization Law to push forward Catalan as the major language for all areas of public life, and especially in the school system, in Catalonia, there are still large numbers of speakers with Spanish as a first language and as a main language for socialization. These speakers usually live in mostly Spanish-speaking neighborhoods, where their access to Catalan is reduced to a few years of compulsory education (from age 6 to age 16). However, even in the school system, where the language of instruction is Catalan, children usually use Spanish in the playground and in peer-group activities, as Vila (1996) points out. As we can infer, the language shift towards Catalan of all non-Catalan native speakers, expected by the government to be a

consequence of the 1980 Catalan Normalization Law, never actually took place. Ever since, there has existed a common fear among language planners who foresee that Catalan will become an "academic language which, as happened with Latin, would only be learned at school and used just for some formal official functions" (Pujolar, 2001, p.13).

In Catalonia, then, the historical processes themselves, the patterns of migration, and the development of language policies have resulted in a heterogeneous society where two major groups maintain different roles in the society, perpetuating these roles by the use of their own language, among other means of cultural expression, as Pujolar notes.

Within this bilingual situation we find very distinct sociolinguistic practices. Woolard (1989) observes that the use of Catalan and Spanish in the Barcelona metropolitan area served to create and maintain an ethnolinguistic boundary between the locals and the immigrants. This boundary separated the predominantly middle-class Catalans from the mainly working-class Spanish-speaking population. As a result, the use of each language had (and still has) social meanings that vary according to each context and situation. Language loyalties, feelings of nationhood, political ideologies, and social prejudices make language choice a very sensitive and complex issue in Catalonia, something which is now being challenged by the recent immigration waves to which we now turn.

2. Recent immigration situation

According to the latest population census from the beginning of 2005, immigrants from outside of Spain made up 12% of all the population in Catalonia (see Table 3.1 below). However, we would expect the real figure to be much higher, since the number of illegal immigrants can be counted in the thousands, and they do not appear in official calculations.

Table 3.1. 2005 Spanish Population Census

	Barcelona	Catalonia (including Barcelona)	Spain (including Catalonia)
Total population	5,226,354	6,995,206	44,108,530
Born outside Spain	638,817	780,890	1,572,013
Percentage of people born outside Spain	12.22%	11.16%	3.56%

Source: Adapted from Institut d'estadística de Catalunya (http://www.idescat.net/)

The great majority of the immigrant population in Catalonia (mostly settled in the Barcelona area, as seen in Table 3.1) comes from South America. However, the country which provides by itself the greatest number of immigrants is Morocco, followed by Ecuador, Colombia, and China (see Table 3.2 below). If we look at the total number of people coming from each continent, America and Africa are the two most important sources of immigration, followed by Europe (see Table 3.3 below). For a complete list of countries which supply immigrant population to Spanish and Catalonia sorted by continents and overall, see Appendix A.

Table 3.2. Top five countries sources for immigrant population both in Spain and in Catalonia Source: Adapted from Institut d'estadística de Catalunya (http://www.idescat.net/)

Catalonia		Spain	
Morocco	163,589	Ecuador	479,978
Ecuador	61,814	Morocco	468,797
Colombia	30,593	Romania	308,856
China	26,183	Colombia	268,144
Romania	24,618	UK	215,854

Table 3.3. Immigrant population by continents both in Spain and in Catalonia

Catalonia		**Spain**	
Africa	204,436	America	1,451,561
America	195,188	Europe	1,112,441
Europe	115,458	Africa	618,038
Asia	61,127	Asia	155,215

Source: Adapted from Institut d'estadística de Catalunya (http://www.idescat.net/)

The physical proximity of Spain and Morocco makes the Strait of Gibraltar a natural entry gate to Europe for thousands of African immigrants. Although the numbers vary slightly if we look at Spain as a whole (where Ecuadorian immigrants outnumber those coming from Morocco as we see in Table 3.2) given that Catalonia is one of the autonomous communities with the greatest immigrant population, we can conclude that the situation in the Catalan Autonomous Community is more or less representative of the situation in Spain at large.

Despite the similarities that the so-called new immigration in Spain shares with the rest of Europe and North America, there is a related factor that is quite peculiar to the Spanish case, namely the now long-term low birth rate of the autochthonous population. This issue has always been more acute in the Catalan region, where the birth rate in the last decade was as low as 8.8 in 1995. That translated to 0% in natural growth[17] of the population, much less than the 0.6% of natural population growth for Spain that same year. Due to this factor, the traditionally high birth rate of the immigrant population is seen as a solution to an ancient problem in Catalonia, something which even the daily newspapers have reported constantly and frequently in the last few years.

[17] The natural growth of the population is calculated by subtracting the yearly death rate from the birth rate.

According to the annual report on immigration in the school system presented by the autonomous government through its *Pla d'actuació per a l'alumnat de nacionalitat estrangera 2003-2004* (*Plan for schools to deal with students of foreign nationality*), the number of students of immigrant origin rose dramatically in the last ten years. From 9,868 students in the school year 1991-1992 (0.81% of the whole school population) it grew to 51,503 students in the 2002-2003 year (5.13% of the total school population). In elementary education, which is the focus of interest of this study, the immigrant population is of 22,634 students, making up 6.39% of the total elementary school population. The same report forecasts that the immigrant population in schools will reach the European mean of 10% by the school year 2007-2008.

After children of Latin American origin, the next largest group of immigrant children comes from the Maghreb countries, but mostly Morocco; these 6,302 children make up 29.83% of the total elementary school immigrant population. Although children coming from Latin America (mostly from Ecuador) have become the largest number of immigrant children in the last two years, comprising 44.95% of the total elementary school immigrant population, these immigrants speak Spanish, one of the two languages of instruction in the school system. As a consequence, one might say that although the Latin American community can also be subjected to discrimination in Catalonia, the problems faced by this community are different that the ones faced by the Moroccan community. First, the Latin American children in Catalan schools already know one of the languages of education. Second, the closeness of their religious beliefs enables the autochthonous population to perceive them less as outsiders than Moroccans.

As mentioned above, most of the non-Spanish speaking school population comes from Maghreb countries, and more specifically from Morocco. The children that originally come from Morocco speak either Moroccan Arabic or one of the dialects of Tamazight as a first language. Moroccan Arabic is the language spoken in most urban areas such as Fez, Casablanca, Larache or Rabat. The children who come from rural areas in Morocco usually speak different local dialects of Tamazight (Castellanos & Akioud 2000 and Tilmantine et al. 1998) and not necessarily Moroccan Arabic. In the Rif region in the northeast of Morocco, the majority language is Tarifit (one of the Tamazight dialects). In the Atlas region, in the southeast, Tachelhit (another Tamazight dialect) is spoken. These children often do not learn Moroccan Arabic until they enter the school system in their country, as Faiq (1999) and Ouakrim (2000) point out. Therefore we cannot assume that they have learned Arabic either by the time they arrive in the Catalan school system. Although Tamazight shares with Arabic its membership in the Hamito-Semitic language family, and many common grammatical features and shared vocabulary, the two languages are claimed to be not mutually intelligible.

Moroccan Arabic is the name that spoken Arabic receives in Morocco. In all the Arabic-speaking countries there is an enduring diglossic situation in which two or more varieties of Arabic coexist by virtue of each having its own domain. Ferguson (1959) coined the term diglossia to express the unbalanced relationship that exists between two (or more) varieties of the same language which have two (or more) different functions in a given speech community. The so-called high language varieties in Morocco are Classical Arabic and Modern Standard Moroccan Arabic, and they are mostly used in religion (Classical Arabic), education (both Classical Arabic and Modern Standard

Moroccan Arabic), in the media (Modern Standard Moroccan Arabic), and in the written variety of Moroccan Arabic (Modern Standard Moroccan Arabic). The low varieties (Moroccan Arabic and the different Tamazight dialects) are used when speaking in informal situations. There is one more level of pseudo-diglossia in Morocco between the more prestigious Moroccan Arabic and the less prestigious language, namely, the different dialects of Tamazight, commonly known as 'shilha'. The first has a connotation of a city language commonly spoken by people who have some education (if only elementary), whereas people who speak 'shilha' are mostly uneducated people who come from rural areas. This pseudo-diglossic situation would make an educated person whose first language is one of the dialects of Tamazight, and who migrated to one of the big cities in Morocco, speak only Moroccan Arabic outside the house. Often times, this situation leads to the progressive Arabization of that person and his/her family. Arabization is known to be one of the contributing factors of the progressively diminishing number of Tamazight speakers in Morocco, as pointed out by Faiq (1999), Castellanos & Akioud (2000), and Ouakrim (2000).

The fact that most immigrants to Catalonia have no choice but to settle in the Barcelona Metropolitan Area, and within that in some very specific marginal neighborhoods, leads to a situation in which some inner city schools' immigrant populations can outnumber the autochthonous ones. In fact, in some schools in these neighborhoods, immigrant children make up to 60% of the school population, with the imaginable consequences that this can carry, that is, ghettoization and the consequent growing imbalance between immigrant children and non-immigrant ones.

A relationship can be drawn between the linguistic situation that resulted from old immigration in the Catalonia area and the situation that can be forecasted as the outcome of the new immigration policies. One of the purposes of Pujolar's book (2001) is to assess the results of the linguistic policies aimed at promoting the use of Catalan that were implemented progressively in the late 80's and early 90's. As it turns out, many years after Catalan was implemented as the language of instruction in schools, young people use less Catalan than was initially expected. The fact that Catalan has not been adopted as the language of socialization by the second generation of immigrants form the rest of Spain is due to the fact that Catalan voices or the Catalan identity have been incorporated and emphasized as alien to them. Catalan belongs to social groups other than the ones they belong to and it constructs meanings that do not match the ones they intend to construct. From the governmental perspective, there is a tendency to consider the unsuccessful adaptation of Spanish as either a failure of the immigrants themselves (both the ones from the rest of Spain and the ones from out of Spain) or, at best, as a problem of the trends of youth culture, which views Spanish as a more fashionable language than Catalan. Given that recent immigrants tend to settle in the same neighborhoods as the former immigrants from the rest of Spain, they will most likely adopt their sociolinguistic practices, that is, they will adopt Spanish as the main language of socialization. Accordingly, the intensely debated issue of the little use of Catalan as the language of socialization in the Barcelona metropolitan area is destined to continue.

The immigration policies that are implemented in Spain focus first and foremost on the acquisition of the language(s) of instruction in schools. Even special educational programs aimed at enhancing the non-linguistic knowledge of the students (known in

Spain as *educación compensatoria*, and comprising a variety of remedial programs for students with a range of problems) end up just teaching language. All schools in Catalonia have their own system for keeping track of the development of each child, but they all follow the guidelines provided by the autonomous government in the *Pla d'actuació per a l'alumnat de nacionalitat estrangera, 2003-2004*. This document guarantees that any new student will be placed in the class according to the child's age, and that s(he) will have special language classes for a more or less extended period of time, according to his/her age.

The program that the governmental institutions have planned for immigrants in Catalan schools shows that a great deal of importance is given to the process that presumably would lead to a satisfactory acquisition of Catalan, while little or nothing is being done to ensure that these students maintain their first languages. All the above-mentioned policies may result not only in language attrition, but even in the process of language shift, that is, the loss of language skills in the community due to imperfect learning of the L1 in the second generation.

Extra and Verhoeven (1993) establish a list of factors determining language shift, factors such as sociolinguistic background of minority groups in the home country, possibility of the relationship between the home country and the host country, the sociolinguistic situation of other minority groups that arrived earlier in the country, group size, birth rate, self-sufficiency of the group, socio-economic status of the group, and status of their culture and religion, among others. As we can infer from the above factors, Moroccan children's linguistic and cultural situation should be labeled as one at high risk of extinction, if we use the terms of Stuknab-Kangas (2000).

Having discussed the current situation of the educational system of Catalonia, as well as the sociolinguistic situation in the region, and having reviewed the literature on the main linguistic points that the present study will assess, we will now turn to a description of the central inquiries of this study, and then to the design used in the data collection.

CHAPTER 4

RESEARCH QUESTIONS AND METHODOLOGY

Introduction

The present chapter includes a description of the central inquiries of the investigation and an explanation of the design used in the data collection.

1. Research questions and hypotheses

In this section I will present the research questions for the present study. This study explores the issue of L2 acquisition of temporality, and more specifically, the expression of the past tense in Spanish and Catalan, by learners whose L1 is typologically verb different (Moroccan Arabic or Tamazight).

1.1. Research questions

The aim of the present research is to answer the following questions: (1) which one of the three tenses (Imperfect, Preterite or Present Perfect) poses the most problems for the L2 speakers in this study compared to the native speakers in the control group? (2) Which dimension of the verb is most difficult to acquire: the lexical meaning of the verb, the verb's morphology or the verb's function? and (3) Which linguistic and sociolinguistic variables can best predict the informants' behavior?

1.2. Expectations regarding linguistic factors

As discussed in Chapter 2, according to the great majority of studies of acquisition of Catalan and Spanish as a second language (Salaberry 1999, Comajoan

2000, and Montrul & Slabakova 2002), the most difficult dimension to acquire for L2 learners of such languages is the functional difference between the Imperfect and the Preterite. In the present study, however, and given that the informants' L1 is not English (which lacks the Preterite-Imperfect distinction), the key issue of the acquisition of Catalan and Spanish past tense could lie somewhere else in the informants' interlanguage. One of the expectations is that the informants will have a harder time acquiring the functional difference between tenses than either the lexical meaning or the morphology of the verb. Thus, we might predict that form will be mastered before function.

Differences between the two target languages are expected on sociolinguistic grounds. The participants in the study might learn Spanish earlier than Catalan given that they mostly reside in Spanish-speaking neighborhoods. For the most part, they have access to Spanish before entering the school system, and learn the language in a naturalistic manner. The informants' exposure to Catalan prior to entering the school system varies between informants, but it is safe to assume that the acquisition of Catalan among our informants is mostly through explicit instruction in school. Thus the informants' might use of the past tenses in the study (Imperfect, Preterite and Present Perfect) should show more fluency but be formally less accurate in Spanish than in Catalan. Conversely, their use of the Catalan tenses should be formally more accurate but less fluent than in Spanish.

With regards to the specific linguistic factors that may affect the morphological accuracy levels in the three tenses (Imperfect, Preterite, and Present Perfect), one can predict that a combination of several factors will enhance accuracy. Factors such as the

irregularity of the verb (as already shown in Dietrich et al. 1995, Klein 1994, and Salaberry 1999), the absence of a periphrastic structure, the usage of a verb within a main clause, the intransitivity of the verb, and the frequency of the verb should contribute to morphological accuracy in both languages (although to a different extent in each of them). Some of the previous factors are also expected to contribute to the functional accuracy levels of the three tenses, and in both languages to different extents. These factors include the absence of periphrastic structure, the usage of a verb in a main clause, the intransitivity of the verb, and the frequency of the verb, along with whether or not the verb is prompted by the interviewer. Finally, the Primacy of Aspect Hypothesis will contribute to informing on the order of acquisition of the perfective (Preterite and Present Perfect) versus the imperfective tenses of students in the first stages of acquisition.

1.3. Expectations regarding socio-demographic factors

Variation in a specific stage of interlanguage (from a cross-sectional data analysis) is conditioned not only by linguistic factors but by also by socio-demographic factors. One can expect that factors such as age, age of arrival, and years in the host country will have an effect on the child's performance. The parents' level of education and the parents' involvement in the children's learning process will also contribute to the children's accuracy in the use of the past tenses in the study.

The next few sections describe the design of the data collection procedures, provide information on the participants, and offer details on the materials used and the procedures for analyzing the data.

2. Methodology

2.1. Participants

The participants in this study are divided into two groups; one target group consisting of speakers of either Moroccan Arabic or Tamazight, and one control group formed by bilingual speakers of Spanish and Catalan.

2.1.1. Target group

The target group consisted of 32 children of Moroccan origin recruited in three different schools in the Catalan public school system. They were all enrolled in elementary school, and their ages ranged between 6 and 11 years old. They were either born in Spain or they had been living in the host country for at least one full school year. The schools in which the children were enrolled were all in the Barcelona metropolitan area, two of them were located in Cornellà de Llobregat (Alexandre Galí Public School and Sant Ildefons Public School), and one of them was located in Badalona (Joan Llongueras Public School).

In the first stages of the study, information on the informants' region of origin in Morocco was the only way of determining which one of the languages spoken in Morocco would be their L1. If they came from the Rif region in the northeast of Morocco, it would be highly probable that their L1 was Tarifit (one of the Tamazight dialects spoken in Morocco). If their region of origin was the Atlas region, they would most likely speak Tachelhit (another Tamazight dialect) as the L1. Finally, if they came from urban areas such as Fez, Casablanca, Larache or Rabat, their L1 was likely to be Moroccan Arabic. After administering a test to determine the informants' L1 (see

Appendix B), information on the L1 of the participants was completed. The L1 Moroccan Arabic speakers were the great majority (20 informants); there were also two bilingual L1 Arabic-Tarifit speakers, four L1 Tarifit speakers, and six L1 Tachelhit speakers.

As mentioned before, the informants were all in the public school system and had been exposed to both Catalan and Spanish in school for at least one academic year. Due to the existence of a Catalan immersion program in the school system in Catalonia, the informants had very different levels of formal Catalan and formal Spanish, that is, their exposure to formal Catalan exceeded the exposure they had to formal Spanish. However, the linguistic situation was the opposite outside the school, due to the linguistic composition of the neighborhoods in which they reside. The great majority of their interactions outside school (except for the ones with local government agents) took place in Spanish. This particular sociolinguistic situation leads us to the generalization that the participants in this study acquired Catalan mostly in formal contexts (school), while they acquired Spanish in a much more naturalistic way (in the community).

2.1.2. Control group

For comparison purposes this study additionally collected data from a group of ten native Spanish-Catalan bilinguals in the same age group as the target group. As mentioned in Chapter 3, most of the autochthonous informants living in the neighborhoods where the three schools in the study are situated are the children of people who migrated from other parts of Spain or of second- or third-generation children of migrants from the rest of Spain. These immigrants came to Catalonia in two waves, the first during the 1950s and the second during the 1970s. The great majority of these

children's socialization outside school happens in Spanish, and they only encounter Catalan when they first begin to attend preschool (as early as age 3) or when they start the first year of compulsory education (at age 6). The term "native Catalan-Spanish bilingual", when used in this study, has to be seen in this light.

2.2. Materials and procedure

Three different tasks were used to elicit narratives that would prompt the use of the three different verbal forms under investigation: the Imperfect, the Preterite, and the Present Perfect tenses of both Catalan and Spanish. The first task was an oral narrative that was obtained by asking the informants questions on their daily school life, with a different set of questions used to elicit the Catalan from the Spanish past tense narratives (see Appendix C). This task applied the procedures standardly followed in a sociolinguistic interview, by encouraging the informants to expand their answers at will.

The second task was a comic-strip story-telling task in which the informants were asked to look carefully at a comic strip of a famous TV character, and were then asked to tell what the story depicted. There were two different comic strips for each language, one aimed at eliciting Present Perfect narratives, the other one at eliciting Preterite narratives (see Appendix D). Movie narratives and film retell tasks have been used by Comajoan (2000) and Salaberry (1999), together with conversational interviews. Retelling tasks involved both watching a movie and making up a story from a comic strip in DiGiacomo (2001).

The third task was a free story re-telling task in which the informants were asked to tell a very detailed story that could be either from a book they had read or they had

read to them, a story they had written themselves or a film they had watched. An asset of this task in eliciting past tense is that the story the informants are asked to tell does not have an immediate proximity for them, neither physical nor mentally. Unlike in the comic strip story telling task, they cannot be looking at the story while telling it, and the fact that they had read/heard the story or watched the movie some time before the conversation makes it easier for them to situate the story in the past and thus maintain their narratives in the past tense framework when telling the story.

Five other instruments were used to obtain general linguistic and personal information from the informants. As already mentioned (p.70), there was first a test to determine the informant's L1 (the L1 test) in which the child was presented with pictures and was asked to name the objects using the language spoken at home (see Appendix B). This test had to be administered due to the informants' lack of clarity in self-statements of their L1, since they were often referring to their language with names that do not have a clear correspondence with either Moroccan Arabic or Tamazight. There was also a language history questionnaire (see Appendix E) that was used to obtain information about the sociolinguistic situation of the child and his/her family.

The language proficiency of the informants in their three languages (L1, Spanish and Catalan) was assessed with three tests (one for each language) that measured proficiency in the two basic oral skills: listening comprehension and speaking. Overall accuracy, pronunciation and intonation, knowledge of vocabulary, fluency, and communicative efficiency were also assessed. The tests were adapted from the *Common European Framework of Reference for Languages* and thus had a similar structure in the

three languages although some of the open-ended questions varied. A sample of this test is provided in Appendix F.

The data were collected in five different sessions with the informants; all sessions were video-recorded, and each lasted 10 to 15 minutes approximately. There was an interval of three or four days between each session. In four of the sessions the researcher interacted on a one-to-one basis with the child, but in one of the sessions a bilingual Moroccan Arabic and Tamazight native speaker was also present in order to assess the informant's proficiency in her/his L1.

In session 1, elicited past tense narratives in Catalan were obtained, and the L1 test was administered. The past tense narratives were elicited first by asking open-ended questions about school life (first task just described). These questions were formulated to target the use of the different past tenses under investigation. The researcher asked questions in such a way that the participant could expand the narratives as much as s/he wanted. Next, the child was presented with a comic strip of a well-known TV cartoon (second task), and s/he was asked to look at it carefully. The researcher then asked the child to tell the story depicted in the comic strip without directly quoting what the characters were saying. The informants were asked to start telling the story using expressions such as *this morning* or *last summer* in order promote a temporal framework that would require the Present Perfect or the Preterite, respectively. Next, the L1 test was administered.

In session 2, elicited past tense narratives in Spanish were obtained following the same procedure used for the Catalan narratives (first and second tasks), after which the researcher proceeded to ask the questions in the language history questionnaire.

During session 3, the child's proficiency in the L1 (either Moroccan Arabic or Tamazight) was assessed. Questions to assess language proficiency were asked to the child by a bilingual Moroccan Arabic and Tamazight native speaker. In the last two sessions (4 and 5), which were conducted on non-successive days, the child's proficiency first in Spanish and then in Catalan was assessed following the exact same procedure used in the L1 proficiency assessment test (see Appendix F)[18]. After each proficiency test, the free story re-telling task was obtained in the language that the test was conducted, the first day in Spanish and the second one in Catalan. At the end of the fifth session, the mother, the primary caretaker, or both parents were also interviewed in order to fill out the parents' questionnaire (Appendix G) aimed at gathering some more information about both the linguistic and social behavior of the informants and their families.

The control group took part only in the tasks aimed at eliciting past tense narratives. They did not complete the L1 test, the proficiency tests, or the questionnaire.

2.3. Data treatment

The elicited narratives were first transcribed using conventional Spanish or Catalan orthography by the principal investigator of this study, a native speaker of both languages. After all of the narratives were transcribed, the target verbs[19] in the study were tagged and coded for each one of the variables described in the Coding Manual

[18] See also Appendix F for scoring criteria.
[19] Target verbs were all verbs indicating past and belong to the contexts of either the Imperfect, the Preterite or the Present Perfect. Verbs in the present that belong to the Conversational Historical Present style were not be included in the study. These include verbs in the present tense that help the speaker illustrate a change in scene when narrating a story.

(Appendix H). Some of the variables examined (see next section) were coded as scalar, others as binary. The information obtained from the questionnaires and the proficiency tests was also included as an additional set of language history and language proficiency variables.

2.4. Dependent variables and coding procedure

The three dependent variables we will examine separately are all informative about different aspects of the accuracy of the verb uttered: functional accuracy, morphological accuracy and lexical accuracy. A verb was coded as functionally accurate if it was used in the context where it was expected (e.g. a Preterite uttered in a context requiring Preterite), and it was coded as functionally inaccurate if it was used in a context where it was not expected (e.g. Present Perfect in the context of Preterite). A verb was coded as morphologically accurate if the morphology of the verb was used according to the adult monolingual norms of the language. Finally, a verb was coded as lexically accurate if it conveyed the meaning that the speaker intended in a particular context. A fourth dependent variable measured overall accuracy based on the information conveyed by in the three accuracy variables: a verb had to be accurate in all of the three categories in order to be counted as overall accurate. Table 4.1 provides some illustrative examples.

Table 4.1. Sample coding for the four dependent variables (accuracy of function, morphology, lexical and overall accuracy).

Sample verb	Accuracy			Accuracy
	Function	**Morphology**	**Lexical**	**Overall**
He visto el Doraimon y… 'I watched Doraimon'	1	1	1	1
Ayer hemos ido al cine y eso… **Expected**: Ayer **fuimos** 'Yesterday we have gone to the movies and stuff'	0	1	1	0
He escribido, y después **Expected**: He **escrito** 'I wrote, and then...'	1	0	1	0
He quedat el pajama **Expected**: He tret 'I took off my pyjamas'	1	1	0	0

Note 1: The three accuracy variables are binary: 1 = correct, 0 = incorrect.
Note 2: The English translation does not necessarily reflect the inaccuracy of the examples.

A total of 16 hours of video-recorded data were collected, which yielded 6,313 verbs. Of all the tokens 2,606 were Spanish verbs, and 2,468 were Catalan verbs uttered by the target group. The informants in the control group uttered a total number of 610 verbs in Spanish and 629 verbs in Catalan. Portions were obtained for each informant by calculating the mean accurate responses for each individual participant considering verb tense (Imperfect, Preterite and Present Perfect) and type of accuracy (functional, lexical, and morphological accuracy).

The report of the results that follows examines the data from a number of different perspectives. First to be reported are Analyses of Variance on the accuracy percents

obtained from each informant for each of these three dependent variables, performed separately for the two groups of informants (targets and controls), in a design that crosses the variables of language of the task (Spanish, Catalan) and intended verb tense for the utterance (Imperfect, Preterite, Present Perfect). Next, and given that interlanguage variation can be modeled in a quantitative manner, and that it is unlikely that one single factor can account for the variability in a set of data, as Young & Bayley (1996) point out, we will also examine the role that the linguistic variables play on predicting accuracy levels in the two different languages. Likewise, the effect of the sociolinguistic variables on the accuracy levels in Spanish and Catalan will be reported, and, finally, we will evaluate the predictive power of the lexical aspect of the verb on the accuracy of the verb tenses.

CHAPTER 5

RESULTS, DISCUSSION AND CONCLUSIONS

Introduction

As mentioned in Chapter 4, this study investigates three major issues with regards to the acquisition of three past tenses (Imperfect, Preterite and Present Perfect) in Spanish and Catalan as an L2 by Moroccan-Arabic- and Tamazight-speakers: (1) which one of the three tenses poses the most problems for the L2 speakers in this study compared to the native speakers in the control group? (2) Which dimension of the verb is most difficult to acquire: the lexical meaning of the verb, the verb's morphology or the verb's function? and (3) Which linguistic and sociolinguistic variables can best predict the informants' behavior?

These three main questions are studied by comparing the target and control group's results on their accuracy levels for the three tenses, the three accuracy dimensions, and the two languages.

In the following presentation we will first report both the linguistic and sociolinguistic results, we will then provide a discussion of the main results, and the conclusions that can be drawn from the whole study.

1. Results

We will begin by comparing general results to determine whether the children in our study perform better in one tense than in another, or in one language than in another. Next we will examine the role that the linguistic variables play in predicting accuracy levels in the two different languages. Then, we will report the effect of the sociolinguistic

variables, and, finally, we will evaluate the predictive power of the lexical aspect of the verb on the accuracy of the verb tenses in the speech of the newly arrived informants. This last linguistic variable (lexical aspect of the verb) needs to be singled out and applied only to newly arrived informants due to the nature of this variable and its predictions (see section 1.7 below).

1.1. Linguistic results

In order to analyze the data obtained, participant-based accuracy proportions were calculated for each of the dependent variables: functional accuracy of Imperfect, functional accuracy of Preterite, functional accuracy of Present Perfect, overall functional accuracy, morphological accuracy, and accuracy of lexical selection. These dependent variables are examined separately for language produced by the participants in Catalan and in Spanish. An additional variable in the analyses is therefore language: Catalan vis-à-vis Spanish.

Figures 5.1-5.8 provide a general picture of the amounts of accurate responses that both the control (10 informants) and the target (32 informants) groups gave. The figures display accuracy levels of each of the three verb tenses in the study (Imperfect, Preterite, and Present Perfect), as well as accuracy levels according to the function, the lexical selection, and the morphology of the verb. Overall, the control group performance (Figure 5.1) is more accurate than the target group performance (Figure 5.2), as expected.

Figure 5.1. Mean proportion of correct responses as measured by accuracy of lexical selection, morphology and function in Catalan and Spanish for the three verb types (Imperfect, Preterite, Present Perfect) for participants in the control group.

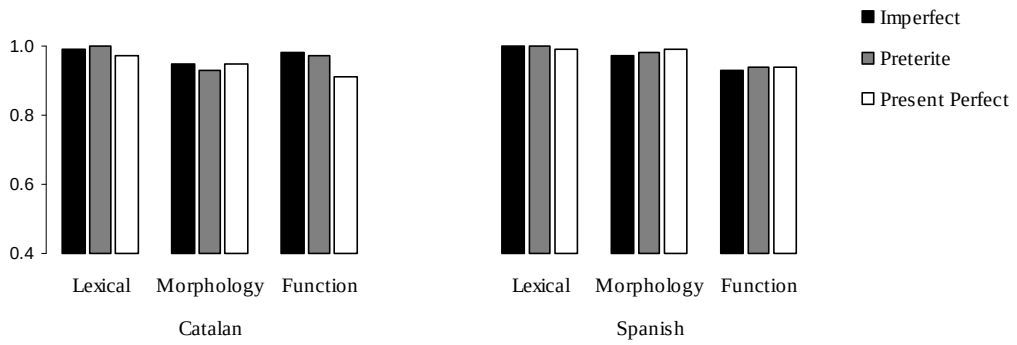
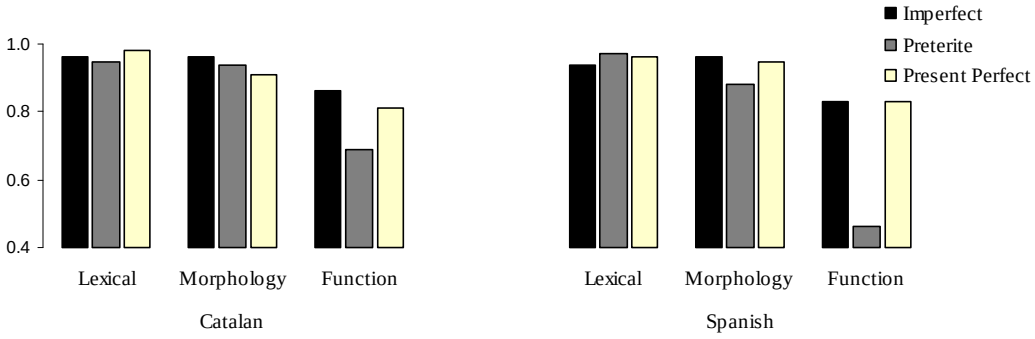


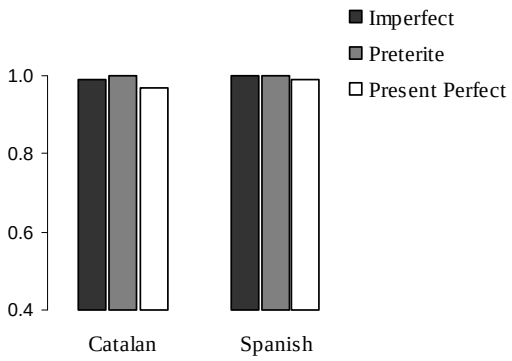
Figure 5.2. Mean proportion of correct responses as measured by accuracy of lexical selection, morphology and function in Catalan and Spanish for the three verb types (Imperfect, Preterite, Present Perfect) for participants in the target group.



We will now proceed to observe the results in detail separating each accuracy type and each informant group. Let us start with the control group.

Figure 5.3 (below) displays the mean proportions of correct lexical selection for each verb type. The statistical analyses show that there is no difference between overall accuracy levels in Catalan and Spanish. The numerical difference in accuracy levels between the different verb types is also minimal.

Figure 5.3. Mean proportion of correct responses as measured by accuracy of lexical selection of the verb in Catalan and Spanish for the three verb types (Imperfect, Preterite, Present Perfect) for participants in the control group.



This indicates that the control group does equally well in choosing the lexical meaning of the verb in the three verb tenses, and in both languages. More specifically, an analysis of variance (ANOVA) using language and verb type as factors confirms that the means for the control group are all very similar, whether we look across languages (.99 for Catalan and 1.00 for Spanish; main effect[20] of language, $F(1, 9) = 1.54$ $p > .2$) or across the three different verb types (1.00 for the Imperfect, 1.00 for the Preterite, and .98 for the Present Perfect; main effect of verb type $F(2, 18) = 1.65$, $p > .2$). Language and verb type do not interact ($F < 1$) either, that is, the effect of one factor (language) does not vary with changes in the strength, grade, or level of other factors (verb type).

[20] In statistical terms, a main effect is the direct effect of an independent variable on a dependent variable.

Figure 5.4. Mean proportion of correct responses as measured by accuracy of verb morphology in Catalan and Spanish for the three verb types (Imperfect, Preterite, Present Perfect) for participants in the control group.

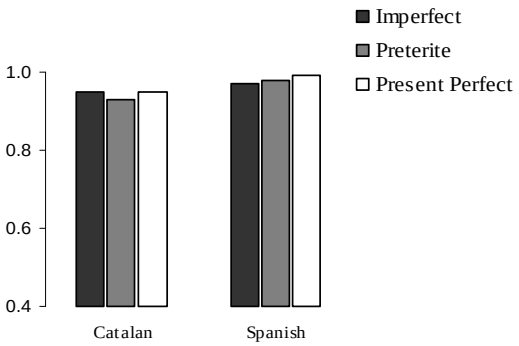
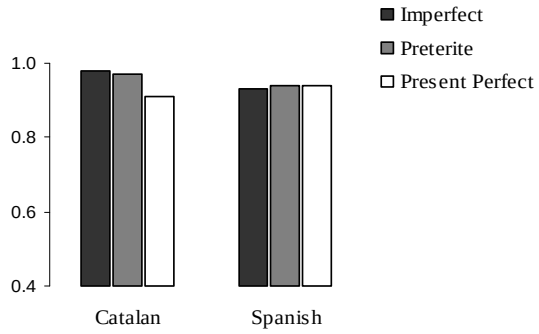


Figure 5.4 displays a second estimate of accuracy for the control group informants, calculated by evaluating the morphology of the verb. The informants in the control group perform almost equally well on both languages; they only do slightly worse in Catalan overall, but there is no difference between the accuracy levels of the different verb types. In the ANOVA, we fail to find an interaction between language and verb type ($F (2, 18) = 1.45$, $p > .2$). There is no main effect of verb type ($F < 1$), but there is a marginally significant main effect of language ($F (1, 9) = 4.68$, $p < .06$): the control group is slightly less accurate in producing verbal morphology in Catalan (.95) than in Spanish (.98).

Mean proportions of correct responses for the control group, as measured by accuracy in verb function, are displayed in Figure 5.5. The control group informants are equally accurate in both languages (their mean accuracy in Catalan is .96 and in Spanish it is .94), and in the different verb types (.96 mean for the Imperfect, .96 for the Preterite, and .93 for the Present Perfect). An ANOVA confirms these observations: there is no interaction between language and verb type ($F (2, 18) = 1.45$, $p > .2$). Both a language main effect ($F (1, 9) = 1.12$, $p > .3$) and a verb main effect are also absent ($F (2, 18) < 1$).

Figure 5.5. Mean proportion of correct responses as measured by accuracy in verb function in Catalan and Spanish for the three verb types (Imperfect, Preterite, Present Perfect) for participants in the control group.

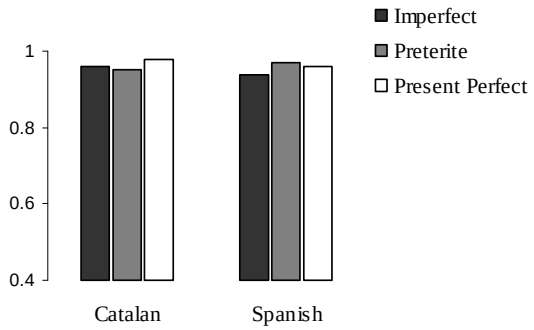


If we compare across figures 5.3-5.5 (see also Figure 5.1) we observe that the control group informants perform equally well when using the three verb tenses in each language, when their behavior is evaluated based on the lexical selection of the verb, the morphology of the verb or the function of the verb. Overall, the control group's behavior is at ceiling, precisely as expected, since this group was included in the design to provide baseline data regarding the characteristics of native speaker behavior.

Let us now turn to the target group's behavior, which, as we will see, yields a more complex pattern of data.

As we see in Figure 5.6 (below) the informants in the target group perform equally well in Catalan and in Spanish with respect to accuracy of lexical selection (language main effect $F < 1$). The target group informants also perform equally well across the three verb types.

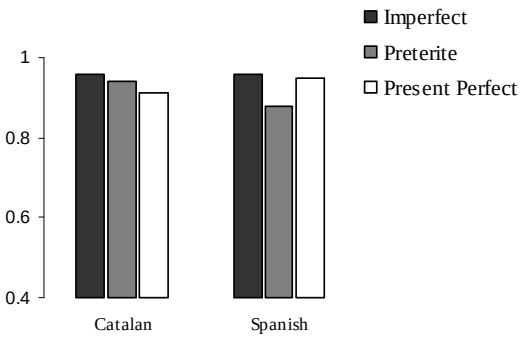
Figure 5.6. Mean proportion of correct responses as measured by accuracy of lexical selection of the verb in Catalan and Spanish for the three verb types (Imperfect, Preterite, Present Perfect) for participants in the target group.



This indicates that the target group does equally well in choosing the lexical meaning of the verb across the three verb tenses, and in both languages. In other words, the different mean accuracy rates of .95 for the Imperfect, .96 for the Preterite, and .97 for the Present Perfect do not yield a verb type main effect ($F (2, 62) = 1.09$, $p > .3$). An interaction between language and verb type is absent ($F (2, 62) = 1.41$, $p > .3$) which indicates the same pattern that was observed for the control group.

Figure 5.7 below displays data provided by the target group when the evaluating measure is accuracy of verb morphology. As before, the mean proportion of accurate responses in Catalan (.94) is not reliably different from those that in Spanish (.93) ($F < 1$). However, in this data set, the informants in the target group perform better with some verb tenses than with others (verb type main effect $F (2, 62) = 3.49$, $p < .04$), an effect that is modulated by language (language and verb type interaction $F (2, 62) = 3.79$, $p < .03$). This interaction licenses further sub-analyses, which indicate that in Catalan the informants' performance in the use of Present Perfect morphology is less accurate than in the other two tenses, whereas in Spanish it is the morphology of the Preterite that poses more problems.

Figure 5.7. Mean proportion of correct responses as measured by accuracy of verb morphology in Catalan and Spanish for the three verb types (Imperfect, Preterite, Present Perfect) for participants in the target group.

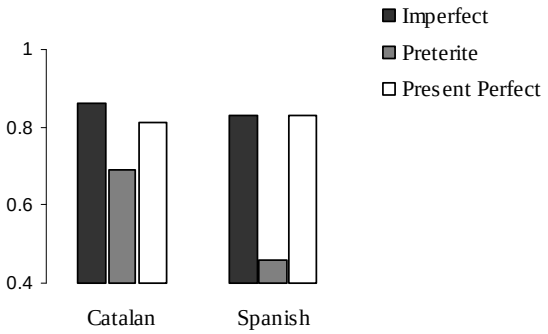


In Catalan, the children perform much better in the Imperfect (.96) than in the Present Perfect (.91) ($F (1, 31) = 7.03$, $p < .02$). Accuracy of verbs in the Preterite, however, is not reliably different from accuracy in the Imperfect (.96, $F = < 1$) or from accuracy in the Present Perfect (.91, $F (1, 31) = 2.70$, $p < .10$).

In Spanish, the informants in the target group perform equally well in the Imperfect (.96) and in the Present Perfect (.95) ($F < 1$), but they perform significantly worse in the Preterite (.88) than in both the Present Perfect ($F (1, 31) = 3.33$ $p < .08$), and the Imperfect ($F (1, 31) = 4.62$ $p < .04$).

Figure 5.8 (below) displays the data for the informants in the target group. It shows that they have greater difficulty in selecting the right tense than in selecting the right lexical item and the right morphology. This is clearly reflected in the data displayed in Figure 4.8 especially if we compare it with the data in Figures 5.6 and 5.7.

Figure 5.8. Mean proportion of correct responses as measured by accuracy of verb function in Catalan and Spanish for the three verb types (Imperfect, Preterite, Present Perfect) for participants in the target group.



The statistical explanation below details the major findings that can be inferred from the figure above. In short, the informants' functional accuracy in the Preterite is much lower (in both languages) than in the other two tenses; and, overall, they have greater difficulties using the Spanish verb tenses in the study, but especially the Spanish Preterite.

In an ANOVA with verb type and language as factors, the main effect of verb type is highly significant ($F (2, 62) = 15.69$, $p < .001$), as are the main effects of language ($F (1, 31) = 16.34$, $p < .001$), and verb type (Imperfect, Preterite, and Present Perfect) by language interaction ($F (2, 62) = 6.37$, $p < .005$).

Overall, the target group is much less accurate in Spanish than in Catalan, but this is only because of the difference in accuracy between the two languages for one particular verb type: the Preterite. The target group informants use the Imperfect equally well in the two languages ($F (1, 31) = 1.23$, $p > .5$), and the Present Perfect as well ($F < 1$). However, they use the Preterite significantly less accurately than the Imperfect, both in Catalan (Preterite .69, Imperfect .86; $F (1, 31) = 7.34$, $p < .02$) and in Spanish (Preterite .43, Imperfect .83; $F (1, 31) = 21.62$ $p < .001$); the difference between Preterite

and Present Perfect use in Catalan (.69 and .81 respectively) fails to reach significance ($F(1, 31) = 2.54$, $p > .10$), but the numerical trend is in the same direction as for Spanish.

The results show that the function of the Preterite poses the greatest degree of difficulty to L2 learners, in both Catalan and Spanish. In other words, the greatest number of errors occurs when the children should have been using a Preterite but used something else instead. This observation leads to the question of which tense they use when they should have been using the Preterite. The context for this question is the repeated finding**,** in many studies of the acquisition of tense and aspect in the Romance languages**,** that L2 learners have a difficult time distinguishing the Preterite from the Imperfect.

Table 5.2. Differences between the tenses uttered and expected in Catalan and Spanish by children in the target group

	Tense uttered	Tense expected
Imperfect	1287	1260
Preterite	1790	2201
Present Perfect	1330	946

Table 5.2 displays the discrepancy between the tenses actually uttered and the tenses expected. When the uttered tense and the expected tense figures are similar (in the case of the Imperfect, for instance) we expect to find fewer functional errors. On the other hand, the imbalance between the figures of the uttered tense vis-à-vis the expected tense indicates that the number of functional errors increases. The fact that the Present Perfect is uttered more than expected (on 384 occasions) whereas the Preterite is expected (on 411 occasions) more than uttered indicates precisely what we noted in the beginning of this paragraph: the function of the Preterite poses the greatest difficulty to our target group informants, but especially when trying to discern the functional

difference between the Preterite and the Present Perfect. Let us examine what tenses were uttered when each tense was expected. Our purpose will be to highlight the tenses that were uttered instead of the Preterite and the tenses that were expected when the Present Perfect was uttered incorrectly.

In Table 5.3, we observe the errors the informants produce when each tense is uttered. If the tense that is uttered is correct, the uttered tense and the expected tense will be the same. If the tense that is uttered is not correct, there will be a discrepancy between the uttered tense and the expected tense. Looking at the data in this manner we will find an answer for the question that was posed in the previous paragraph. We can say first that the tense used is, for the most part, the expected one in almost all the three tenses, which just confirms what the data in the previous section were pointing at (that it is not the functional accuracy of the Imperfect or Present Perfect, but that of the Preterite that poses the greatest degree of difficulty to L2 learners). However, we expect to find that the tense that was expected when a tense is used incorrectly will reveal exactly where the acquisition problem lies for the children in this study.

Table 5.3. Required tenses when each tense (Imperfect, Preterite, Present Perfect) is uttered in Catalan and Spanish[21] by children in the target group

Uttered tenses	Imperfect			Preterite			Present Perfect		
Expected tenses	Imp.	Pret.	Pres. Perf.	Imp.	Pret.	Pres. Perf.	Imp.	Pret.	Pres. Perf.
Number	1254	28	5	2	1687	101	4	486	840
%	97.5	2.1	0.4	0.1	94.3	5.6	0.3	36.6	63.1

In Table 5.3, we observe, in the left-most panel, which represents the instances of the use of the Imperfect, we see that in 97.6 percent of cases the Imperfect was indeed used correctly; however, in 2.1 percent of cases the Imperfect was used incorrectly and

[21] Since the Catalan and the Spanish data show the same tendency, the table combines the two languages data.

the Preterite was expected instead; and in 0.40 percent of cases the Imperfect was used incorrectly and the Present Perfect was expected to be used instead. The other two panels represent similar information. Now, looking at all three panels together, notice the special situation of the Preterite.

When the Preterite is uttered is used correctly 94% of the times, but the problem is that it is expected in many other instances in which the Present Perfect is used (incorrectly) instead of the Preterite (36% of the uses of the Present Perfect should have been Preterites as we see in the right most panel). Where the Present Perfect is used, it is only called for in 63%. In 36% of cases the Present Perfect was used incorrectly and the Preterite was expected to be used instead (486 out of 490 incorrect uses of the Present Perfect should have been Preterites).

Let us look at it from another point of view. If we observe the amount and direction of mistakes for each verb (the shaded areas in the table) we notice that the percentage of mistakes in the Imperfect is quite low (2.5% overall), the mistakes in the Preterite is a bit higher (5.7%), and the Present Perfect is used incorrectly almost 40% of the times. Moreover, the incorrect uses of the Present Perfect correspond in their great majority to expected uses of the Preterite.

All of the above indicates a very crucial point: the target group children experience difficulties figuring out the semantic or functional differences between the Preterite and the Present Perfect in both languages (though much more so in Spanish), but have almost no problems in understanding the distinction between perfective and imperfective. It should be noted here that, contrary to what we see with the target group, the control group differs in behavior on this matter, and keeps a consistent 98 to 99

percent in all cases, that is, the tense they utter is the same tense that is expected in 98 or 99 percent of cases.

1.2. Linguistic variables that contribute to explaining the linguistic data

The data presented above indicate that the functional accuracy and the morphological accuracy of the Preterite and the Present Perfect should be examined closely in order to shed light on the differences in performance by the target group in both Catalan and Spanish.

In the sections that follow, further analysis on the morphological accuracy of the Present Perfect in Catalan and of the Preterite in Spanish will be provided to establish a possible relationship between morphological accuracy in these tenses and several linguistic factors, including the regularity of verbs and the transitivity of the verb. All these factors are defined in the Coding Manual (Appendix H). We will also examine whether a relationship exists between functional accuracy both in the Preterite and the Present Perfect and several linguistic factors, such as the regularity of verbs, and the presence of adverbs.

1.2.1. Morphological accuracy of the Present Perfect in Catalan and the Preterite in Spanish

The tables below show the results of crosstab comparisons for both significant and non-significant relationships. Significant relationships are marked with asterisks. The significant factors that were interrelated with the morphological accuracy of the Present

Perfect in Catalan (Table 5.4 below) were the transitivity of the verb and whether the verb was in a periphrasis.

Table 5.4. Significant comparisons between accuracy of verb morphology of the Present Perfect and linguistic factors in Catalan

	N	Chi-Sq	
Transitivity	617	5.552	*
Verb is in a periphrasis	617	3.900	*
Principle of natural order	617	3.329	
Actual regularity of the verb	617	1.189	
Frequency of use of the verb in the interview	617	1.174	
Expected regularity of the verb	617	.413	
Verb uttered after prompt	617	.407	
Presence of adverbs that lead to PP	522	.066	
Presence of adverbs	617	.006	

** $p < .01$
* $p < .05$

Other factors such as the principle of natural order[22], the actual regularity of the verb, the frequency of use of the verb in the interview, and the other ones listed in Table 5.4, did not show any significant interrelation with the morphological accuracy of the Present Perfect in Catalan.

The independent linguistic factors that showed significant relationships with morphological accuracy of the Present Perfect in Catalan (the dependent variables) were subjected to a statistical analysis (logistic regression) that would show the predictive strength of each independent variable on the same dependent variable (e.g. the effect of the regularity of the verb, the presence of adverbs, and the frequency of the verb on the morphological accuracy of the Present Perfect). This statistical procedure produces a ranking of independent variables according to the predictive strength of each with respect to the outcome of the dependent variable.

[22] This principle states whether the event that the verb describes follows the natural order of events in chronological order.

A logistic regression models the effect of explanatory variables on a categorical dependent variable in terms of the odds of the category. We used regression models to evaluate the effects of linguistic factors on the accuracy of verb function in each verb tense. In the output of regression calculations in SPSS, Exp(B) measures the likelihood of occurrence of the dependent factor (in our case, accuracy of the verb morphology of the Present Perfect in Catalan) when a particular factor belonging to a particular variable is present in the context. For example, Exp(B) puts a number on the likelihood of occurrence of an accurate verb in the Present Perfect appearing when the verb is transitive. Similarly, Exp(B) expresses the likelihood of the verbs being used accurately in the presence of intransitive verbs, regular or irregular verbs, and so on.

Table 5.5. Linguistic factors that favor the morphological accuracy of the Present Perfect in Catalan

Factor hierarchy (constraint hierarchy)
Dependent variables: Morphological Accuracy of the Present Perfect
Independent Variables: Verb is in a periphrasis and Transitivity

Factors	N	Exp(B)	
Not periphrasis[23]	604	1.97	*
Transitive	372	1.30	*
Intransitive	244	.73	*
Periphrasis	12	.50	*

N = 32
Exp(B) values > 1.0 indicate that factor favors accuracy
Exp(B) values < 1.0 indicate that factor favors inaccuracy
** $p < .01$
* $p < .05$

[23] A verb is not considered to be in a complex verb phrase or periphrasis if it is constructed with estar + gerund or if it is a Present Perfect due to the fact that both of these structures (although they show a periphrastical form) correspond to proper verb tenses in Spanish and Catalan (e.g. He ido a trabajar 'I have gone to work', he estado yendo al cine 'I have been going to the movies'). However, if the verb is in a construction such as ir a + infinitive or tener que + infinitive, it is considered to be in one of the traditionally existing periphrastic constructions regardless of the verb tense (e.g. he tenido que ir a casa 'I have had to go home', iba a ir a trabajar pero se puso enfermo 'He was going to go to work but he fell sick'). See both Gómez Torrego (1999) and Yllera (1999) for a complete description of all types of periphrasis in Spanish.

In the regression table above, factors are ranked in descending order according to the value of Exp(B). All the factors that were significant in the bivariate analyses reported in the crosstab tables above are listed in the results of the regression. Significant factors appear with asterisks.

The logistic regressions performed listed in Table 5.5 show that the verbs not occurring in a periphrasis favor morphological accuracy of the Present Perfect (Exp(B) of 1.97), as well as transitive verbs (Exp(B) of 1.30). In contrast, intransitive verbs and verbs uttered in a periphrasis disfavor morphological accuracy of the Present Perfect in Catalan. This indicates that in the presence of a verb that is not in a periphrasis, the odds of it being an accurate verb are higher than when the verb is constructed periphrastically. In a similar way, in the presence of a transitive verb, the odds of it being an accurate verb are higher than in the presence of an intransitive one, which in fact, disfavors morphological accuracy in the Present Perfect in Catalan.

The significant factors that were interrelated with the morphological accuracy of the Preterite in Spanish (Table 5.6 below) were the presence of adverbs that lead to Preterite and the frequency of use of the verb in the interview.

Table 5.6. Significant comparisons between accuracy of verb morphology of the Preterite and linguistic factors in Spanish

	N	Chi-Sq	
Presence of adverbs that lead to Preterite	646	7.043	*
Frequency of use of the verb in the interview	786	3.455	*
Verb uttered after prompt	786	3.751	
Presence of adverbs	786	2.100	
Transitivity	786	.656	
Verb is in a periphrasis	786	.570	
Actual regularity of the verb	786	.280	
Expected regularity of the verb	786	.254	
Principle of natural order	786	.016	

** $p < .01$
* $p < .05$

When all the significant variables in the correlation above are put into competition in a logistic regression (Table 5.7 below), we observe that when a verb is uttered in the absence of an adverb that leads to Preterite, morphological accuracy is favored, with an Exp(B) of 1.69.

Table 5.7. Linguistic factors that favor the morphological accuracy of the Preterite in Spanish

Factor hierarchy (constraint hierarchy)
Dependent variables: Morphological Accuracy of the Preterite
Independent Variables: Frequency of use of the verb in the interview and Presence of adverbs that lead to Preterite

Factors	N	Exp(B)	
Absence of adverbs	615	1.69	*
Frequent	112	1.72	
Presence of adverbs	31	.59	*
Less frequent	534	.57	

N = 32
Exp(B) values > 1.0 indicate that factor favors accuracy
Exp(B) values < 1.0 indicate that factor favors inaccuracy
** $p < .01$
* $p < .05$

When a verb is uttered in the presence of an adverb that leads to Preterite, morphological accuracy of the Preterite is disfavored in Spanish. This indicates that for a verb uttered in the absence of adverbs that lead to Preterite, the odds of its being produced accurately are higher than when the verb is uttered in the presence of such adverbs. The frequency of use of the verb in the interview did not yield any significant results in the logistic regression.

To sum up, the data above indicate that the crucial linguistic variables that explain morphological accuracy in the Present Perfect in Catalan are verbs that are not used in a periphrasis and transitive verbs, whereas the accuracy of morphology in the Preterite in

Spanish is only affected by the absence of adverbs that lead to the Preterite in the context in which the verb is uttered.

1.2.2. Functional accuracy of the Present Perfect and the Preterite in both Catalan and Spanish

Table 5.8 indicates that the significant factors for the functional accuracy of the Preterite in Catalan were the actual regularity of the verb, the presence of adverbs, the frequency of use of the verb in the interview, and the transitivity of the verb.

Table 5.8. Significant comparisons between accuracy of verb function of the Preterite and linguistic factors in Catalan

	N	Chi-Sq	
Actual regularity of the verb	1182	29.110	**
Presence of adverbs	1181	5.745	*
Frequency of use of the verb in the interview	1181	4.928	*
Transitivity	1181	4.085	*
Principle of natural order	1181	.917	
Expected regularity of the verb	1182	.589	
Presence of adverbs that lead to Preterite	1029	.525	
Verb uttered after prompt	1182	.419	
Verb is in a periphrasis	1181	.287	

** $p < .01$
* $p < .05$

The actual regularity of the verb and the presence of adverbs that lead to Present Perfect were the only two significant factors interrelated to the functional accuracy of the Present Perfect (Table 5.9 below) in Catalan. Factors such as the expected regularity of the verb, whether the verb is in a periphrasis or whether the verb was uttered after the prompt did not show any significant interrelation with the functional accuracy of any of the three tenses in Catalan.

Table 5.9. Significant comparisons between accuracy of verb function of the Present Perfect and linguistic factors in Catalan

	N	Chi-Sq	
Actual regularity of the verb	556	13.359	*
Presence of adverbs that lead to Present Perfect	447	4.957	*
Transitivity	555	2.541	
Frequency of use of the verb in the interview	556	2.184	
Principle of natural order	556	.320	
Presence of adverbs	557	.164	
Expected regularity of the verb	556	.083	
Verb is in a periphrasis	557	.042	
Verb uttered after prompt	557	.027	

** $p < .01$
* $p < .05$

The actual regularity of the verb, the frequency of use of the verb in the interview, whether the verb was uttered after a prompt, the presence of adverbs that lead to Preterite, and the principle of natural order all had a significant interrelation with the functional accuracy of the Preterite in Spanish (Table 5.10).

Table 5.10. Significant comparisons between accuracy of verb function of the Preterite and linguistic factors in Spanish

	N	Chi-Sq	
Actual regularity of the verb	1160	46.832	**
Frequency of use of the verb in the interview	1160	11.318	**
Verb uttered after prompt	1160	10.952	**
Presence of adverbs that lead to Preterite	954	6.635	*
Principle of natural order	1160	3.661	*
Presence of adverbs	1160	1.656	
Expected regularity of the verb	1160	.652	
Verb is in a periphrasis	1160	.118	
Transitivity	1160	.033	

** $p < .01$
* $p < .05$

Finally the significant factors that were interrelated with the functional accuracy of the Present Perfect in Spanish (Table 5.11) were the frequency of use of the verb in the interview and whether the verb was uttered after a prompt.

Table 5.11. Significant comparisons between accuracy of verb function of the Present Perfect and linguistic factors in Spanish

	N	Chi-Sq	
Frequency of use of the verb in the interview	478	14.816	**
Verb uttered after prompt	478	8.086	*
Presence of adverbs	478	1.704	
Principle of natural order	478	1.407	
Actual regularity of the verb	478	.922	
Presence of adverbs that lead to Present Perfect	389	.872	
Verb is in a periphrasis	478	.388	
Expected regularity of the verb	478	.011	
Transitivity	478	.003	

** $p < .01$
* $p < .05$

Factors such as the expected regularity of the verb, the transitivity of the verb, the presence of adverbs, and whether the verb is in a periphrasis did not show any significant interrelation with the functional accuracy of any of the two tenses in Spanish.

The independent linguistic factors that showed significant relationships with functional accuracy in each of the two tenses (the dependent variables) were put in the statistical analysis (logistic regression) that would show the predictive strength of each independent variable on the same dependent variable (e.g. the effect of the regularity of the verb, the presence of adverbs, and the frequency of the verb on the functional accuracy of the Preterite).

In the regression table below, factors are ranked in descending order according to the value of Exp(B). All the factors that were significant in the bivariate analyses reported in the crosstab tables above are listed in the results of the regression. Significant factors appear with asterisks.

Table 5.12. Linguistic factors that favor the functional accuracy of the Preterite and Present Perfect in Catalan

Factor hierarchy (constraint hierarchy)
Dependent variables: Accuracy Function of Preterite and Present Perfect
Independent Variables: Presence of adverbs, Transitivity, Actual regularity, Frequency, Presence of Adverbs that lead to Present Perfect (PP in the table), Principle of Natural Order

Preterite				Present Perfect			
Factors	N	Exp(B)		Factors	N	Exp(B)	
Regular	1076	1.69	**	Presence of PP adverbs	45	1.83	*
Absence of adverbs	972	1.26	*	Regular	412	1.43	*
Intransitive	497	1.20	*	Irregular	65	.69	*
Frequent	838	1.20	*	Absence of PP adverbs	432	.54	*
Transitive	684	.83	*				
Not frequent	343	.82	*				
Presence of adverb.	207	.79	*				
Irregular	105	.59	**				

N = 32
Exp(B) values > 1.0 indicate that factor favors accuracy
Exp(B) values < 1.0 indicate that factor favors inaccuracy
** $p < .01$
* $p < .05$

The logistic regressions performed with Catalan data (Table 5.12) showed that there are several predictors of the functional accuracy of the Preterite in Catalan. The strongest one with an Exp(B) of 1.69 is the actual regularity of the verb (verbs that are regular or that are made regular by the informants) followed by the absence of adverbs which also favors the accuracy of the Preterite (Exp(B) 1.26). On the other hand, both the presence of adverbs and of actual irregular verbs disfavor accuracy (Exp(B) .79 and .59 respectively). All the above indicates that in the presence of a regular verb (or a verb made regular by the informant), the odds of it being an accurate verb are higher than in the presence of an irregular one (or a verb made irregular by the informant). In a similar fashion, if a verb is uttered in the absence of adverbs, the likelihood of it being accurate is much higher than if the verb is uttered in a context in which there is an adverb.

Intransitive verbs and verbs that are used frequently in the interview have the same prediction strength (Exp(B) 1.20), whereas the verbs used less frequently in the interview favor the presence of functional errors in the Preterite (Exp(B) .82) as well as the transitive verbs (Exp(B) .83). This indicates that in the presence of an intransitive verb, the odds of it being an accurate verb are higher than in the presence of a transitive verb, which in fact, disfavors accuracy; and that in the presence of a frequently used verb, the odds of a Preterite being used accurately increase by one and a third, whereas in the presence of an infrequent verb the odds of accurate use of a Preterite diminish by about one-fifth.

Regular verbs (or verbs that are made regular by the informant) favor functional accuracy of the Present Perfect, with an Exp(B) of 1.43, as do verbs that are uttered in the presence of an adverb that leads to Present Perfect, with an Exp(B) of 1.83. On the other hand, irregular verbs and verbs are uttered in the absence of an adverb that leads to Present Perfect disfavor functional accuracy of the Present Perfect. This indicates that in the presence of a regular verb (or a verb made regular by the informant), the odds of it being an accurate verb are higher than in the presence of an irregular one (or a verb made irregular by the informant), which in fact, disfavors accuracy in the Present Perfect. Similarly, when a verb is uttered in a context where an adverb that leads to Present Perfect is present, the odds of it being accurate are higher than when the verb is uttered in a context in which such adverb is not present.

The logistic regressions performed with the Spanish data (Table 5.13 below) show that when we observe the functional accuracy of the Preterite in Spanish, we see that there are several predicting factors that favor the functional accuracy in this tense, that is

the presence of adverbs that lead to Preterite (Exp(B) 1.83), irregular verbs (or verbs that are made irregular by the informant) with an Exp(B) of 1.55, verbs that are not prompted (Exp(B) 1.43), and verbs that are used more frequently (Exp(B) 1.09). On the other hand, verbs that are prompted, actual regular verbs, verbs that are uttered in the absence of an adverb that leads to Preterite, and less frequently used verbs all disfavor the functional accuracy of the Preterite. Although the principle of natural order turned out have a significant interrelation with accuracy of the Preterite in the crosstabs above, it failed to be a significant predictor in the regression.

Table 5.13. Linguistic factors that favor the functional accuracy of the Preterite and Present Perfect in Spanish

Factor hierarchy (constraint hierarchy)
Dependent variables: Accuracy Function of Preterite and Present Perfect
Independent Variables: Frequency, Actual regularity, Verb uttered after prompt, Adverbs that lead to Preterite, and Principle of natural order

	Preterite			Present Perfect			
Factors	N	Exp(B)		Factors	N	Exp(B)	
Presence of Pret. Adverbs	37	1.83	*	Not frequent	393	1.66	**
Irregular	374	1.55	**	Prompt	114	1.64	*
Natural order	928	1.44		Frequent	85	.60	**
No prompt	835	1.43	**	No prompt	364	.60	*
Frequent	145	1.09	*				
Not frequent	809	.91	*				
Prompt	119	.69	**				
Not natural order	26	.69					
Regular	580	.64	**				
Absence of Pret. adverbs	917	.54	*				

N = 32
Exp(B) values > 1.0 indicate that factor favors accuracy
Exp(B) values < 1.0 indicate that factor favors inaccuracy
** $p < .01$
* $p < .05$

Finally, the presence of a prompt before the verb favors accuracy in the Present Perfect (Exp(B) 1.64) whereas the absence of a prompt disfavors it. This indicates that in

the presence of a prompt, the odds of the subsequent verb being accurate are higher than in the absence of a prompt in the Present Perfect. The less frequently used verbs in the interview favor the functional accuracy of the Present Perfect (Exp(B) 1.66), whereas the more frequently used verbs favor the presence of errors (Exp(B) .60). This shows that, in the absence of a frequent verb, the likelihood of it being an accurate verb is higher than in the presence of a highly frequent verb.

The logistic regressions above showed that the frequency of use of the verb in the interview is a highly significant predictor of the accuracy of function of the Preterite in Catalan and in Spanish, whereas the verbs used less frequently in the interview favor functional accuracy of the Present Perfect in Spanish.

In both languages, and across tenses regular verbs in the language and verbs that are made regular by the informants (actual regularity) are a significant predictor of the accuracy of function except in the case of the Preterite in Spanish. In this case, we observe that irregular verbs or verbs that are made regular by the informants predict the accuracy of function in the Preterite.

Finally, for the Spanish data, the presence of a prompt before the verb favors accuracy in the Present Perfect, but it disfavors accuracy in the Preterite. This indicates that in the presence of a prompt, the odds of the subsequent verb being accurate are higher than in the absence of a prompt in the Present Perfect, whereas the opposite occurs with the Preterite.

Other variables, such as the type of task, the expected regularity of the verb, or whether the verb is in a periphrasis do not show any significant effect on the accuracy according to verb function of the two types of verbs neither in Catalan nor in Spanish.

1.3. Sociolinguistic results

In this section we will report the effect of a number of sociolinguistic variables on the overall accuracy levels in Spanish and Catalan for the target group.

1.4. Social factors correlated with overall accurate use of the past tenses in the target languages

1.4.1. Catalan

The factors that showed the strongest correlations with the accuracy of past tense use of verbs in Catalan (Table 5.14) were the children's level of proficiency in Spanish, the degree of use of Spanish, and the level of proficiency in Catalan.

Table 5.14. Pearson Correlation. Mean of overall accurate Catalan verbs correlated with all social factors.

	All-accurate Catalan	Sig.
Level of proficiency in Spanish	.842	.001
Level of proficiency in Catalan	.542	.001
Degree of use of Spanish	.610	.001
Years in the host country	.461	.008
Degree of use of L1	-.456	.009
Parent's involvement with the children's learning process	.391	.027
Contact with Morocco and Moroccan community	.351	.049

Non-significant correlations: Level of proficiency in L1, Sex, Age and Age of arrival, Degree of use of Catalan, Degree of Spanish use in general, Degree of L1 use in general, Language use by domains, Language use with people, Elder siblings, Younger siblings, Father's level of education, Mother's level of education, Level of school achievement, Level of literacy in Arabic, Level of proficiency in L1, Socio-economic status and education of household

The three most significant factors also appear to correlate with each other, which according to some statisticians would make the results of the regression analyses not fully valid. The degree of use of Spanish correlates with the level of proficiency in Catalan ($r = .365$, $p < .039$), and the level of proficiency in Spanish ($r = .665$, $p < .001$). The level of

proficiency in Catalan also correlates with the Level of proficiency in Spanish ($r = .586$ $p < .001$).The two other factors that show a significant correlation with the accuracy of use of Catalan past tense are the parents' involvement with the children's learning process and the extent of contact with Morocco and the Moroccan community (Table 4.15). The fact that the children might live in a tight community which maintains strong ties with the country of origin does not prevent them from learning the language of the host country; quite the opposite, it seems to help them in doing so. Other factors such as the amount of Catalan used by domains or with interlocutors, whether they had elder or younger siblings, the parents' level of education, the child's level of school achievement, the level of proficiency in L1, and the socio-economic status of the household do not show any significant correlation with the accuracy of use of Catalan past tenses.

The regression conducted with the factors that show the strongest correlations (Table 5.15) shows that the level of proficiency in Spanish is the only variable that makes an independent contribution to the explanation of variance in all-accurate use of Catalan verbs, and that the other two variables tested do not make any significant additional contribution to it.

Table 5.15. Multiple regression between mean of overall accurate Catalan verbs, level of proficiency in Spanish, degree of use of Spanish, and level of proficiency in Catalan (target group).

	Standardized Coefficients		
	Beta	Sig.	Adjusted R-Sq
Level of proficiency in Spanish	.652	**.001**	.770
Degree of use of Spanish	.201	.075	.784
Level of proficiency in Catalan	.163	.115	.796

Although the level of proficiency both in Spanish and Catalan shows the strongest correlation with the accuracy in the use of past tense in Catalan, the level of proficiency

in the L1 (Moroccan Arabic or Tamazight) seems not to have any effect on the accuracy in the two L2s (as we can see in Table 5.14 above). The years spent in the host country are also correlated with the accuracy of past tense use in Catalan, but the child's sex, age and the age of the child when s(he) first came to the host country do not show any significant correlation. There is a negative correlation between the degree of use of the L1 and accuracy in the use of past tense in Catalan, but there is no correlation between the degree of use of Catalan and accuracy in the use of past tense in Catalan.

1.4.2. Spanish

The factors that show the strongest correlations with the accuracy of past tense use of verbs in Spanish are the children's level of proficiency in Spanish, the degree of use of Spanish, and the years the child spent in the host country, as shown in Table 5.16.

Table 5.16. Pearson Correlation. Mean of overall accurate Spanish verbs correlated with all social factors.

	All-accurate Spanish	Significance
Level of proficiency in Spanish	.797	.001
Degree of use of Spanish	.631	.001
Years in the host country	.603	.001
Level of proficiency in Catalan	.511	.003
Degree of use of L1	-.492	.004
Age	.419	.017
Age of arrival	-.393	.026
Non-significant correlations: Level of proficiency in L1, Sex, Degree of use of Catalan, Degree of L1 use in general, Language use by domains, Language use with people, Elder siblings, Younger siblings, Father's level of education, Mother's level of education, Level of school achievement, Level of literacy in Arabic, Level of proficiency in L1, Socio-economic status and education of household		

Some of these factors also appear to correlate with each other. The level of proficiency in Spanish correlates with the degree of use of Spanish ($r = .665$ $p < .001$),

and the years in the host country ($r = .605$ $p < .001$). The years in the host country also correlates with the degree of use of Spanish ($r = .475$ $p < .006$).

The regression in Table 5.17 shows that the level of proficiency in Spanish is the only variable that makes an independent contribution to the explanation of variance in the all-accurate use of Spanish verbs, and that the other two variables tested do not make any significant additional contribution to the explanation of variance.

Table 5.17. Regression between mean of overall accurate Spanish verbs, level of proficiency in Spanish, degree of use of Spanish and years in Catalonia.

	Standardized Coefficients		
	Beta	Sig.	Adjusted R-Sq
Level of proficiency in Spanish	.559	**.001**	.623
Years in the host country	.229	.098	.653
Degree of use of Spanish	.151	.301	.630

When assessing accuracy in the use of the past tense in Spanish, the factor that presents the strongest correlation is the level of proficiency in Spanish followed closely by the level of proficiency in Catalan. However, the level of proficiency in the L1 seems, again, not to have any effect on the accuracy in the two L2s. The degree of use of Spanish also correlates with the accuracy in past tense use in Spanish, but the degree of use of Catalan does not.

This last point vis-à-vis the accuracy in past tense use in Spanish differs significantly from the correlations regarding the accuracy of past tense use in Catalan in that, in the Catalan case, the degree of use of Spanish contributes to explain the level of accuracy in Catalan, while the degree of Catalan use does not explain the Spanish accuracy. On the other hand, the degree of use of the L1, correlates negatively with the accuracy of use of past tense in Spanish, as is the case for the correlations on accuracy of use of the past tense in Catalan.

While both the years in the host country and the age of the child show a significant correlation with the accuracy in the use of past tense in Spanish (Table 5.16 above), the age of arrival shows a negative correlation; that is, the older the child when (s)he arrives in the host country, the worse is Spanish (s)he speaks. This differs from the Catalan correlations in which neither the age nor the age of arrival has any influence on the child's performance. It seems that all the children learn Catalan in a much more homogeneous way without regard to their age or the age at which they arrive in the host country.

Other factors, such as the amount of Spanish use by domains or with interlocutors, whether they had elder or younger siblings, the parent's level of education, the child's level of school achievement, the level of proficiency in L1, the amount of contact with the Moroccan community, the parent's involvement with the children's learning process, and the socio-economic status of the household do not show any significant correlation with the accuracy of use of Spanish past tenses.

Since we saw before that the informants in the target group have problems mostly in the use of Preterite according to function, we conducted some correlations between accuracy of Preterite and the socio-demographic factors to find out if there is any difference between the factors that account for the overall accuracy and the factors that may account for this particular case.

Table 5.18. Pearson Correlation. Mean accuracy of Preterite (Spanish and Catalan combined) correlated with all social factors.

	All-accurate Spanish and Catalan	Significance
Age	.576	.001
Level of proficiency in Spanish	.485	.005
Years in the host country	.408	.020

The factors that present the strongest correlations with the accuracy of Preterite are the children's age, the level of proficiency in Spanish, and the years the child spent in the host country, as shown in Table 5.18.

Table 5.19. Regression between mean accuracy of Preterite (Spanish and Catalan combined).

	Standardized Coefficients		
	Beta	Sig.	Adjusted R-Sq
Age	.447	**.007**	.310
Level of proficiency in Spanish	.265	.143	.385
Years in the host country	.115	.516	.372

The linear regression in Table 5.19 shows that age is the only variable that makes an independent contribution to the explanation of variance in the accurate use of the Preterite according to function, and that the other two variables tested do not make any significant additional contribution to the explanation of variance.

1.5. Level of proficiency in Spanish

Table 5.20 displays the number of informants per group if we divide the informants according to their level of proficiency in Spanish. The informants were divided into the two proficiency groups depending on whether they scored below or above the mean proficiency which was .76. The numbers are quite balanced: out of 32 informants, 13 are below the average level of proficiency in Spanish (who have an average proficiency rate of .54), and 19 of them are above the average (who have an average proficiency rate of .88)[24].

[24] See Appendix I for a complete list of the proficiency rates of each informant.

Table 5.20. Informants divided according to proficiency in Spanish

	N	%
Below average	13	40.6
Above average	19	59.4

Taking into account this division, we will now look at the item that poses the most difficulty to the informants in this study in both Catalan and Spanish, that is, the function of the Preterite. We will observe again the type of mistake that occurs with regards to the function the Preterite, i.e. the overgeneralization in the use of the Present Perfect instead of the Preterite to denote perfective aspect.

Table 5.21. Required tenses when the Present Perfect is uttered in Catalan and Spanish by children in the two proficiency groups

Expected Tenses		Lower proficiency			Higher proficiency		
		Imp.	Pret.	Pres. Perf.	Imp.	Pret.	Pres. Perf.
Catalan		1	40	65	0	56	217
	%	0.9	37.8	61.3	0	20.5	79.5
Spanish		0	53	81	2	116	191
	%	0	39.5	60.5	0.6	37.6	61.8
Overall	%	0.4	38.8	60.8	0.3	29.5	70.2

According to Table 5.21, when the Present Perfect is used in Catalan in the lower proficiency group, the Present Perfect is expected 61 percent of the time. When the Present Perfect is used incorrectly, the tense that should have been used is, in most cases, the Preterite (37% of the time) and in only one case, the Imperfect. The next step is to observe the Spanish data on this matter.

In the table above we observe that when the Present Perfect is used in Spanish in the lower proficiency group, the Present Perfect itself is the expected tense 60 percent of the times. When the Present Perfect is used incorrectly, the Preterite should have been used in 20 percent of the times, and in none of the cases, the Imperfect. As we can se in

Table 5.21, the lower proficiency group behaves identically in Catalan and Spanish; they do not master the use of the Preterite functionally, and they over-generalize the use of the Present Perfect as the perfective tense in many instances. Let us now observe how the higher proficiency group behaves.

When the Present Perfect is used in Catalan in the higher proficiency group, the Present Perfect is expected 80 percent of the time. When the Present Perfect is used incorrectly, the Preterite is used 20 percent of the times, and in none of the cases, the Imperfect. It seems that the higher proficiency group is beginning to master the difference between Present Perfect and Preterite in Catalan. The next step is to observe the Spanish data.

In Spanish, the informants' behavior resembles more closely that of the lower proficiency level group than the pattern we see for the Catalan case. The Present Perfect is the expected tense 61 percent of the times. When the Present Perfect is used incorrectly, the tense that should have been used is, in most cases, the Preterite and in only two cases, the Imperfect.

All of the above indicates that the division between higher and lower proficiency level groups explains only a portion of the data. It seems that in Spanish, regardless of the proficiency level of the informants, the type of error the informants produce is the same. In Catalan, however, it appears that the proficiency level of the informants succeeds in predicting the different performance as far as the difference between Present Perfect and Preterite is concerned.

1.6. Age of the informants

In this section we will consider the data that resulted from the last regression in section two, where age appeared as the strongest predictor for accuracy in the Preterite according to function. To do this, we will first divide the informants into the following two age groups taking into account that the average age is 9 years old; therefore, the informants above that age were included in the older group, and the informants that were 9 years old or older were included in the younger age group.

Table 5.22. Informants divided according to their age

	N
Younger (6-9)	17
Older (10-12)	15

As Table 5.22 displays, two almost balanced groups are formed taking into account the age of the informants. The groups include 17 informants in the younger age group, ages 6 to 9, and 15 in the older age group, ages 10 to 12. We will now observe the item that poses the most difficulty to the informants in this study, i.e. the overgeneralization in the use of the Present Perfect instead of the Preterite to denote perfective aspect.

Table 5.23. Required tenses when the Present Perfect is uttered in Catalan and Spanish by children in the two age groups

Expected Tenses		Young age group			Old age group		
		Imp.	Pret.	Pres. Perf.	Imp.	Pret.	Pres. Perf.
Catalan		2	127	225	0	51	212
	%	0.5	36	63.5	0	19.5	80.5
Spanish		0	236	214	2	72	189
	%	0	52.5	47.5	0.7	27.3	72
Overall	%	0.2	45.2	54.6	0.4	23.4	76.2

When the Present Perfect is used in Catalan in the younger age group, the Present Perfect is expected 63 percent of the times. When the Present Perfect is used incorrectly, the Preterite is used in most of the cases, whereas the Imperfect is used in only two occasions. Let us observe the Spanish data on this matter.

Table 5.23 displays that when the Present Perfect is used in Spanish in the younger age group, the Present Perfect is the expected tense only 47 percent of the times. When the Present Perfect is used incorrectly, the tense that should have been used is only the Preterite (53 percent of the time), and in none of the cases the Imperfect. As we can observe up until this point, the lower age group behaves differently in Catalan and Spanish. They perform worse in the functional use of the Preterite in Spanish, over-generalizing the use of the Present Perfect as the perfective tense in many more instances than in Catalan. Let us now observe the behavior of the older age group.

When the Present Perfect is used in Catalan in the older age group, the Present Perfect is expected 80 percent of the times, but in 20 percent of the times the Preterite should have been used. This indicates that the higher age group performs better than the lower age group in the functional use of the Preterite in Catalan. Let us now turn to the Spanish data on this matter.

When the Present Perfect is used in Spanish in the older age group, the Present Perfect is the expected tense 71 percent of the time. When the Present Perfect is used incorrectly, the tense that should have been used is, in most cases, the Preterite (27 percent of the times) and in only two cases, the Imperfect.

The data displayed in Table 5.23 indicate that the older age group behaves similarly in Catalan and Spanish. They perform much better than the younger age group

in their functional use of the Preterite both in Catalan and in Spanish, and, overall, they overgeneralize the use of the Present Perfect as the perfective tense in fewer occasions than the younger age group. All this indicates that the age group division helps explain the different performance behavior across languages.

In the next section we will evaluate the predictive power of the lexical aspect of the verb on the accuracy of the verb tenses in the study for the newly arrived informants.

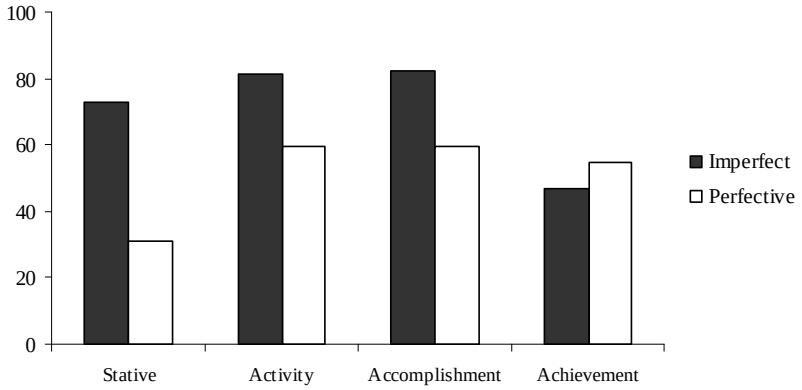
1.7. Lexical aspect of the verb

Due to the cross-sectional nature of the present study's data, the primacy of aspect hypothesis has to be reformulated. The primacy of aspect hypothesis would predict that, in the first stages of acquisition activity, achievement, and accomplishment verbs inflected in the Preterite or the Present Perfect will show higher accuracy rates than the verbs in the Imperfect. Similarly, stative verbs will show higher accuracy rates when they have imperfective morphology, and lower accuracy rates when they are inflected in any of the two perfective tenses, i.e. Preterite and Present Perfect.

In order to be in the first stages of acquisitions, the informants in this study had to fall into three different categories, that is, they had to have less than four years in the host country, and they had to show a proficiency level lower than the mean of all informants both in Spanish and in Catalan. Only eight informants fall into this category. Since the eight informants do not provide enough data to make a statistical comparison between them to find significant differences or similarities, all the data are combined in order to obtain an accuracy mean for each type of verb. The two languages were also combined in order to make the data more consistent, and the two perfective tenses (Preterite and

Present Perfect) are considered as one category, namely the perfective. The following table allows us to observe the distribution of these data.

Table 5.24. Mean accuracy of the verbs in the different lexical types of the informants in the first stages of acquisition (Spanish and Catalan combined)



As we can observe in the table above, the primacy of aspect hypothesis holds only partially for this study's data. The stative verbs show a higher accuracy level in the Imperfect than in the perfective tenses, and only achievement verbs show a higher level of accuracy in the perfective tenses than in the Imperfect, as the hypothesis predicts. In the other two types of verbs, activity and accomplishment, however, the informants do not behave as predicted by the hypothesis. They show higher accuracy levels for the Imperfect than for the perfective tenses, which is the opposite of what one would expect given the perfective nature of the verbs' aspectual meaning.

All the data displayed above in all the subparts of the results section will be interpreted and discussed in detail in the section that follows.

2. Discussion

The study presented in this chapter examines the issue of L2 acquisition of tense and aspect, more specifically the expression of the past tense in Spanish and Catalan acquired by L1 speakers of Moroccan-Arabic or Tamazight. As mentioned in the beginning of this chapter, the aim of the present research is to answer the following questions: (1) which one of the three tenses (Imperfect, Preterite or Present Perfect) poses the most problems for the L2 speakers in this study compared to the native speakers in the control group? (2) which dimension of the verb is most difficult to acquire, the lexical meaning of the verb, the verb's morphology or the verb's function? and (3) which linguistic and sociolinguistic variables have the most impact on the informants' behavior?

The control group informants perform equally well when using the three verb tenses in each language, and they handle the three tenses equally accurately with regard to lexical selection, morphology, and function of the verb. Overall, the control group's behavior is at ceiling, exactly as expected, since this group was included in the design to provide baseline data regarding the characteristics of native speakers' behavior.

2.1. The three verb tenses and the three accuracy dimensions in Catalan for informants in the target group

Let us now move to the target group, who provided data in both Catalan and Spanish.

Accuracy of lexical selection in Catalan. For the Catalan data, the comparisons between levels of lexical accuracy show no differences between the three tenses

(Imperfect, Preterite, and Present Perfect). The informants do equally well in the three tenses when choosing the verb according to its lexical meaning in the appropriate context.

Accuracy of morphology in Catalan. The morphology of the Present Perfect in Catalan appears to be slightly more difficult to master than that of the Imperfect. Comparing the morphology of the Present Perfect and the Preterite, we do not observe much of a difference, although the informants perform better in the Preterite. Similarly, the accuracy levels with regard to morphology in the Preterite and Imperfect do not show any significant difference even though the accuracy levels are higher for the Imperfect.

The greater difficulty detected in the morphology of the Catalan Present Perfect when compared to the other tenses could be due to the amount of irregularity found in each of these forms. However, the most irregular of the verb tenses in Catalan is not the Present Perfect but the Preterite, followed by the Present Perfect and then the Imperfect. (The fact that the Imperfect is the least irregular is reflected in the results: it is the tense that shows the highest level of morphological accuracy). The low morphological accuracy levels attained with the Present Perfect in Catalan, which cannot thus stem simply from morphological irregularity, may be explained by a number of other contributing factors which we will discuss in later sections (4.3.1 and 4.4.1).

Accuracy of function in Catalan. Of the three dimensions under study (accuracy of morphology, lexical selection and function), the most problematic is the functional dimension, in particular the functional use of the Catalan Preterite as opposed to that of the Imperfect and Present Perfect. This indicates a tendency that we encounter throughout most of the data of the present study, and points to the fact that form precedes function or use.

2.2. The three verb tenses and accuracy dimensions in Spanish

Accuracy of lexical selection in Spanish. As was the case in Catalan, the lexical selection of the verb in Spanish does not show any differences between the three tenses, that is, the informants perform equally well when choosing the lexical meaning of the verb in the Imperfect, Preterite, and Present Perfect.

Accuracy of morphology in Spanish. With regard to morphology, the verb tense that poses the most difficulties for the informants in Spanish is the Preterite. This could be due to the fact that, in Spanish, the other two tenses, Imperfect and Present Perfect, have a much more regular morphology than the Preterite.

Accuracy of function in Spanish. Finally, in the functional selection of the three tenses in Spanish we encounter quite an unbalanced situation that is similar to the outcome seen in the Catalan data. The informants perform equally well in the Imperfect and in the Present Perfect, but, as was the case for Catalan, they perform significantly worse with regard to the functioning of the Spanish Preterite. This indicates that the main problem found by our informants in acquiring the past tenses lies in figuring out the function of the Preterite in both Spanish and Catalan.

2.3. Differences between the two languages according to each verb tense and accuracy dimension

The findings reported in this chapter point to three crucial issues in the acquisition of the past tenses under investigation. First, the fact that morphological accuracy is higher than functional accuracy all around reveals that form precedes function, an observation that many other studies have made (Dietrich et al. 1995 among others). Second, we

observe greater difficulty of the morphology of the Present Perfect in Catalan and of the Preterite in Spanish. Third, and most importantly, we note the great difficulty in the acquisition of the functional use of the Preterite in both Catalan and Spanish (although much more so in Spanish). The last two findings will be discussed in detail in the next section where explanations will be offered for each.

2.3.1. Accuracy of morphology of the Present Perfect in Catalan and Preterite in Spanish

The lower accuracy level in the morphology of the Present Perfect in Catalan can be justified due to the higher irregularity of one of the elements of this verb form. As we can observe in the sentence *He treballat* 'I have worked' the Present Perfect in Catalan is constructed with a highly regular auxiliary of the verb *haver* 'to have' followed by the past participle, which is somewhat irregular in some commonly used verbs, such as *veure* (vist) 'to see', *haver* (hagut) 'to have to', *venir* (vingut) 'to come' to mention just a few. The Preterite in Catalan is formed with the auxiliary of the verb *anar* 'to go' and a highly regular infinitive form. In addition, the fact that the morphology of the Present Perfect in Catalan presents a lower accuracy level must be further explained in light of the results of our study regarding the linguistic factors that favor accuracy. In the following sections, the linguistic results will provide suggestions on where the morphological problem of the Present Perfect in Catalan may lie.

The Preterite paradigm in Spanish has quite an irregular synthetic form, as opposed to the Catalan Preterite, which has a regular analytical form (as shown in section 2.2, Chapter 2). This could be one of the reasons why the Catalan Preterite is generally

easier to acquire than the Spanish Preterite, and would account for the differences in the percentages of correct use between Spanish and Catalan. There might be other linguistic factors influencing the accuracy levels of the Preterite in Spanish, which will be presented after the next section under the discussion of the linguistic results.

2.3.2. Function of the Preterite versus Present Perfect

The results show that the dimension that poses the most difficulty to the L2 learners in this study is the function of the Preterite, both in Catalan and Spanish (although the outcome is more dramatic in Spanish). The greatest concentration of errors occurs when the children in the target group should have used the Preterite but used another tense instead.

Traditionally, the explanation given in the literature is that L2 learners of Catalan and Spanish have difficulty differentiating between perfective and imperfective aspects, in other words, telling apart, for the Romance languages, the contexts for the Preterite vis-à-vis the Imperfect (Bardovi-Harlig 1998, Andersen 1991, Comajoan 2000, Montrul & Slabakova 2002). In this study, however, we found that in both languages our informants use the Present Perfect (rather than the Imperfect) instead of the Preterite. This means that in order to express the perfective aspect that should be expressed by the Preterite, they resort, not to an imperfective, but to another perfective tense, generalizing the Present Perfect in order to encode also temporally bound past tense. This represents a trend that former studies dealing with the acquisition of the L2 Spanish past tense by speakers of Moroccan-Arabic have already noticed. In a study on adult Moroccan-Arabic speakers learning Spanish as an L2, López-Ortega (2000) observed that the Present

Perfect was used by "two of the informants profusely in their narratives" (p. 492), but failed to give a satisfactory explanation for this phenomenon.

Our explanation runs as follows. First of all the usage of the Present Perfect as a so-called perfect aspect is highly variable in Spain (Schwenter 1994b, Serrano 1994) as mentioned before in Chapter 1. Before continuing to talk about the differences between Preterite and Present Perfect, we should clarify the definition that the literature provides in order to explain what each tense denotes in more universal terms. The word 'perfective' is commonly used to indicate a past situation which has an end point and which is not viewed with regards to its internal temporal constituency nor to its relevance to the moment of speaking, but rather viewed as a whole situation (Comrie 1976, Dahl 1985). According to the same authors the term 'perfect' (also known as anterior) denotes a past situation with current relevance. Accordingly, the term 'perfective' describes the scope of the Preterite tense, and 'perfect' characterizes the Present Perfect tense.

According to the descriptions of Peninsular Spanish made by Hernández Alonso (1984) and Alarcos Llorarch (1994), the Present Perfect is used in standard Spanish either to connect some temporally unspecified event in the past with the moment of speaking or to denote some event that happened in the past but that is related physically or psychologically with the moment of speaking. This type of Present Perfect refers to the 'current relevance' category put forth by Comrie (1985) (see section 2, Chapter 1). This characteristic of the Present Perfect leaves room for language users to have different understandings of what might be *related physically or psychologically with the moment of speaking*, creating some confusion between the scope of the Present Perfect versus the scope of the Preterite in these contexts. As a consequence, in Spain, there is a very

variable system under which each region specifies in different ways the contexts in which the Present Perfect is used.

For example, according to Alarcos Llorach (1994), in Galicia and Asturias the Preterite is overwhelmingly used instead of the Present Perfect due to the influence of the Galician language over the Spanish spoken in the region. Asturians and Galicians use the Preterite when they say *¿Comiste ya?* 'Did you eat yet?' instead of the preferred Peninsular norm involving the Present Perfect *¿Has comido ya?* 'Have you eaten yet?' Alarcos Llorach also notes that, in some areas in Castile and Madrid, the opposite situation occurs, namely, the Present Perfect takes over some contexts that traditionally belong to the Preterite. The use of the Present Perfect in pre-hodiernal contexts is illustrated by the use of *Ayer he visto a Juan* 'I have seen Juan yesterday' instead of the preferred Peninsular norm *Ayer vi a Juan* 'I saw Juan yesterday'. In the Canary Islands, according to Serrano (1994) and in the rest of Spain, the Present Perfect has not yet taken over Preterite contexts, except in grammaticalized expressions such as *¿Cuando has llegado?* meaning 'When did you get here?' in the context in which someone is coming from a trip, and the person asking has no information about when the person arrived. The context for an answer using the Present Perfect would be 'today', or 'this week', and the context for an answer in the Preterite would be 'yesterday', 'two days ago', or 'last week/month etc'. This last point suggests that the Present Perfect is acting as the default tense in some contexts where the past reference point is unknown. It should be noted, however, that in most contexts in Peninsular Spanish the default tense is still the Preterite, as it is the case in most of Latin American Spanish varieties.

Another usage of the Present Perfect that does not coincide with the norm in Barcelona is that of the various Latin American countries, whose immigrants to Spain represent an important demographic component in the neighborhoods where our informants live. The usage in Latin America is quite stable and homogeneous except in northwest Argentina (according to Kempas 2002 and Alarcos Llorach 1994). The widespread meaning of the Present Perfect in Latin America and some parts of Spain corresponds to the traditional perfect meaning. Namely, it expresses the relation between two time-points: the time of the state resulting from a prior situation, and the time of that situation. According to Comrie (1985) and Schwenter (1994a), there are four different types of perfect meanings that the Present Perfect takes: the perfect of 'result' that designates a present state that was brought about by an action in the past, the 'experiential' perfect that implies that a situation has held at least once during some time in the past leading up to the present, the 'continuative' perfect that indicates that a situation began in the past but continued up until the present time, and finally the perfect of 'current relevance' that shows a past situation that is relevant to current concerns (see Chapter 2, section 2.2, for a more thorough explanation).

The linguistic situation that our informants face in today's Spain with regard to the Present Perfect is not at all uncommon. Dahl (1988) points out that, historically, it is not rare that a perfect tense, which connects to the moment of speaking, takes over the traditional meaning of a perfective one, which does not have such a connection. This was the case in France and Germany, where the Passé Composé or the Present Perfect in German took over the simple past form in modern French and spoken German respectively. Although Dahl does not suggest any explanations for such phenomenon, he

notes that there is a "general tendency for peripheral tense-mood-aspect categories to be attracted towards the centre of the tense-mood-aspect system, acquiring in the process properties that are characteristic of central categories" (p.139). Other authors (Schwenter 1994) have observed that before the change in French from the simple past to the Passé Composé there was a period characterized by the unstable and variable use of the two forms. This might be the situation that we are confronting now in the Spanish case.

Still, the fact that the usage of the Spanish Present Perfect is variable in Spain does not suffice to account for the difficulties our informants have in telling apart the different contexts in which Preterite and Present Perfect are used. If the variability of the system were the main contributing factor, the informants' behavior in Catalan could not be accounted for. Even though the Catalan system is quite stable distinguishing Preterite and Present Perfect, the informants in this study have almost the same problems in Catalan as in Spanish in distinguishing Preterite and Present Perfect contexts.

Another explanation for why the informants cannot differentiate the uses of the Preterite vis-à-vis the Present Perfect might be that they encounter a situation in which there are two verb forms per language, Catalan and Spanish Preterite, and Catalan and Spanish Present Perfect, and, as we can observe in the table below, three out of these four forms are similar to each other.

Table 5.25. Catalan and Spanish verb forms in the Preterite and Present Perfect

	Catalan	Spanish
Preterite	Vaig treballar 'I worked'	Trabajé 'I worked'
Present Perfect	He treballat 'I have worked'	He trabajado 'I have worked'

Three of the forms have an analytical or periphrastic form (Spanish and Catalan Present Perfect and Catalan Preterite), and thus, they are supposedly easier to learn. Out of the three analytical forms, there are two that resemble each other, that is, the Present Perfect is quite similar in Catalan and Spanish. The informants may be trying to simplify this four-way system by choosing just one tense in order to convey both past tense perfective and perfect, and, in this case, the tense that they choose is the one that has a similar form in the two languages, that is, the Present Perfect.

The one-to-one principle (Ellis 1989) states that there is usually one form that corresponds to one function. When that principle is broken, the learner tries to reconstruct that system. In our case, the introduction of two past tenses to convey past tense leads to the specialization of one of the forms (in our case the Present Perfect) for all the contexts of perfectivity, in order to maintain maximal communicative expressiveness. This situation will continue presumably until the learner finds a new form-function correlate for the Preterite form.

The fact that the Present Perfect has become an overly used tense which is often times preferred over other expressions that use other tenses to convey the same meaning[25], as was mentioned in Chapter 1 (p. 20), could be one of the factors that make its use further complicated for non-native speakers. By the one-to-one principle, the learners will then have to constantly assign new functions to the same form.

[25] A trend is observed in Spanish and Catalan narratives in which the use of the perfect of result is preferred over the use of a present tense in order to describe a present situation. For instance, the sentence *Se ha ido* 'She has left' is preferred over *No está* 'She's not here'. This expansion of the perfect to its limits can also be seen in the perfect of recent past (as Comrie (1985) already points out), where the scope of *recent* can be expanded to any context in which temporal adverbs use the determiner *this* as in *this morning/week/month/year*, like in *Esta mañana/semana /mes/año he visto a Juan tres veces* 'This morning/week/month/year I have seen John three times'.

Another contributing factor could be the fact that Arabic and Tamazight, the informants' L1s, lack the perfect versus perfective aspectual distinction, as Dahl's (1988) research shows. According to Dahl, it is common for many languages to lack this distinction, which accounts for the lack of unanimity in the literature in accepting the perfect category as a universal one (this lack of unanimity is also partly due to the difficulties in finding a definition for the category). In addition, the perfective-imperfective distinction is widely used in Arabic and Tamazight where the imperfective aspect extends even to the present tense as the default tense. This may be another one of the reasons why the informants in the present study do not have problems differentiating the Preterite versus Imperfect uses in either of the two languages, contrary to the expectations that other studies of L2 acquisition of Spanish and Catalan have set forth.

The last noticeable difference between the two sets of languages that may contribute to an explanation of the functional acquisition problems is the two different ways in which tense can be located in time. One possibility is to include the present moment as the deictic center (the Past, Present and Future tenses all have ties to the present as the deictic center), referred to as *absolute tense*. The other way is to locate the deictic center at some point in time given by the context of the situation, a concept known in the literature as *relative tense*. According to Comrie (1976), one of the differences between the two sets of languages in the study (Catalan and Spanish vis-à-vis Moroccan Arabic and Tamazight) lies precisely in the difference between absolute and relative tenses. Comrie claims that the tenses under investigation (Imperfect, Preterite, and Present Perfect) behave mostly as absolute tenses in the Romance languages, but they are used generally as relative tenses in Arabic (and Tamazight). This might explain why our

informants have problems differentiating the Preterite and Present Perfect functionally, but not so much the Imperfect versus the other two.

In order to establish which one of the explanations listed above is the one that contributes the most to elucidate the data under investigation, we will first observe which linguistic factors have a significant impact on functional accuracy of the two tenses under scrutiny (Preterite and Present Perfect). The explanations listed in the previous paragraphs, however, cannot be all fully assessed within the limits of this investigation. In other to assess the contribution of each of the above explanations, we would need to conduct another study that could place all the explanations as independent variables in competition in a statistical regression analysis. The data for that possible study, however, should be obtained from speakers with L1s other than Moroccan Arabic or Tamazight (including Latin American speakers of Spanish living in the Barcelona area).

2.4. Linguistic factors that contribute to accurate use

In this section we will explain the results obtained from the analysis performed taking into account the linguistic factors that could provide an explanation of the linguistic behavior of the individuals under investigation.

2.4.1. Factors that contribute to accuracy of morphology

According to our results with respect to the morphology of the Present Perfect in Catalan, both whether the verb is transitive and whether it is uttered in a periphrasis have an effect on accuracy. The logistic regression indicates that the strongest predictor for the accuracy of morphology in the Present Perfect appears to be the transitivity of the verb.

Transitive verbs favor morphological accuracy; intransitive verbs inhibit morphological accuracy. The regression further indicates that the morphology of the Present Perfect is favored by verbs that are uttered in the absence of a periphrasis.

Dickey (2001) claims that, "temporal adverbs, particularly pre-posed ones, have a strong effect on temporal interpretation. They typically establish a reference time for the clause containing them, helping to provide a value for the anaphoric component associated with tense." (p.9). According to Dickey, and because adverbs can function as one of the above-mentioned cues, the presence of adverbs should be one of the variables that may help our informants differentiate between Preterite and Present Perfect contexts. It is not that clear, however, how the presence of adverbs can contribute to morphological accuracy or inaccuracy. But according to the logistic regression performed with the Spanish data, the verbs uttered in a context in which an adverb is absent are more likely to be morphologically accurate. In fact, this finding is the only informative one in this case because, although the frequency of use of the verb in the interview also favors morphological accuracy, it did not prove to be a significant predictor.

In sum, accuracy of morphology of the Present Perfect in Catalan is constrained by the transitivity of the verb and the absence of a periphrastic construction, whereas in Spanish, the Preterite's morphological accuracy is strongly constrained by the absence of adverbs that lead to the Preterite, which indicates that the addition of any element to the linguistic context of the utterance may in itself increase difficulty.

2.4.2. Accuracy of function

The results section provides us with a fine-grained account of the specific linguistic factors that contribute to high functional accuracy levels in each of the verb tenses in the analyses (Preterite and Present Perfect in both Catalan and Spanish).

As we just mentioned, Dickey (2001) claims that adverbs can function as contextual cues, and thus the presence of adverbs should be one of the variables that may help our informants differentiate between Preterite and Present Perfect contexts. Thus, the informants should pay attention to cues such as *last summer* or *this morning*, and other similar prompts used by the interviewer in the story-telling task, in order to elicit either the Preterite or the Present Perfect respectively before choosing the tense to use in their narratives. Along these lines, we find that our informants do pay attention to adverbs that lead to Preterite in Spanish (such as *last summer, last month, yesterday* and so on). The presence of these adverbs increases accuracy in the use of the Spanish Preterite functionally, whereas the absence of these adverbs inhibits functional accuracy in the same tense. Although this seems to be a robust result, it has to be taken with a grain of salt since the number of verbs uttered in the presence of an adverb that led to the Preterite was only 37, as opposed to the 917 verbs without the same type of adverb. If we compare this result with the fact that the non-prompted verbs favor accuracy in the Preterite in the same regression we cannot conclude that these informants are actually paying attention to the contextual cues in all cases.

However, in the Catalan Preterite data, the general absence of adverbs (not necessarily the ones that would lead to the Preterite) favors functional accuracy. That is, the informants do not pay any attention to the contextual clues mentioned above. This

result is somewhat misleading because it tells us that the informants are, on the one hand, not paying attention to the contextual cues that would help them use the Preterite functionally accurately, but on the other hand, the same variable tells us that the informants are in fact paying attention to all the adverbs, and understanding that some of them (the ones leading to Imperfect or Present Perfect) are not giving them the suitable context to use the Preterite. These findings suggest that paying attention to adverbs is highly language specific for these learners.

As for the effect of the regularity of the verb, there is a debate in the literature as to which types of verbs are easier to acquire, regular or irregular. Some of the literature relates this distinction with the marked-unmarked distinction by which irregular verbs (marked ones) would be acquired first because they stand out due to irregular features which make them more salient (Bardovi-Harlig 1999, Wolfram 1985). Perceptual saliency has proven to be a significant factor in the tense marking of irregular verbs in Hungarian and English L2 acquisition by Chinese learners as Bayley & Langman's (2004) study notes. However, irregular verbs add an extra cognitive load which makes them more difficult to use functionally than the regular ones.

Andersen (1978) observes that irregular and regular past tense forms are acquired simultaneously, in an analysis of the use of grammatical morphemes by Spanish-speaking English learners. Stauble (1984) compares Spanish-English and Japanese-English second language acquisition processes and contradicts Andersen's observations with regards to the acquisition of regular versus irregular verbs: it seems that irregular verbs are used more accurately at an earlier stage than regular ones due to the fact that they are more frequently used and they are learned as unanalyzed forms. Other studies such as Dietrich

et al. (1995), Klein (1994), and Salaberry (1999) also support the idea that irregular morphology precedes the regular morphology.

The effect of the regularity of the verb on the functional accuracy of the verbs in the present study seems to reflect to some extent the issues mentioned above. In the present study there are two variables that provide information on the regularity of the verb: expected regularity and actual regularity. The former offers information on the regularity of the verb according to the language norms, and the second takes into account the common changes that the L2 learners make in order to make the verbs more regular (e.g.: for the verb 'poner', the regularized *poni* 'I put' instead of the irregular *puse* 'I put'). The expected regularity does not provide any significant results in this study. But, verbs that are regular (or that are made regular by the informants) favor accuracy in the Preterite and in the Present Perfect in Catalan, whereas in Spanish, irregular verbs and verbs that are made irregular in the Preterite favor accuracy. That could be either due to the fact that the salient morphology of the Preterite in Spanish makes an extra contribution in helping to discern the functional contexts in which the Preterite is used or it could be that they are learned at an earlier developmental stage in Spanish.

In their study of English past tense marking by L2 Chinese speakers, Bayley & Langman (2004) note that frequency is one of the contributing factors to past tense marking. That is, verbs used more frequently are more likely to be marked with past tense morphemes. Likewise, in the present study, the frequency of the verb use in the interview[26] turns out to be a predictor of functional accuracy for the Preterite both in Catalan and in Spanish. However, for the functional accuracy in the Spanish Present Perfect it is precisely the least frequent verbs that contribute to accuracy.

[26] See the Coding Manual in Appendix H for a detailed explanation on how frequency was measured.

Other contextual clues that contribute to functional accuracy, especially in deciding between Present Perfect and Preterite contexts, are the so-called language prompts. The investigator provides a temporal framework to elicit each past tense using, for instance, either *esta mañana* 'this morning' or *el verano pasado* 'last summer' to elicit Present Perfect and Preterite respectively. This is used not only at the beginning of the comic story-telling tasks but also in other instances to give the informants the opportunity to recast their narratives. However, the prompts only favor functional accuracy in the Spanish Present Perfect, whereas they disfavor functional accuracy in the Spanish Preterite.

Summarizing thus far, functional accuracy in the Catalan Preterite and Present Perfect is favored by regular verbs while, functional accuracy of the Preterite both in Catalan and Spanish is determined by the high frequency of the verb in the interview. In addition, the adverb marking has various functions depending on the tense and the language: it inhibits functional accuracy in the Catalan Preterite, but it favors it in the Catalan Present Perfect and in the Spanish Preterite. Both the principle of natural order and the presence of a prompt inhibit the functional accuracy of the Preterite, whereas the presence of a prompt favors the functional accuracy of the Present Perfect in Spanish.

2.5. The role of the social and linguistic environment

The correlation analyses of verb accuracy data and data collected in the sociolinguistic interview reveal that accuracy in the use of the past tenses in Catalan is not related to the overall use of Catalan in the daily life of the informants (with different interlocutors and in different domains). That is, the informants learn Catalan well enough

in school to perform successfully in a proficiency test, but this does not mean that they use the language outside school with enough intensity to make variability in frequency have an impact on accuracy. This seems to indicate that these children's acquisition of Catalan is partly conditioned by their (previous) degree of use of Spanish (definitely outside school, as the language of socialization in their neighborhoods).

The above-mentioned entails that the real L2 of the informants in this study is Spanish, and that Catalan is an L3 learned at a later age and in a different context. This might explain why factors such as years in the host country, age of arrival, and age of the child explain accuracy in the use of past tense in Spanish, but not in the Catalan data on the same issue. The previously mentioned factors are the ones that usually constrain L2 acquisition, but they are not the factors that account for the Catalan data in the present investigation. This finding suggests that there is a difference in the way in which these informants learn each language; they learn Spanish in an untutored and naturalistic manner, and they learn Catalan through formal instruction. The difference between tutored and untutored language acquisition has been the focus of some studies (Shresta 1998 and Ellis 1994) which conclud that despite the fact that untutored learners reach a higher level of fluency than tutored learners, their oral production is less grammatically accurate than learners who learned through formal instruction. Thus, this could be one of the contributing factors in explaining the behavior of the informants of the present study: Catalan would be the language acquired through formal instruction and thus more grammatically accurate, and Spanish would be acquired in a naturalistic manner and thus grammatically less accurate, comparatively.

Another point should be made in light of this important finding: the status of Spanish as L2 and Catalan as L3 reflects the current sociolinguistic situation in the Barcelona Metropolitan Area to a certain extent. That is, the domains of each language in this area are still highly functionally compartmentalized. Catalan maintains its status as the prestigious language, and the language of education, whereas Spanish continues to be the language of socialization of the majority of the population in urban areas, and, as Pujolar (2001) and Vila (1996) point out, it is still the language youth culture adopts.

2.6. The role of age and proficiency on the mastery of function of the Preterite versus Present Perfect

According to what we saw in the results section, the age of the informants makes the most important contribution to explaining differences in performance between informants, especially in telling apart the functional difference between the Present Perfect and the Preterite. The older age group performs much better than the younger age group in distinguishing functionally between the Preterite and the Present Perfect both in Catalan and in Spanish. Overall, they over-generalize the use of the Present Perfect as the perfective tense in fewer occasions than the younger age group. That age and not age of arrival is a variable that helps explain the different performance behavior across languages has already been pointed out by Fathman (1975). The author found that young learners perform significantly better on phonology, but older learners do better on morphology and grammar. This second finding seems to accord with the results of the present study. In addition, the absence of an effect of age of arrival in the host country on accuracy levels has already been noted by different studies (Steinmüller 1994 and Molina

& Maruny 2004). Steinmüller (1994), for example, investigates the factors that influenced German proficiency in children of Turkish origin in Germany, and showed that age of arrival, among other factors, had no correlation with the proficiency level of his informants. In addition, in their study of the acquisition of Catalan communicative competence by students (ages 8 to 18) of Moroccan origin in Catalonia, Molina & Maruny (2004) point out that the factors that were correlated with overall proficiency and communicative competence were length of stay in the host country and age of the informants (the older they were) among other factors.

The division between higher and lower proficiency level groups explains only a portion of the data in the present study. It seems that in Spanish, regardless of the proficiency level of the informants, the type of error the informants produce is the same. In Catalan, however, it appears that the proficiency level of the informants succeeds in predicting the different performance as far as the difference between Present Perfect and Preterite is concerned. That is, the lower proficiency group does equally poorly in telling that difference apart in Catalan, but the higher proficiency group does much better. Proficiency has been a crucial factor in the overwhelming majority of studies on second language acquisition, especially when trying to divide the informants into different groups in order to provide some evidence for the different stages of the acquisition of certain features (Véronique 1987, Young 1989, and Comajoan 2000).

In sum, the older the informants are, the better they perform in differentiating the crucial point in the acquisition of Spanish and Catalan past tenses. That is, they have fewer problems differentiating the Preterite and the Present Perfect functionally. The level of proficiency in the target languages, however, turned out to explain only the

Catalan portion of the data regarding the functional difference between the Preterite and the Present Perfect.

2.7. Lexical aspect of the verb

The primacy of aspect hypothesis formulated as it is now does not contribute to explain the acquisition process of Spanish and Catalan L2 learners who have an L1 other than English. Most of the studies that test this hypothesis have observed English speakers trying to learn Spanish or Catalan. The problems they face and the different phases they go through when trying to discern the difference between Preterite and Imperfect in these languages can be accounted for with the above-mentioned hypothesis. The difficulties the informants of the present study face, however, are mostly due to the difficulty in telling apart the aspectual difference between Present Perfect and Preterite. The primacy of aspect hypothesis does not contribute to explaining where this problem stems from. This hypothesis should be reformulated in order to be able to account for data obtained from informants with different L1s; otherwise its alleged universality could be questioned.

3. Summary of findings

This section presents a summary of the main findings of this study. In a separate section, conclusions and suggestions for further study are presented. The main findings are the following:

- The dimension that poses the greatest difficulty for Moroccan L2 learners of Catalan and Spanish, when compared to native-speaker controls is, in both languages, the functional one. That is, acquiring the correct functional use of the tenses is more difficult than learning to make the right lexical choices or learning to use the right morphology.
- Within the functional dimension, the most serious acquisitional challenge for our informants is, in both Catalan and Spanish, the use of the Preterite vis-à-vis the Present Perfect.
- Within the morphological dimension, there are two important secondary findings. In Catalan, the morphology of the Present Perfect appears to be slightly more difficult to master than that of the Imperfect. In Spanish, the morphology that poses the most difficulties for the informants is that of the Preterite.
- With regard to the linguistic variables that constrain accuracy of acquisition within the functional dimension, it was found that accuracy in the use of the Catalan Preterite and the Catalan Present Perfect is favored by regularity of the verb. The frequency of the verb in the interview favors accuracy in both the Catalan and the Spanish Preterite.

- Further with regard to linguistic variables that impact the functional dimension, adverb marking has various effects depending on the tense and the language: it inhibits functional accuracy in the Catalan Preterite, but it favors it in the Catalan Present Perfect and in the Spanish Preterite. The presence of prompts favors the functional accuracy of the Present Perfect in Spanish.
- With regard to the linguistic variables that constrain accuracy of acquisition in the morphological dimension, it was found that accuracy of morphology of the Catalan Present Perfect is favored by the transitivity of the verb and the absence of a periphrastic construction, whereas accuracy of morphology of the Spanish Preterite is strongly favored by the absence of adverbs that lead to the Preterite.
- With regard to the socio-demographic variables, the analysis has led to an important discovery. The real L2 of the informants in this study is Spanish; Catalan is an L3 learned at a later age and in a different context.
- Further with regard to socio-demographic variables, the older the informants are, the better they perform in differentiating the Preterite and the Present Perfect functionally. The level of proficiency in the target languages, however, turned out to explain only the Catalan portion of the data regarding the functional difference between the Preterite and the Present Perfect.

4. Conclusions and problems for further research

The results of this study, which are outlined in the summary section right above, reveal certain common patterns vis-à-vis the interlanguage tense and aspect systems of 32 Moroccan Arabic and Tamazight speakers learning Catalan and Spanish in Barcelona. One such pattern is that the functional differences between tenses, in this case between the Preterite and Present Perfect, pose the greatest difficulties in the acquisition of the two target languages. This finding is evidence for the precept that, in the order of acquisition, form precedes function, a key issue in Second Language Acquisition.

In this work, intra-learner variability in the speed and accuracy with which the problematic tenses (Preterite and Present Perfect) are acquired in Catalan and Spanish are shown to be subject to different constraints. This suggests that it is a mistake to treat two different L2 languages as if they were the same simply because they are found in the same territory and are being acquired by the same group of children. The fact that the study focuses on the two languages spoken in the territory where our informants reside is informative with regard to the functions and positions that these two languages possess for the informants. That is, the fact that Catalan and Spanish have different functions in the Barcelona Metropolitan area is reflected in the manner in which the informants acquire each language, and, as a consequence, in the level of proficiency and accuracy that they demonstrate in each one.

In addition, given that both age and proficiency account partially for the difficulties in the acquisition of the functional differences between the Preterite and the Present Perfect in Catalan and Spanish suggests that these factors should have been taken into account when analyzing the purely linguistic data. That is, the informants should

have been divided into lower and higher proficiency groups as well as into two (or more) different age groups in order to conduct the linguistic analyses (correlations and regressions). This would have accounted for internal variability in the speech of individuals in a more useful manner. The fact that in the present study all the purely linguistic data are treated as coming from a homogeneous group of informants may have been an obstacle to unveiling the true linguistic factors that constrain the linguistic data at different stages of acquisition.

With regard to the frequently discussed primacy of aspect hypothesis, the results of the data analyses reveal that the aspect hypothesis as it is now formulated does not constitute a sufficient explanation for the development patterns of L2 Spanish and Catalan among the informants that are in the initial stages of acquisition.

As for possible future research within the same topic of this study, it should incorporate various crucial points. For one, it is essential that the acquisition of the functional differences between the Preterite and the Present Perfect be the main focus of linguistic inquiry. In order to provide an answer to the question of the differences between the scopes of the Preterite versus the Present Perfect, studies on the acquisition of these differences should be carried out in different parts of Spain where different Spanish dialects are spoken. Thus, a similar study conducted among the children of Moroccan origin in Galicia, Madrid, Andalusia, the Canary Islands, and Catalonia simultaneously would allow one to address whether in Galicia, some parts of Andalusia, and the Canary Islands the children of Moroccan origin overuse the Preterite instead of the Present Perfect in order to express past tense by influence of the Spanish spoken in these areas.

Another point to consider for future research would be to include informants from different language backgrounds in the study (for instance, Urdu, Romanian, and Chinese which are only some of the languages that can be found today in the public schools of the Barcelona metropolitan area). A study that could have quite an interesting outcome would be to include children of Latin American origin in a study of either Catalan language acquisition or, alternatively, to observe whether these children's Spanish is different from that of their parents or their peers, and to what extent. The Spanish spoken by children of Latin American origin should in principle have a very stable system in which the functional uses of the Preterite and the Present Perfect are very well delimited. The question that one would have to pose is whether these informants' use of Present Perfect is being influenced by the Spanish Peninsular use.

Last but not least, this study's findings merit consideration vis-à-vis pedagogical practices. One implication, given the results, is that the variable use of the Present Perfect and the Preterite in Barcelona (and Spain at large) should be reflected in the instruction of Spanish as second language. Although Spanish textbooks present the Preterite versus the Present Perfect distinctions in a general manner, more attention could be paid to both the dialectal differences and the situations in which the use of one or the other is clear-cut. Both second language acquisition research and L2 Spanish instruction will undoubtedly benefit from further studies that attempt to provide a theoretical explanation and a pedagogical application of the use of the Preterite and the Present Perfect in Spanish and Catalan.

APPENDICES

Appendix A - List of countries which provide immigrant population to Spanish and Catalonia. Adapted from Institut d'estadística de Catalunya (http://www.idescat.net/)

Table a. List of all the countries which provide immigrant population to Spanish and Catalonia

Catalonia		Spain (including Catalonia)	
Morocco	163,589	Ecuador	479,978
Ecuador	61,814	Morocco	468,797
Colombia	30,593	Romania	308,856
China	26,183	Colombia	268,144
Romania	24,618	UK	215,854
Peru	24,248	Argentina	185,376
Italy	20,687	Germany	123,505
Argentina	18,983	Bolivia	96,367
Pakistan	17,330	Bulgaria	91,265
Dominican Rep.	13,987	Peru	84,884
Gambia	13,235	China	79,856
France	12,389	France	64,431
Bolivia	11,944	Ukraine	63,573
Germany	10,928	Portugal	58,348
Senegal	9,576	Dominican Rep.	55,727
Ukraine	9,428	Brazil	54,898
UK	8,877	Venezuela	49,378
Uruguay	7,278	Uruguay	48,829
Philippines	7,053	Algeria	46,232
India	6,701	Cuba	46,084
Russia	6,340	Italy	45,576
Cuba	6,242	Chile	37,422
Chile	6,088	Russia	36,915
Algeria	5,918	Poland	34,636
Brazil	5,544	Pakistan	31,502
Netherlands	4,705	Netherlands	29,901
Bulgaria	4,603	Senegal	27,880
Portugal	4,552	Nigeria	25,611
Venezuela	3,543	Belgium	24,840
Poland	3,392	Mexico	23,120
Mali	3,362	US	21,354
Belgium	2,757	Philippines	17,778
US	2,554	India	16,609
Nigeria	2,545	Switzerland	14,741
Bangladesh	2,423	Mali	11,794
Mexico	2,370	Gambia	11,601
Ghana	2,306	Ghana	10,165
Guinea	2,265	Mauritania	8,909
Switzerland	2,182	Guinea	7,049
Mauritania	1,640	Japan	4,887
Japan	1,437	Bangladesh	4,583

Table b. American countries which provide the majority of the immigrant population both in Spain and in Catalonia

Catalonia		Spain (including Catalonia)	
Ecuador	61,814	Ecuador	479,978
Colombia	30,593	Colombia	268,144
Peru	24,248	Argentina	185,376
Argentina	18,983	Bolivia	96,367
Dominican Rep.	13,987	Peru	84,884
Bolivia	11,944	Dominican Rep.	55,727
Uruguay	7,278	Brazil	54,898
Cuba	6,242	Venezuela	49,378
Chile	6,088	Uruguay	48,829
Brazil	5,544	Cuba	46,084
Venezuela	3,543	Chile	37,422
US	2,554	Mexico	23,120
Mexico	2,370	US	21,354

Table c. African countries which provide the majority of the immigrant population both in Spain and in Catalonia

Catalonia		Spain (including Catalonia)	
Morocco	163,589	Morocco	468,797
Gambia	13,235	Algeria	46,232
Senegal	9,576	Senegal	27,880
Algeria	5,918	Nigeria	25,611
Mali	3,362	Mali	11,794
Nigeria	2,545	Gambia	11,601
Ghana	2,306	Ghana	10,165
Guinea	2,265	Mauritania	8,909
Mauritania	1,640	Guinea	7,049

Table d. European countries which provide the majority of the immigrant population both in Spain and in Catalonia

Catalonia		Spain (including Catalonia)	
Romania	24,618	Romania	308,856
Italy	20,687	UK	215,854
France	12,389	Germany	123,505
Germany	10,928	Bulgaria	91,265
Ukraine	9,428	Italy	45,576
UK	8,877	France	64,431
Russia	6,340	Ukraine	63,573
Netherlands	4,705	Portugal	58,348
Bulgaria	4,603	Russia	36,915
Portugal	4,552	Poland	34,636
Poland	3,392	Netherlands	29,901
Belgium	2,757	Belgium	24,840
Switzerland	2,182	Switzerland	14,741

Table e. Asian countries which provide the majority of the immigrant population both in Spain and in Catalonia

Catalonia		**Spain (including Catalonia)**	
China	26,183	China	79,856
Pakistan	17,330	Pakistan	31,502
Philippines	7,053	Philippines	17,778
India	6,701	India	16,609
Bangladesh	2,423	Japan	4,887
Japan	1,437	Bangladesh	4,583

Appendix B

Test to differentiate between L1s: Tamazight vs. Moroccan Arabic (obtained from M. Carme Junyent, Linguistics Department, Universitat de Barcelona)

PICTURE 1 hand

TAMAZIGHT : fus (or afus) [plural: ifassen] ARABIC : yedd [plural: yeddin]

PICTURE 2 finger

TAMAZIGHT: dad ARABIC: sbeâ

PICTURE 3 foot

TAMAZIGHT: dar ARABIC: rjel

PICTURE 4 eye

TAMAZIGHT: tet [plural: tittawin] ARABIC: âyin [plural: âynin]

PICTURE 5 tonge

TAMAZIGHT: irs (or ils) ARABIC: lesan

PICTURE 6 the rain

TAMAZIGHT: ànzar ARABIC: xta

PICTURE 7 heart

TAMAZIGHT: ur (or ul) ARABIC: qalb (or qelb)

PICTURE 8 fish

TAMAZIGHT: asrem (aslem) pl: iserman (iselman) ARABIC: hut [plural: hutat]

PICTURE 9 sun

TAMAZIGHT: tfuixt ARABIC: xems (or xemx)

PICTURE 10 number 1

TAMAZIGHT: ij (ijen) [femenin: ijt /ijent/] ARABIC: wahed (or wahid)

PICTURE 11 man

TAMAZIGHT: àryaz (or àrgaz) ARABIC: ràjel

PICTURE 12 woman

TAMAZIGHT: tamghart ARABIC: mra

Appendix C
Elicited oral narrative questionnaire

Catalan Oral narrative. Task 1

Greetings
The interviewer should introduce him/herself quickly and then ask the interviewee how (s)he is.

To elicit Present Perfect and Imperfect: What have you done today in class? Did you like any specific class today? If so: What class? What did you do? Why did you like it?

To elicit Preterite and Imperfect:
What did you do yesterday in school? Did you like any specific class? If so: What class? What did you do? Why did you like it?

When is your birthday? Do you remember how you celebrated your last birthday? What gifts did you get? Did you have a party? Where? Or Where did you go? How was the place? Who was there? Why did you like it?

Who is your best friend in school? What's his/her name? Do you remember when you first met him/her? How was it? Did you ever have a fight with him/her? If so: What happened? Why? If not: Did you ever have a fight with someone else in the class / any of your siblings?

Did your teacher ever punish you? What happened? Do you think it was fair? If not: why? How did you feel about it?

Did you go to a field trip this year? Where? Did you like it? What fun things did you do? What school activities did you like? How was the place you stayed in? How did you go there (train, bus, coach)? How was the trip journey?

Spanish Oral narrative. Task 1

Greetings
The interviewer should introduce him/herself quickly and then ask the interviewee how (s)he is.

To elicit Present Perfect and Imperfect: Do you usually eat in school? Have you eaten there today? If so: What have you eaten? Did you like it? Have you eaten anything this week that you especially liked? If child does not eat in school ask the same questions about his/her mother food.

To elicit Preterite and Imperfect:
Did you celebrate Sant Jordi's[27] day this year? What did you do? Did you buy any roses or books? Did you like that day in school? What did you like the most? What other celebrations did you have this year in school? Which one did you like the most? Why? What did you do that day?

What games do you play in school? What games were you playing last year that you are not playing anymore? Why did you like them before but you don't anymore?

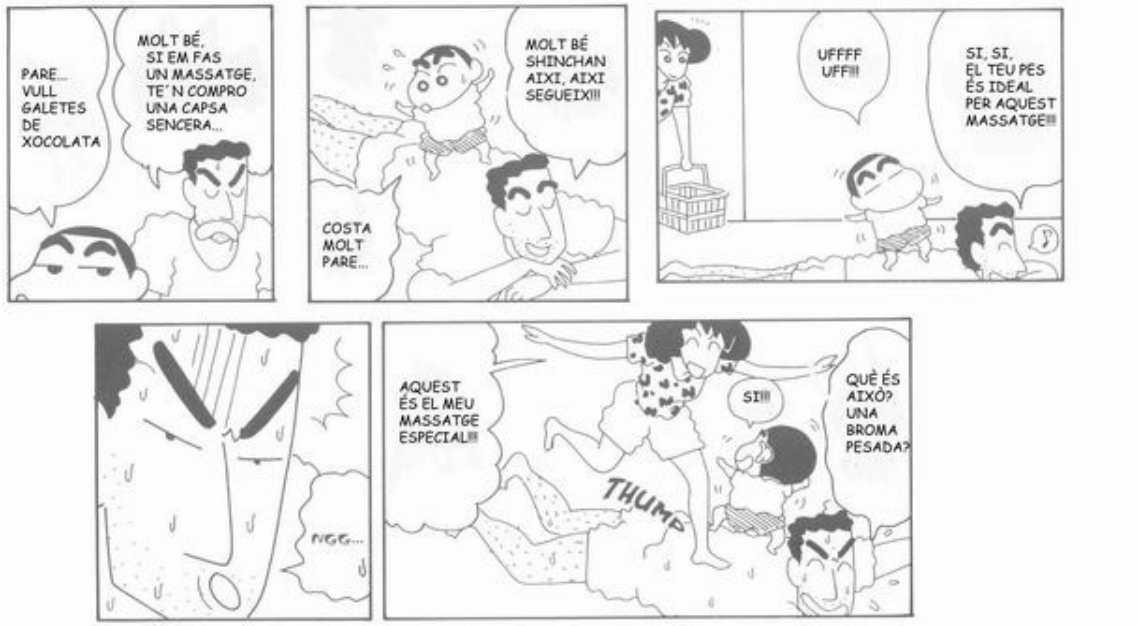
What TV programs do you watch? What TV programs were you watching last year that you don't watch anymore? Why did you like them before but you don't anymore?

What video-games do you play in school? What video-games were you playing last year that you are not playing anymore? Why did you like them before but you don't anymore?

[27] Sant Jordi (Saint George) is a festivity during which children perform several activities related with the myth of Saint George in schools.

Appendix D
Elicited oral narratives – Comic strips (adapted from *Crayon Shinchan*, vol. 1 by Yoshito Usui, Comicsone Corporation, Fremont, CA)

Aquest matí… (This morning)



Aquest matí… (This morning)

Esta mañana… (This morning)

Esta mañana… (This morning)

La setmana passada… (Last week)

Un día caluroso del verano pasado… (A hot day last summer)

Appendix E
Language history questionnaire for the child

Informant Number:

A. General Background

1. Sex of the child

Male _____ Female _____

2. Age _____

3. Age of arrival in Catalonia _____

4. Years spent in Catalonia _____

5. Date of Birth

6. City and Country of Birth

7. How often did you go back to your country since you arrived in Catalonia?

Every summer _____ Every other summer _____ Never _____

Other _____

B. Participants in family life

1. Siblings:

Yes _____ No _____

Number_____ Order of birth of the child___

Name _____ Age _____

Name _____ Age _____

Name _____ Age _____

Name _____ Age _____

2. Does your father live at home?

Yes No

3. Does one of the two grandmothers live at home?

Yes No

4. Number of adults living at home and relationship with the child

_____ _____

_____ _____

_____ _____

_____ _____

C. Language Background

1. First language of the child.
See test to differentiate between L1s

2. How much Moroccan do you use overall in your daily life?

None _____ A little _____ A lot _____

3. How much Spanish do you use overall in your daily life?

None _____ A little _____ A lot _____

4. How much Catalan do you use overall in your daily life?

None _____ A little _____ A lot _____

5. Degree of use of the languages with people in the social network. What language do you speak with the following people:

	Always **Moroccan**	**Moroccan** and **Spanish**	Always **Spanish**	**Moroccan** and **Catalan**	Always **Catalan**
Mother					
Father					
Older siblings					
Younger siblings					
Grandmother					
Grandfather					
Cousins in Catalonia					
Cousins in Morocco					
Best friends in school					
Best friends outside school					

6. Degree of use of the different language in domains. What language do you mostly use when you are…?

	Always **Moroccan**	**Moroccan** and **Spanish**	Always **Spanish**	**Moroccan** and **Catalan**	Always **Catalan**
Home					
School					
Watching TV					
Playing in the school playground					
Playing with your friends outside school					
Reading					
Talking on the phone to Morocco					
Talking on the phone					

7. Other languages

_____ _____

_____ _____

8. Level of proficiency in the first language
See test of proficiency in Moroccan Arabic and Tarifit

D. Childs school context

1. Did you attend school in the country of origin?

Yes No

2. If yes, for how many years did you attend school in the country of origin?

1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___

E. Parent's involvement in the learning process of the child

1. When you come back from school, what do you usually do?

	X	Coments
1. Do homework with your mother		
2. Do homework with (**specify**)		
3. Eat with your mother		
4. Eat with (**specify**)		
5. Play with your mother		
6. Play with (**specify**)		
7. Do housework		
8. Watch TV		
9. Other		

Appendix F

Interview to assess L1 and L2 oral proficiency

Test adapted from *Common European Framework of Reference for Languages* (http://www.culture2.coe.int/portfolio/documents_intro/common_framework.html)

Instructions for administering this test:

- The students do not have to go through all of the questions, the interviewer should ask as many questions as needed in order to check every feature in the check list.
- The interviewer should try as much as possible to make the interview a spontaneous conversation, and not a question-answer type of interview.
- The assessment of the interviewer has to be based on the ability to communicate of the interviewee.
- Do not use academic pretensions or excessive formal language.
- The interview atmosphere has to be relaxed, so that the interviewee feels free to express him/herself.
- The interviewer should explain that (s)he takes notes only to be able to remember the information the interviewee is giving.

SCRIPT

Introduction

Greetings
The interviewer should introduce him/herself quickly and ask the interviewee to introduce himself/herself.
The interviewer gives a short explanation of the purpose of the interview: to group the student with other students in order to do some work in groups in the class.

Personal information

-Where are you living, city, location of the city, reaction of the interviewer "How interesting, I was there the other day, I have a friend who lives there…"
-Do you have a big family? Talk about your family (maybe it is useful to start talking about siblings).

School

-When did you start coming to this school?
-Talk about things you like or don't like in school.
-Compare with another school in Morocco/in another city/or just another school if the child has been in another school.

Other Topics
-When did you start living in your actual house?
-How do you like your neighborhood? Compare with Morocco/another city/another neighborhood.
-Where would you like to live? What city/country would you like to visit? (show pictures of places map of the world)

Check List for the Interview to assess L1 and L2 oral proficiency

Scoring procedure: sum up all the points and obtain a percentage afterwards.

Formal correction	A lot – 0 points	A little - 5 points	None – 10 points	Comments
Agreement errors between the subject and the verb or the adjective and the noun				
Errors in the use of cases: nominative and accusative cases are used randomly				
(S)he uses prepositions inadequately				
(S)he uses the tenses and the verbal markers inadequately				
The word order does not reflect that of native speakers				
(S)he mixes the gender markers in the possessive pronouns				

Pronunciation and intonation	A lot – 0 points	A little - 5 points	None – 10 points	Comments
Pronunciation of words with a non-native accent				
(S)he stops before a word because (S)he is not sure how to pronounce it				
(S)he puts the stress in the right syllable				
The intonation does not resemble that of a native speaker				
Random and incorrect use of short and long vowels				

Knowledge of vocabulary	A lot – 0 points	A little - 5 points	None – 10 points	Comments
Incorporation of words from other languages.				
(S)he stops before a word because (S)he is not sure how one says it.				
(S)he asks the meaning of words in the middle of the conversation				
(S)he uses slang words or very colloquial words				
(S)he does not seem to understand slightly uncommon words				

Adequacy and communication effectiveness	Least of the time – 0 points	Most of the time – 5 points	All the time – 10 points	Comments
The speech is fluent, not too many pauses, it is a dynamic conversation.				
(S)he understands the questions well, and answers without taking too much time.				
The answers are always consistent with the questions or the topic of conversation				
(S)he does not know the basis greeting forms, and (s)he struggles continue the conversation				

Appendix G
Language history questionnaire for the parents
(only one of them will be interviewed)

Informant Number:

A. General Background

1. Sex of the child

Male _____ Female _____

2. Age _____

3. Age of arrival in Catalonia _____

4. Years spent in Catalonia _____

5. Date of Birth of the Child

6. City and Country of Birth of the Child

7. City and Country of Birth of the Mother (or Primary Caretaker)

8. Occupation of the Mother in Morocco

9. Occupation of the Mother in Catalonia

10. How often did you and your child go back to your country since you arrived in Catalonia?

Every summer _____ Every other summer _____ Never _____

Other _____

B. Participants in family life

1. Number and ages of children at home

_____

Name _____ Age _____

Name _____ Age _____

Name _____ Age _____

Name _____ Age _____

2. Birth order of the child

_____

3. Does the child's father live at home?

Yes No

4. City and Country of Birth of the Father

5. Occupation of the Father in Morocco

6. Occupation of the Father in Catalonia

7. Does one of the two grandmothers live at home?

Yes No

8. Number of adults living at home and relationship with the child

_____ _____

_____ _____

_____ _____

_____ _____

C. Language Background

1. Mother's (or Primary Caretaker) First language.
What language do you speak at home?
or
See test to differentiate between L1s

2. Father's first language
What language do you speak at home?
or
See test to differentiate between L1s

3. Other languages spoken in the house.

_____ _____

_____ _____

4. What language do you mostly speak to your child?

Always Moroccan
Moroccan and Spanish
Always Spanish
Moroccan and Catalan
Always Catalan

5. How much Moroccan does your child use overall?

None _____ A little _____ A lot _____

6. How much Spanish does your child use overall?

None _____ A little _____ A lot _____

7. How much Catalan does your child use overall?

None _____ A little _____ A lot _____

8. Does your child speak to you in Moroccan?

Always ____ Often _____ Seldom _____ Never _____

9. Does your child speak to you in Spanish?

Always ____ Often _____ Seldom _____ Never _____

10. Does your child speak to you in Catalan?

Always ____ Often _____ Seldom _____ Never _____

11. Degree of use of the languages with people in the social network. What language does your child speak with the following people:

	Always **Moroccan**	**Moroccan** and **Spanish**	Always **Spanish**	**Moroccan** and **Catalan**	Always **Catalan**
Mother					
Father					
Older siblings					
Younger siblings					
Grandmother					
Grandfather					
Cousins in Catalonia					
Cousins in Morocco					
Best friends in school					
Best friends outside school					

12. Degree of use of the different language in domains. What language does your child mostly use when …?

	Always **Moroccan**	**Moroccan** and **Spanish**	Always **Spanish**	**Moroccan** and **Catalan**	Always **Catalan**
Home					
School					
Watching TV					
Playing in the school playground					
Playing with your friends outside school					
Reading					
Talking on the phone to Morocco					
Talking on the phone					

D. Parent's level of education

1. Mother or Primary Caretaker

Started Elementary School __

Finished Elementary School __

Started High School _____

Finished High School _____

Started College _____

Finished College _____

2. Father

Started Elementary School __

Finished Elementary School __

Started High School _____

Finished High School _____

Started College _____

Finished College _____

E. Childs school context

1. Did the child attend school in the country of origin?

Yes No

2. If yes, for how many years did the child attend school in the country of origin?

1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___

F. Parent's involvement in the learning process of the child

1. When your child comes back from school, what do you usually do?

	X	**Comments**
10. Do homework with your child		
11. My child does homework with (**specify**)		
12. Eat with your child		
13. My child eats with (**specify**)		
14. Play with your child		
15. My child plays with (**specify**)		
16. Do housework		
17. My child does housework with me		
18. Watch TV		
19. Other		

2. Did you speak to the teachers this past term?

None _____ Once _____ 3 times or more ____ 5 times or more _____

3. How many times did you go to the school this past term?

To PTA meetings:

None _____ Once _____ 3 times or more ____ 5 times or more _____

To talk to the teachers:

None _____ Once _____ 3 times or more ____ 5 times or more _____

To other activities organized by the school (**specify**):

None _____ Once _____ 3 times or more ____ 5 times or more _____

4. Does your child attend any after-school Moroccan classes? How many times a week? Where (school, mosque, community association)?

5. Level of school achievement. How did the child do in school by the end of the school year?

Not Good _____ Good _____ Very Good _____

G. Degree of contact with the Moroccan community

1. Do you usually meet people (or women) from your country?

Yes _____ No _____

2. How many times a week?

Once a week ____ Almost every day _____ Seldom _____ Never _____

3. Does the child go with you or without you?

Always ____ Often _____ Seldom _____ Never _____

4. Do you usually go to the mosque (on Friday)?

Yes _____ No _____

5. How many times do you usually go?

Always ____ Often _____ Seldom _____ Never _____

6. Does the child go with you to the mosque?

Always ____ Often _____ Seldom _____ Never _____

Appendix H
Coding Manual

FACTOR GROUPS

COMMON VALUES

In one-column variables:
7 = Cannot decide
8 = Not applicable
9 = Missing data

In two-column variables:
97 = Cannot decide
98 = Not applicable
99 = Missing data

1. ACCURACY OF VERB FUNCTION

0 = inaccurate
I: A ver, cuéntame, adónde fuisteis,
H: **(33) <u>Hemos ido</u>** al cine y eso.. *'We went to the movies and stuff'*

EXPECTED: **Fuimos**

1 = accurate
I: Y desde que te has levantado hasta que has venido a la escuela qué has hecho,
H: **(2) <u>He visto</u>** el Doraimon y.. *'I watched Doraimon'*

2. ACCURACY OF LEXICAL SELECTION

0 = inaccurate
I: Cuando te has llevantado, qué has hecho, *'when you woke up, what did you do?'*
H: Ehh, **(17) <u>he quedado</u>** el pijama, *'I took of my pyjamas'*

EXPECTED: **me he quitado**

1 = accurate
I: Y desde que te has levantado hasta que has venido a la escuela qué has hecho,
H: **(2) <u>He visto</u>** el Doraimon y.. *'I watched Doraimon'*

3. ACCURACY OF MORPHOLOGY

0 = inaccurate
I: I qué has hecho en la clase
F: **(13) <u>He escribido</u>**, y después... *'I wrote, and then...'*

EXPECTED: **He escrito**

1 = accurate
I: Y desde que te has levantado hasta que has venido a la escuela qué has hecho,
H: **(2) <u>He visto</u>** el Doraimon y.. *'I watched Doraimon'*

4. OVERALL ACCURACY

0 = inaccurate

1 = accurate

Overall accuracy is based on the information contained in the three accuracy variables above; the verb had to be accurate in all of the three categories in order be counted as correct under that variable.

5. ACCURACY OF VERB FUNCTION IMPERFECT

0 = inaccurate
Nos ha escrito la María unas cosas en la pizarra y les **(21) tenim que copiar**
'Maria wrote some stuff on the board and we had to write it down'
EXPECTED: **teníamos que copiar**

1 = accurate
G: Después el padre **(7) estaba mirando** la tele y el Sinchan,
'Then the father was watching TV and Sinchan,'

6. ACCURACY OF VERB FUNCTION PRETERITE

0 = inaccurate
N: Esta mañana, la madre del Sinchan tenía mucha colada y no, y no paraba y no paraba y entonces **(10) decidió tomarse** unas vacaciones.
'This morning Sinchan's mother had to do laundry and she didn't stop working, and then she decided to take a rest'
EXPECTED: **ha decidido**

1 = accurate
I: Y qué hizo, *'What did he do?'*
G: **(15) Se quitó** la ropa. *'He took his clothes off'*

7. ACCURACY OF VERB FUNCTION PRESENT PERFECT

0 = inaccurate
I: A ver, cuéntame, adónde fuisteis,
H: **(33) Hemos ido** al cine y eso.. *'We went to the movies and stuff'*
EXPECTED: **Fuimos**

1 = accurate
I: Y desde que te has levantado hasta que has venido a la escuela qué has hecho,
H: **(2) He visto** el Doraimon y..
'I watched Doraimon and'

8. ACTUAL TENSE SELECTION

0 = Imperfect
1 = Preterite
2 = Present Perfect
3 = Pluperfect
4 = Present
5 = Infinitive
6 = Gerund
7 = Conditional
8 = Subjunctive
9 = Past Participle
No missing values

9. ACTUAL NUMBER AND PERSON OF THE VERB

1 = Verb is 1s Person, e.g., *canté*
2 = Verb is 2s Person, e.g., *cantaste*
3 = Verb is 3s Person, e.g., *cantó*
4 = Verb is 1p Person, e.g., *cantamos*
5 = Verb is 2s Person, e.g., *cantásteis*
6 = Verb is 3p Person, e.g., *cantaron*

10. LANGUAGE OF THE UTTERANCE
0 = Spanish
1 = Catalan

11. CONTEXTUALLY REQUIRED TENSE SELECTION

0 = Imperfect
1 = Preterite
2 = Present Perfect

12. CONTEXTUALLY REQUIRED NUMBER AND PERSON OF THE VERB

1 = Verb is 1s Person, e.g., *canté*
2 = Verb is 2s Person, e.g., *cantaste*
3 = Verb is 3s Person, e.g., *cantó*
4 = Verb is 1p Person, e.g., *cantamos*
5 = Verb is 2s Person, e.g., *cantásteis*
6 = Verb is 3p Person, e.g., *cantaron*

13. REGULARITY OF ACTUAL VERB FORM
0 = Regular verb
1 = Irregular verb

This would be coded as *regular* although the context requires it to be irregular:

> I: Y qué hiciste con el diente, *'What did you do with your tooth?'*
> N: Lo pu.. **(23) Lo había ponido** debajo de la almohada. *'I put it under the pillow'*

14 . CONTEXTUALLY REQUIRED REGULARITY OF THE VERB FORM
0 = Regular verb
1 = Irregular verb

This would be coded as contextually required *irregular* although the informant makes it regular:

> I: Y qué hiciste con el diente, *'What did you do with your tooth?'*
> N: Lo pu.. **(23) Lo había ponido** debajo de la almohada. *'I put it under the pillow'*

15. VERB IS IN A COMPLEX VERB PHRASE OR PERIPHRASIS
0 = Verb is not in a Complex Verb Phrase or Periphrasis (estar + gerundio, present perfect, e.g. He ido a trabajar 'I have gone to work', he estado yendo al cine 'I have been going to the movies')

1 = Verb is in a Complex Verb Phrase or Periphrasis (ir a + inf, tener que + inf, e.g. he tenido que ir a casa 'I have had to go home', iba a ir a trabajar pero se puso enfermo 'He was going to go to work but he fell sick')

16. PRESENCE OF ADVERBS
0 = Absence of adverbs
1 = Presence of post-posed adverbs
2 = Presence of pre-posed adverbs

17. PRESENCE OF ADVERBS THAT LEAD TO IMPERFECT
0 = Absence of adverbs
1 = Presence of post-posed adverbs
2 = Presence of pre-posed adverbs

18. PRESENCE OF ADVERBS THAT LEAD TO PRETERITE
0 = Absence of adverbs
1 = Presence of post-posed adverbs
2 = Presence of pre-posed adverbs

19. PRESENCE OF ADVERBS THAT LEAD TO PRESENT PERFECT
0 = Absence of adverbs
1 = Presence of post-posed adverbs
2 = Presence of pre-posed adverbs

20. CLAUSE TYPE
1 = Main Clause – Non-coordinate
2 = Main Clause - Coordinate
3 = Subordinate – Relative Clause – Adjectival, or other.
4 = Subordinate - Argument Clause
5 = Subordinate – (Concessive, Conditional, Causative or Reason, Purposive or Adverbial)

21. LEXICAL ASPECT OF THE VERB
Coded following the diagnostic tests in Hasbún (1995) and Comajoan (2000)
1 = Stative verb
2 = Activity verb
3 = Accomplishment verb
4 = Achievement verb

22. TRANSITIVITY OF THE VERB
0 = Intransitive
1 = Transitive
2 = Ditransitive

23. VERB UTTERED IMMEDIATELY AFTER INTERVIEWER'S PROMPT
0 = Verb not uttered after interviewer's prompt
1 = Verb uttered after interviewer's prompt

24. FREQUENCY OF USE OF VERB FORM IN THE INTERVIEW
Give ratio
After all the ratios are established (number of verbs in the interview divided by the number of occurrences of the target verb), the mean of all ratios is calculated and the verbs that have a ratio above the mean are coded as 1 and the ones that have a ration that is lower than the mean are coded as 0

1 = More frequent
0 = Less frequent

25. PRJNCIPLE OF NATURAL ORDER
0 = The event that the verb describes follows the natural order of events in chronological order
1 = The event that the verb describes does **not** follow the natural order of events in chronological order

26. TYPE OF TASK
0 = Oral Narrative
1 = Oral Narrative Story
2 = Elicited Production Task

27. SEX
1 = Female
2 = Male

28. AGE
Give age in figures

29. AGE OF ARRIVAL

Give age of arrival in figures.
Informants born in the host country are coded as having arrived at age 1.

30. YEARS IN THE HOST COUNTRY

Give years in the host country in figures

31. ELDER SIBLINGS

0 = No elder siblings
1 = 1 elder siblings
2 = 2 elder siblings
3 = 3 elder siblings
4 = 4 elder siblings

32. YOUNGER SIBLINGS

0 = No younger siblings
1 = 1 younger siblings
2 = 2 younger siblings
3 = 3 younger siblings
4 = 4 younger siblings

33. SOCIO-ECONOMIC STATUS OF THE HOUSEHOLD (EDUCATION OF PARENTS + PROFESSION OF BOTH PARENTS COMBINED)

0 = Level A: Informant scored 0-3 points
1 = Level B: Informant scored 4-7 points
2 = Level C: Informant scored 8-11 points
3 = Level D: Informant scored 12-15 points

EDUCATION	**OCCUPATION**
1 point - Attended Elementary school	1 point - Unskilled – Housewife
2 points - Completed Elementary school	2 points - Skilled blue collar, clerical
3 points - Attended Secondary school	3 points - Store owner, manager, white collar
4 points - Completed Secondary school	4 points - Professional, business owner
5 points - Attended College	
6 points - Completed College	

34. FATHER'S LEVEL OF EDUCATION
0 = None
1 = Attended Elementary school
2 = Completed Elementary school
3 = Attended Secondary school
4 = Completed Secondary school
5 = Attended College
6 = Completed College

35. MOTHER'S LEVEL OF EDUCATION
0 = None
1 = Attended Elementary school
2 = Completed Elementary school
3 = Attended Secondary school
4 = Completed Secondary school
5 = Attended College
6 = Completed College

36. PARENT'S INVOLVEMENT WITH THE LEARNING PROCESS OF THE CHILD
0 = None 0 points
1 = Level A: Parents scored up to 1-4 points
2 = Level B: Parents scored 5-8 points
3 = Level C: Parents scored 9-14 points

The parents or caretakers receive a number of points according to their level of involvement in activities related with their child's daily work in school, and school activities in general:
-Doing homework with child = 1 point
-Doing other school related or educational activity (i.e. to go to the library) = 1 point
-Question F2: 0, 1, 2, 3 points
-Question F3: 0, 1, 2, 3 points
0, 1, 2, 3 points
0, 1, 2, 3 points

37. PARENT'S FIRST LANGUAGE
0 = Parents's first language is Arabic
1 = Parents's first language is Tamazight-Tarifit
2 = Parents's first language is Tamazight-Tachelhit
3 = Mother's first language is Arabic, and Father's first language is Tarifit

38. CONTACT WITH THE COUNTRY OF ORIGIN AND THE MOROCCAN COMMUNITY

0 = None: Scored up to 0
1 = A little: Scored up to 1-3 points
2 = Some: Scored up to 4-6
3 = A lot: Scored up to 7-9
The respondents receive a number of points according to their level of involvement in activities related with their relationship with the country of origin and the Moroccan community in Catalonia:
-Time spent in Morocco:
Never = 0 points
Every other summer = 1
Every summer = 2
Other = if it's less than every other summer, 0 points
if it's more than every summer, 3 points
-Question G3:
Never = 0 points
Rarely = 1 point
Often = 2 points
Always = 3 points

-Question G6:
Never = 0 points
Rarely = 1 point
Often = 2 points
Always = 3 points

39. LEVEL OF SCHOOL ACHIEVEMENT
1 = Not good
2 = Good
3 = Very good

40. CHILD'S FIRST LANGUAGE
0 = Child's first language is Arabic
1 = Child's first language is Tamazight-Tarifit
2 = Child's first language is Tamazight-Tachelhit

41. LEVEL OF PROFICIENCY IN THE FIRST LANGUAGE
Give figure

42. LEVEL OF LITERACY IN ARABIC[28]

0 = Child has never attended Arabic literacy classes
1 = Child attended Arabic literacy classes, but does not anymore
2 = Child is currently attending Arabic literacy classes

43. DEGREE OF USE OF SPANISH

Give percentage

-Question C5 and C6: Always Spanish or Catalan and Spanish = 2 points
Moroccan and Spanish = 1 point
Always Moroccan = 0 points

Add up all the points and divide them by the total number of answered boxes (i.e. if child does not have cousins do not count them)

That will give a ratio. Establish the maximum and minimum points child could have got. Divide 100 by the maximum and multiply the result by the original ratio: that's the percentage.

44. DEGREE OF USE OF CATALAN

Give percentage

Catalan and Spanish it is counted as 1 extra point each language each time.

-Question C5 and C6: Always Catalan or Catalan and Spanish = 2 points
Moroccan and Spanish = 1 point
Always Moroccan = 0 points

Sum up all the points and divide them by the total number of answered boxes (i.e. if child does not have cousins do not count them)

That will give a ratio. Establish the maximum and minimum points child could have got. Divide the maximum by 100 and multiply the result by the original ratio: that's the percentage.

45. DEGREE OF USE OF L1

Give percentage

The respondents receive a number of points according to their level of use of L1.

-Question C5 and C6: Always Spanish or Always Catalan = 0 points
Moroccan and Spanish or Moroccan and Catalan = 1 point
Always Moroccan = 2 points

Add up all the points and divide them by the total number of answered boxes (i.e. if child does not have cousins do not count them)

That will give a ratio. Establish the maximum and minimum points child could have got. Divide the maximum by 100 and multiply the result by the original ratio: that's the percentage.

[28] Even Tamazight-speakers consider knowing Arabic being literate, and that was the case in the study, Tamazight alphabet and literacy project is very new, it has only been put forward 2 years ago but only in a few cities in Morocco.

46. LANGUAGE USE WITH MOTHER

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

47. LANGUAGE USE WITH FATHER

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

48. LANGUAGE USE WITH ELDER SIBLINGS

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

49. LANGUAGE USE WITH YOUNGER SIBLINGS

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

50. LANGUAGE USE WITH GRANDMOTHER

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

51. LANGUAGE USE WITH GRANDFATHER

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

52. LANGUAGE USE WITH COUSINS IN CATALONIA

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

53. LANGUAGE USE WITH COUSINS IN MOROCCO

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

54. LANGUAGE USE WITH BEST FRIENDS IN SCHOOL

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

55. LANGUAGE USE WITH BEST FRIENDS OUSIDE SCHOOL

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

56. LANGUAGE USE WITH PEOPLE IN GENERAL
Give ratio
Always Spanish or Always Catalan = 2 points
Moroccan and Spanish or Moroccan and Catalan = 1 point
Always Moroccan = 2 points

Add up all the points and figure out the one that wins. Divide the always Moroccan by the other one and give ratio.
If ratio is below 1 it means that Moroccan looses and Spanish wins. The farther from 1 the more Moroccan, the farther from 1 downwards, the more Spanish

57. LANGUAGE USE AT HOME

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

58. LANGUAGE USE IN SCHOOL

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

59. LANGUAGE USE WATCHING TV

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

60. LANGUAGE USE IN THE SCHOOL'S PLAYGROUND

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

61. LANGUAGE USE OUSIDE SCHOOL

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

62. LANGUAGE USE READING

1 = Moroccan
2 = Both (either Moroccan, Spanish and Catalan)
3 = Spanish and Catalan
4 = Catalan
5 = Spanish
6 = Moroccan and Catalan
7= Moroccan and Spanish

63. LANGUAGE USE BY DOMAINS

Give ratio
Always Spanish or Always Catalan = 2 points
Moroccan and Spanish or Moroccan and Catalan = 1 point
Always Moroccan = 2 points

Sum up all the points and figure out the one that wins. Divide the always Moroccan by the other one and give ratio

64. LEVEL OF PROFICIENCY IN CATALAN

Give figure

65. LEVEL OF PROFICIENCY IN SPANISH

Give figure

Appendix I – Age and Spanish proficiency

Table 1. Age group of the informants and Spanish proficiency mean

Age	Number of informants in each age group	Mean proficiency in Spanish
6	1	.70
7	6	.61
8	5	.72
9	5	.82
10	3	.84
11	8	.77
12	4	.86

Table 2. Age of each informant and Spanish proficiency proportion

Age	Mean proficiency in Spanish
11	.23
8	.35
11	.47
7	.50
7	.50
7	.55
12	.61
7	.64
7	.67
6	.70
9	.73
8	.76
8	.76
9	.79
9	.79
10	.79
9	.82
8	.82
10	.82
11	.82
7	.85
11	.88
10	.91
12	.94
8	.94
11	.94
11	.94
11	.95
12	.95
12	.97
9	.97
11	.98

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