

SYNTACTIC DEVELOPMENT OF THE SPANISH SUBJUNCTIVE IN SECOND
LANGUAGE ACQUISITION: COMPLEMENT SELECTION IN NOMINAL CLAUSES

By

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To Richard, Mom, Dad, Lisa, Michelle, Michael, and Sonya

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LIST OF TERMS

1. COMPLEMENTIZER: *que* ‘that’
2. CP: Complementizer Phrase (i.e., *que comas* ‘that you/he/she eat’)
3. DEONTIC MODALITY: utterances that connote influence, desire, obligation, indirect commands (i.e., *desear* ‘to desire’, *obligar* ‘to obligate’, *querer* ‘to want’, *recomendar* ‘to recommend’)
4. EPISTEMIC MODALITY: utterances that connote varied degrees of truth value and/or levels of reality (i.e., *creer* ‘to believe’, *pensar* ‘to think’, *dudar* ‘to doubt’, *imaginarse* ‘to imagine’, etc.)
5. FAILED FUNCTIONAL FEATURES HYPOTHESIS (FFH): learners are unable to acquire functional features in L2
6. FUNCTIONAL CATEGORIES (FC): categories such as DP, IP, and CP which are responsible for the morphological feature checking of lexical items (V, N, Adj, Adv, P) to ensure accurate structure building in a given language
7. INTERLANGUAGE (IL): learners’ developing language system
8. IP: INFINITIVAL PHRASE (i.e., *comer* ‘to eat’)
9. IRREALIS MODALITY: difference between factual and non-factual information
10. L2MAC (L2 mood and conjugation abilities task): task used to collect modal identification and conjugation data from learners to measure learners’ ability in these areas
11. LEXICON: a list of words in a given language and their idiosyncratic linguistic properties
12. LINEAR MIXED MODEL: used to capture possible correlation in the responses of each participant
13. LS MEANS: a term used in statistics that refers to the statistical procedure necessary for computing the mean of the average in an unbalanced group
14. MAGNITUDE ESTIMATION (ME): a procedure originally used in psychophysics to measure perception using visual stimuli
15. MARKEDNESS THEORY: a feature that separates less complex and more complex linguistic features in languages (i.e., subjunctive = complex, indicative/infinitive = less complex)
16. MARKEDNESS DIFFERENTIAL HYPOTHESIS: unmarked features in L1 are more likely to transfer to L2 (i.e., indicative and infinitival verb forms)

17. **MINIMALIST PROGRAM:** the framework that comes after Principles and Parameters that adds distinctions between lexical and functional category development and places greater emphasis on the acquisition of feature specification as part of lexical knowledge
18. **MODALITY:** acutely describes the intent of the speaker and her level of commitment to what is being uttered
19. **MOOD:** grammatical category that requires morphological and syntactic agreement (i.e., CP + indicative/subjunctive morphology) that correspond to the intent of the speaker
20. **MISSING SURFACE INFLECTION HYPOTHESIS:** learners have access to functional categories in second language acquisition even though such categories are not always present in L2 production
21. **PRINCIPLES AND PARAMETERS:** the internally focused linguistic framework that that revised specifications of what constitutes innate capacity to include more abstract notions of general principles and constraints common to human language as part of a Universal Grammar
22. s1: subject of principle clause
23. s2: subject of subordinate clause
24. **SUBJUNCTIVE:** a grammatical category that must be represented morphologically and syntactically indicating desire, influence, obligation, possibility, and low levels of certainty
25. **UNIVERSAL GRAMMAR:** innate linguistic knowledge that is suggested to consist of principles and parameters common to all human languages
26. v1: matrix verb found in principle clause of a complex syntactic structure (S1, V1 + S2, V2)
27. v2: subordinate verb found in the second clause of complex syntactic structure (S1, V1 + S2, V2)
28. **X-BAR THEORY:** shows hierarchical structures that all human languages adhere to.

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If you ask students taking Spanish as a foreign language which grammar point they find most challenging, many of them will probably say the subjunctive. This may be because the more common use of the subjunctive in English is captured by non-subjunctive structures like infinitival or null CP [+indicative] structures. From a generative perspective, the present study investigates second language (L2) syntactic and semantic development of the Spanish subjunctive at the University level. The results of the study reveal that learners at all levels of instruction continued to transfer first language (L1) syntactic rules of English irrealis to L2 structures during acquisition.

For this study, a total of 160 English-speaking learners studying Spanish as a second language were recruited. Magnitude Estimation (ME) was used to gauge learners' syntactic intuitions about the Spanish subjunctive by requiring them to analyze a series of structures in L2. We found that in their judgment of the sentences, learners transferred the [+ optional] overt CP rule in English to Spanish. In addition to these syntactic analyses, we used a guided production task which measured learners' semantic performance as well. The data showed that learners were less successful at identifying epistemic modality (+/- reality, existence, etc.) in nominal clauses,

as sentences using deontic modality (+/- obligation, desire, influence, etc.) received substantially higher scores.

The data were also analyzed in terms of learnability and second language grammatical capabilities as well as in terms of implications for the L2 classroom. The pedagogical implications of this study include the need to capitalize on learners' ability to access functional categories in nominal clauses and make the [-optional] overt CP rule in Spanish more salient to learners.

CHAPTER 1

THE SPANISH SUBJUNCTIVE

1.1 Introduction

The Spanish subjunctive is one of the most, if not the most, difficult grammar points for English speaking learners of Spanish as a second language to conquer (Collentine 1997, 1998; DiFranco 2005; Farelly 2004; Gumestad 2006; Jelsinki 1977; Lubbers-Quesada 1996, 1998; Terrell & Hooper 1974; and Terrell, Baycroft and Perrone 1987). This is due most likely to the fact that: (1) the Spanish subjunctive requires understanding the concept of mood; (2) the concept of mood is not clear to learners in their first language because authentic subjunctive structures are evasive in English and are not frequently used in colloquial speech as in Spanish; and finally (3) most English speakers capture subjunctive meaning through non-subjunctive sentence structures that include indicative morphology in complement clauses (CPs), infinitival clauses, and gerunds. This project addresses these issues and applies them to the acquisition of the Spanish subjunctive illustrating the complicated process that L2 learners of Spanish must face when learning this difficult grammar point. This chapter presents various theoretical definitions of, and explanations for, the Spanish subjunctive including relevant terminology pertaining to modal dichotomies such as epistemic versus deontic. It also offers a detailed discussion about how the syntactic structure of the Spanish subjunctive works in nominal clauses and finally, compares the Spanish subjunctive to equivalent irrealis forms found in English.

1.2 Modal and Syntactic Explanations of the Spanish Subjunctive

In this section, we discuss theoretical terminology and prior research conducted on the Spanish subjunctive in order to provide the reader with the information needed to better comprehend both the purpose and findings of this study. To begin, we show that many researchers have taken on the monolithic topic of the Spanish subjunctive and that the majority

of these researchers have referred to the subjunctive as mood (Blake 1983, 1985; Collentine 1995, 2003; Givón 1994; Lubbers-Quesada 1996, 1998; Faingold 1998, 2000; *inter alia*).

Understanding the term mood is fundamental for comprehensive subjunctive analysis. It is defined in this study as a grammatical category that is represented morphosyntactically and used to indicate desire, influence, obligation, possibility, probability and certainty. Within this grammatical category of mood, however, exists a semantic subcategory that more accurately identifies the illocutionary point, or rather the attitude of the speaker, known as modality.

Modality acutely describes the intent of the speaker and her level of commitment to what is being uttered. Perhaps this is why many researchers have chosen to study the subjunctive (Borganovo and Prevost 2003; Givón 1994; Lazano 1995; and Pérez-Leroux 1998) by evaluating it in terms of opposition between epistemic (i.e., degree of truth, level of reality) and deontic (i.e., influence, desire, indirect imperative, etc.) modalities. The terms epistemic and deontic modality create an umbrella under which all other dichotomies may be categorized. For example, the distinction between assertion vs. non-assertion (Terrell and Hooper 1974; Goldin 1974; Majias-Vicandi 1994) dubitative vs. optative/jussive (Foster 1982; Struderus 1995), and experience vs. non-experience all fall under epistemic modality (i.e., possibility, probability). Other connotations such as desire, influence, and obligation pertain to the category of deontic modality. These numerous and varied dichotomous relationships show that (1) the subjunctive is part of a contrastive system that cannot exist independently of the indicative mood; and (2) epistemic and deontic modalities are innate, modal properties that belong to specific lexemes. In the following paragraphs, we present a detailed analysis of the indicative/subjunctive modal contrast. We begin by stating that the indicative is used primarily in affirmations to indicate high-certainty truth value or transmit information while the subjunctive is used to connote

influence, desire, and possibility. The indicative/subjunctive contrast is necessarily broken down further into separate subcategories known as deontic and epistemic modalities under which, as mentioned previously, all other dichotomous relationships are categorized.

1.2.1 Evolution of Deontic Modality

The following paragraphs look firstly at how the indicative mood, in its most basic syntactic and pragmatic form, can evolve into complex sentence structures of deontic modality. We begin with simple indicative clauses in sentences (1) and (2) and finish the analysis with compound structures using subjunctive verb conjugations in subordinate clauses in examples (5) and (6). The following sentences are examples of how the indicative mood is used in simple syntactic structures to transmit information (i.e., devoid of subjectivity)

1. *Maya habla con su profesor.*
Maya speaks-3p-sing. with her professor.
'Maya speaks with her professor'.
2. *Maya vive en España.*
Maya vive-3p-sing.in Spain.
'Maya lives in Spain'.

Examples (1) and (2) are strictly factual, information-driven sentences. They are merely transmitting information from one interlocutor to another. In sentences (3) and (4) below, however, the reader is exposed to more pragmatically complex structures that connote desire. These structures can be analyzed as belonging to the grammatical, morphosyntactic category [+ indicative] and the semantic subcategory [+ deontic]. Sentences (3) and (4) do not require subjunctive morphology because there is only one subject found in each sentence. The lexemes *quiere* ('wants' 3S) and *prefiere* ('prefers' 3S) do, however, possess deontic modality.

3. *Maya quiere hablar con su profesor.*
Maya wants-3p-sing.to-speak with her professor.
'Maya wants to speak to her professor'.

4. *Maya prefiere vivir en España.*
 Maya prefers-3p-sing. to-live in Spain.
 ‘Maya prefers to live in Spain’.

In opposition to examples (1) and (2), examples (3) and (4) show that the interlocutors are no longer simply engaged in an informative conversation but are actually connoting the subject’s desire by using verbs such as *quiere* (‘want’) and *prefiere* (‘prefer’). In examples (5) and (6) below, the matrix verb of the main clause selects a subordinate, complementizer phrase (CP) as the direct object rather than an infinitival phrase (IP) as seen in structures (3) and (4). In the following examples, we see that each sentence contains a more complex syntactic structure containing two subjects: (S1) and (S2). Each of these examples also possesses the grammatical mood [+ subjunctive] and semantic modality [+ deontic].

5. *Maya quiere que pro hable con su profesor.*
 Maya want-3p-sing. [that she speak-3p-sing.-subj. with her professor.]
 ‘Maya wants me to speak with her professor’.
6. *Maya prefiere que su familia viva en España.*
 Maya prefers-3p-sing. [that her family live-3p-sing.-subj. in Spain.]
 ‘Maya prefers that her family live in Spain’.

In these examples, the complexity of (5) and (6) is not only reflected in the pragmatic and syntactic construction of the sentence, but in the morphology of the subordinate verb as well. In sentence (5) the verb *hable* (‘I speak’), where *hable* cannot refer to S1, is conjugated in the subjunctive to reflect the influential relationship of S1 over S2. In sentence (6), the verb *viva* (‘to live’) is conjugated in the subjunctive to reflect the influence of S1 over S2. In both (5) and (6), the use of the subjunctive in the subordinate clause is a reflection of S1 influence. Therefore, in order to briefly summarize the examples analyzed in this section and the nature of deontic modality, we suggest that deontic modality, as manifested within the subjunctive mood, follows three essential rules: (1) there are always two subjects which belong to a complex sentence

structure separated by the complementizer *que* ('that'); (2) S1 belongs to the matrix clause while S2 belongs to the subordinate clause; and (3) the matrix verb (V1) appears in the indicative while the subordinate verb (V2) appears in the subjunctive. In this next section we discuss epistemic modality. Our goal in the following section is to demonstrate why epistemic modality, as part of the dichotomous semantic system, is more complex than deontic modality as a result of its reliance on interlocutor interpretation and expression.

1.2.2 Ambiguity in Epistemic Modality

Epistemic modality is difficult to analyze because verbs used in these contexts are subjected to pragmatic and morphosyntactic changes that reflect varying levels of truth value as perceived (and manipulated) by the speaker. In other words, when truth value is high, the speaker uses the indicative mood in the subordinate clause to illustrate that she believes the information to be true; if the speaker employs the subjunctive in the second clause, she is suggesting that she is uncertain or doubtful about the information being transmitted. To complicate matters even further, lexical selection also becomes a factor when verbs like *dudar* ('to doubt') and *negar* ('to negate') are introduced alongside verbs such as *creer* ('to believe') and *pensar* ('to think'). Once the negative lexical item *no* is included for example, epistemic modality can become seemingly unstructured. Therefore, verbs like *dudar* select the subjunctive in the subordinate clause when used without *no*. When such verbs are used with *no*, though, the indicative is required. The verbs *creer* and *pensar* work in the opposite way: when used without the negative lexeme *no*, they select the indicative in the subordinate clause, and when they appear after *no*, the subordinate clause requires the subjunctive. To better illustrate these nuances, we provide the following table 1-1.

As seen in these examples (7a – 10b) there are minor, yet important, morphosyntactic changes that correspond to the lexical selection of the principle verb. In (7a) for example, the

verb *duda* ('he/she doubts') requires a CP complement whose verb must be conjugated in the subjunctive. Examples (10a) and (10b) work exactly the opposite of the verb *dudar*. The subjunctive is used when the negative lexical item *no* is inserted into the syntax before the verb. In (10a), the verb *pensar* ('to think') selects a CP clause in which the verb appears in the indicative *habla* ('he/she speaks'). Example (10b), however, shows that the implementation of *no* requires the verb of the subordinate clause to appear in subjunctive *hable* ('he/she speak').

Table 1-1. Idiosyncratic behavior of epistemic verbs in Spanish subjunctive modality

Use of indicative	Use of subjunctive
(7a) <i>Juan no duda que Martín habla inglés.</i> 'John does not doubt (is positive) that Martin Speaks English'.	(7b) <i>Juan duda que Martín hable inglés.</i> 'John doubts that Martin Speaks English'.
(8a) <i>Juan no niega que Juan habla inglés.</i> 'John does not negate that (agrees that) John speaks English'.	(8b) <i>Juan niega que Martín hable inglés.</i> 'John negates (does not agree) that Martin speaks English'.
(9a) <i>Juan cree que Martín habla inglés.</i> 'John believes that Martin speaks English'.	(9b) <i>Juan no cree que Martín hable inglés.</i> 'John does not believe that Martin speaks English'.
(10a) <i>Juan piensa que Martín habla inglés.</i> 'John thinks that Martin speaks English'.	(10b) <i>Juan no piensa que Martín hable inglés.</i> 'John does not think that Martin speaks English'.

Under the umbrella of epistemic modality, examples (7a) – (10b) can be split further into two distinct subcategories: assertable and non-assertable information. According to Lunn (1992) “potentially assertable information must have two qualities: in the speaker’s opinion, it must be both reliable as to truth value and informative as to new value. Information that is believed to be flawed in truth value or flawed in new value is unlikely to be asserted” (430). In addition, if the interlocutors have no prior knowledge of the information being transmitted, they have had no time to form an opinion. Consequently, what is being transmitted is strictly information (i.e., use of indicative). Once the interlocutors have had the information for any amount of time though,

subjective opinions may form allowing the subjunctive to be used as a rhetorical mechanism to discuss information rather than simply state it in an objective and informative manner.

After having analyzed all of the examples in section 1.2, several broad generalizations can be made about the Spanish language: (1) mood is a grammatical category with morphosyntactic representation under which the semantic subcategories deontic and epistemic are accessed; (2) deontic and epistemic modalities are able to accommodate all other dichotomous analyses within the indicative/subjunctive, grammatical mood distinction; (3) lexical properties of V1 determine complement selection; (4) nominal clauses of low epistemic and deontic modality always select a CP complement with a V2 subjunctive; (5) subordinate clauses of deontic modality in Spanish are not affected by the insertion (or lack thereof) of the negative lexical item *no* because the nature of deontic modality always semantically, morphologically, pragmatically, and syntactically requires subjunctive. With the above generalizations that we have made regarding the Spanish subjunctive grammatical mood system and its modal subcategories, we are better equipped to apply these observations to the syntactic environment of nominal clauses.

1.2.3 Deontic and Epistemic Modality in Nominal Clauses

It is nearly impossible to discuss the Spanish subjunctive without incorporating some discussion of the syntactic structures that are used with it. Much of the research devoted to the syntactic structure of the Spanish subjunctive is organized in terms of clausal structures, including complement (also known as nominal), adverbial, and relative (Collentine 1995, 1998, 2003; Lubbers-Quesada 1998) clauses. This study focuses on the complexity of nominal subjunctive structures, given their ability to accommodate both deontic and epistemic modalities in subordinate clauses.

The structure of the Spanish subjunctive in nominal clauses involves a complex syntactic structure that must include both a principle and subordinate clause. The subordinate clause (also

known as a complement phrase or CP) acts as the direct object of the matrix, or principle, verb as demonstrated in the following example:

11. *Elena quiere que Sofía estudie lingüística.*
Elena want-3p-sing. [that Sophia study-3p-sing.-subj. linguistics]
'Elena wants Sophia to study Linguistics'.

Sentence (11) clearly shows that the subordinate clause of the example in Spanish, beginning with the complementizer *que* ('that'), occupies the space of the direct object of the main verb. While the joining of two clauses may not seem very complex, the process is syntactically more intricate than it appears. Once the learner has structured the sentences, she must now pay attention to the morphosyntactic requirements of the subjunctive. In other words, the morphology of the conjugated verbs found in the principle and subordinate clauses must reflect the desires or actions of the parties involved. For example, the verb *querer* ('to want') in the main clause must appear in the indicative *quiere* reflecting that Elena wants something (V1 = fact/indicative). In the subordinate clause, the verb *estudiar* ('to study') must be conjugated in the subjunctive *estudie*, reflecting the influential and hypothetical nature of the complement phrase (V2 = hypothetical/subjunctive). Other examples of deontic modality found in nominal clauses emerge when the matrix clause uses verbs such as *sugerir* ('to suggest'), *recomendar* ('to recommend'), *aconsejar* ('to advise'), *desear* ('to desire'), *rogar* ('to beg'), and *requerer* ('to require'), for example. Complications generally surface, however, when the learner is confronted with epistemic verbs such as *pensar* ('to think'), *creer* ('to believe'), *dudar* ('to doubt'), *negar* ('to negate'), *suponer* ('to suppose'), or *ver* ('to see'). Even more confusing are verbs like *suponer* that are allowed to employ either mood in the subordinate clause. Take the following sentences for example:

12. *Alejandro supone que Marta toma clases en la Universidad.*
Alejandro supposes-3p-sing. [that Martha takes-3p-sing.-subj.classes at the university.]
'Alexander supposes that Martha takes classes at the university'.

In sentence (12), one can see that according to the speaker, Alexander highly suspects that Martha is taking classes at the university. However, the speaker may construct the same sentence using the subjunctive in the subordinate clause as demonstrated by the following example.

13. *Alejandro supone que Marta tome clases en la Universidad.*
Alejandro supposes-3p-sing. [that Martha takes-3p-sing.-subj.classes at the university.]
'Alexander supposes that Marta takes classes in the university'.

In this case, the subjunctive is used to imply that it is very unlikely that Martha is taking classes at the university at this time (i.e., low truth value, low epistemic levels). For learners of Spanish as a foreign language, distinguishing between epistemic and deontic modality within the grammatical category of the subjunctive mood is challenging. Not only is this true because of the complexity of the structure itself, but because mood distinction is not regularly discussed in English. In order to better understand the depth of this problem, it is necessary to analyze the Spanish subjunctive alongside the English subjunctive and other irrealis structures. In doing so, we need to pay particular attention to the more common English equivalents to the Spanish subjunctive including infinitival structures and indicative morphology in CP clauses. In the next section, we discuss the term irrealis in greater detail and demonstrate its importance in analyzing English examples in this study. We also provide examples of equivalent English and Spanish structures that better illustrate the modal-syntactic differences that exist between these two languages.

1.3 English Irrealis

One of the most common problems for English-speaking learners of Spanish is understanding what its equivalent structures are in English. This occurs because in English the

notion of irrealis modality is captured in a variety of different structures. In this project, we define irrealis as the difference between factual and non-factual information. This definition is therefore much less restrictive than the grammatical term mood, as used in Spanish.

Syntactically, the term irrealis is more flexible than the term mood because it can accommodate infinitival, gerund, and subordinate clause analyses. Semantically, the term irrealis is able to account for both epistemic and deontic speaker attitudes.

The first example provided in this section is sentence (14) below. As mentioned previously, even though the authentic subjunctive mood in English is mostly obsolete, a few structures do remain. In fact, an authentic English subjunctive structure follows the same syntactic pattern as Spanish, though sentences with this structure tend to sound overly formal in Modern English. Take the following example.

14. *It is necessary that John arrive tomorrow.*

While the sentence in (14) is grammatically correct, it sounds artificial in casual speech. The more frequent ways of transmitting the same message in colloquial English are given in (15):

15. (a) *I need John to arrive tomorrow*
(b) *John needs to arrive tomorrow.*

In both (15a) and (15b), the notions of S1 influence and desire are implied and represent more common uses of English irrealis at present. Unlike Modern English, Old and Middle English used the subjunctive with much greater frequency. Over time, however, these subjunctive structures have been replaced with other forms such as infinitives and indicatives, for example. This is not true for Spanish. In Spanish, the subjunctive is used regularly in colloquial speech so that sentences such as *Quiero que vengas a mi casa* ('I want you to come to my house') and *No creo que sea así* ('I don't believe that it is so') are quite common in everyday

conversation. Consequently, L2 learners of Spanish, more familiar with English irrealis syntax, often try to either reduce complex sentences in Spanish to fit simpler English templates or use potentially null CPs with the indicative mood; a topic which is discussed in greater detail in latter sections of this chapter.

The following examples of deontic modality further illustrate the complexities of the English irrealis system. The verb *prefer* in sentence (17) for example, exemplifies the authentic subjunctive in terms of syntactic environment. The verbs *hope* and *want* in sentences (16) and (18) however, use non-subjunctive morphology, which as we stated earlier, falls under the notion of irrealis modality. The English verb *hope*, like its Spanish equivalent *espera*, selects a CP complement. In English, however, the subordinate verb emerges in the indicative; unlike its Spanish counterpart.

16. (a) *I hope that he is going to the party.*
(b) *I hope that he goes to the party.*
(c) **I hope that he go to the party.*

The verb *prefer* in English also selects a CP complement but always requires the use of the subjunctive as shown in example (17).

17. (a) *They prefer that he go to work.*
(b) **They prefer that he goes to work.*

The verb *want* in English selects an IP complement. The use of any finite verb in this context would be incorrect.

18. (a) *I want him to go to the store.*
(b) **I want that he go/goes to the store.*

The above analysis illustrates the syntactic complexity of irrealis modality in English and the intricate differences that exist between the structures. It also shows the optionality of *that* in English shedding light on the lack of shared systematic behaviors between many of these verbs

making it difficult to observe clear patterns. Based on the information presented here, it is fair to suggest that ambiguous differences that exist between the Spanish subjunctive mood and the English irrealis system are a combination of morphosyntactic and semantic features. Therefore, we provide a more in depth analysis of these distinctions to more clearly illustrate the idiosyncratic syntactic and semantic behaviors of these two languages. Moreover, for this analysis, it is paramount that the reader understand how such behaviors work as part of an intricate modal system which is, above all, driven by speaker attitude. As a result, in order to analyze these behaviors, we adopt the ideas of Generative Grammar (GG). GG is applicable to all languages allowing linguists not only to make generalizations about properties shared by all human languages, but also to observe their distinct and individual patterns. The following section provides information regarding GG and more specifically, Principles and Parameters framework (P&P), which taken together, provide theoretical explanations of the semantic and syntactic differences that exist between the English irrealis system and Spanish subjunctive mood.

1.4 Generative Grammar

In the present study, we use a generative approach originally proposed by Chomsky in the late 1950s. Using a generative approach to grammar analysis, we attempt to identify a finite number of explicit rules that will help us to predict and explain interlanguage grammars during L2 subjunctive development in Spanish. A core principle of Generative Grammar (GG) is that all sentences have structure. The Structure Dependency Principle (Cook 1988, p.6) indicates that “operations on sentences such as movement require a knowledge of the structural relationships of the words rather than their linear sequence.” Syntactic structures will be important in what follows because, by proposing interlanguage (IL) structures, we can gain insight into learners’ errors and provide theoretical explanations as to why such errors occur. In this project, concepts

of the GG approach are used to help us explain data collected by second language learners of Spanish. In the following section, we develop concepts with the Principles and Parameters (P&P) framework of GG that will be important for the remainder of the work.

1.4.1. Principles and Parameters

Structural similarities and differences across languages are accounted for by a set of principles and parameters. Principles are invariant conditions that hold for all languages. Even though every language obeys these principles, all languages are not the same because there are parameters within the system and different languages can set these parameters differently. In other words, parameters are the language-specific options that result in cross-linguistic variation. One such parameter is the Head Parameter which determines the position of endocentric phrasal heads with respect to their complements. Languages can set this parameter differently. English places heads on the left as in *drive a car*, where *drive*, the head of the VP, appears on the left. Like English, Spanish is also a head-initial language. Languages like Japanese are head-final or right headed and the head follows its complement.

English and Spanish differ in another way, however. In Spanish, verb phrases such as *conduce un coche* ('drive a car') do not require an overt subject and can function as a complete declarative sentence on their own. In English, the VP *drive a car* must have an overt subject as in *I drive a car* or *Jon drives a car*. The difference is a result of the Pro-Drop or Null Subject Parameter which allows the subject of a sentence to be a null pronoun, called *pro*.

Despite this difference in allowing or not allowing a null pronominal subject, both languages adhere to the Extended Projection Principle (EPP) which states that clauses must have subjects. In Spanish, *pro* can serve this function. Take the sentence *Come pizza* ('She eats pizza') for example. This sentence is grammatical in Spanish. However, the subject is not overt and must therefore be *pro* in order for the EPP to be satisfied: *pro come pizza*. In English, in contrast, the

Pro-Drop Parameter is set negatively and *pro* cannot be used to satisfy the EPP. Thus **Eats pizza* is ungrammatical; an overt subject, is required.

The EPP is an extension of the Projection Principle, which says that lexical characteristics of individual words must be uniformly satisfied throughout the syntax. In the English sentence *She rides bicycles* for example, the verb *rides* is transitive in that it must be followed by a direct object noun phrase (NP). The lexical entry for the verb *rides* in this case would be *rides* [__NP] demonstrating that the lexical properties of this particular verb syntactically require that it have a direct object NP following it. In the sentence *Marcos quiere que Noelia vaya a la fiesta* ('Mark wants Noel to go to the party') for example, the grammar requires that *quiere* ('he/she wants') select a complementizer phrase (CP) as the direct object. Within the subordinate clause, the verb must occur in the subjunctive as seen in *vaya* ('go'). In modern American English, one translation of this sentence is 'Mark wants Noel to go to the party' in which the verb *wants* selects an infinitive. The traditional analysis with GG is that this infinitive is an inflectional phrase (IP) rather than a CP as in Spanish.

Both *want* and *quiere* are verbs of deontic modality as discussed previously. The difference is that distinct clausal complement types are chosen as the direct object of the matrix verb in each language. In other words, the syntactic behavior of *quiere* and *want* shows that each lexeme occurs in a distinct syntactic environment. With this example, we have illustrated the critical role of the lexicon in syntax. In the following paragraphs, we suggest that the underlying difficulty in L2 acquisition stems from a combination of semantic and unsystematic syntactic differences that exist between English and Spanish. In order to formalize these differences, we use subcategorization frames in lexical entries. Before proceeding, however, we discuss the contents of a lexical entry.

According to Cowper (1992), a lexical entry contains four components: (1) phonological information (speaker must know how to pronounce the word in question); (2) morphological information (speaker must know the correct form of the verb); (3) semantic information (speaker needs to know what the word means); and finally (4) syntactic information (speaker needs to know how to construct the predicate). In compliance with these 4 essential steps, we use the following subcategorization frames to show how English irrealis and Spanish subjunctive structures compare and contrast both semantically and syntactically. The Spanish verbs *esperar*, *querer*, and *preferir* are compared to their English counterparts *hope*, *want*, and *prefer*. We chose to analyze these verbs because they are common in the English irrealis and Spanish subjunctive mood systems. These verbs also provide a variety of structural differences that represent an assortment of constructions in these two languages.

“In syntax, there is no direct way to show which mood is required in a subordinate clause using subcategorization frames because subcategorization is local. As a result, mood selection must be demonstrated through a series of steps that are local”¹. Take the following example of the verb *querer* ‘to want’ in Spanish:

querer, V, [__CP [sjv]]
 that, C[sjv], [__IP [sjv]]
 I[sjv], [__VP [sjv]]
 Note: sjv = subjunctive

This series of lexical entries encode that *querer* ‘want’ selects a subjunctive complementizer phrase (CP). The head of this CP, C, in turn selects a subjunctive inflectional phrase (IP). The head of this IP, I in turn, selects a VP whose head is inflected with subjunctive morphology as seen in the above subcategorization frame for the verb *querer* ‘to want’. In

¹ Information regarding complex subcategorization frames in the subjunctive were provided by Dr. Eric Potsdam through personal communication.

Spanish, all three verbs, *querer*, *esperar*, and *preferir*, possess the same subcategorization frames in subjunctive contexts.

Unlike Spanish, however, the subcategorization frames of the equivalent English verbs (i.e., *want*, *hope*, and *prefer*) are all different from each other and therefore behave idiosyncratically. We return to the verb *want* for example.

want, V, [IP [to]]

The verb *want* in English selects an IP (inflectional phrase) with the head *to* as a complement rather than a CP (complement phrase) followed by the subjunctive in the subordinate clause. In the sentence *I want Jon to go to the store*, Jon, the subject of the subordinate clause, is assigned accusative case by the main verb *want* rather than nominative Case by I. The verb *hope* in English, however, follows essentially the same structure as it would in Spanish. The difference being that *hope*, unlike *esperar*, requires the embedded verb to appear in the indicative rather than the subjunctive.

hope, V, [__CP [ind]]
that, C[ind], [__IP [ind]]
I[ind], [__VP [ind]]
Note: ind = indicative

Out of the three English irrealis verbs identified in this section, *prefer* is the only matrix verb (V1) that selects a CP complement and requires that the subordinate verb (V2) appear in the subjunctive mood, as in *I prefer that you be/are on time*. *Prefer* is one of the few verbs in English that uses the exact same structure as its Spanish equivalent.

prefer, V, [__CP [sjv]]
that, C[sjv], [__IP [sjv]]
I[sjv], [__VP [sjv]]
Note: sjv = subjunctive

In the following section, we discuss phrase structure. In particular we discuss X-Bar Theory and how it is useful in helping us to create possible structural representations of IL development in Spanish subjunctive acquisition. By using X-Bar theory, we are able to see the syntactic difference between L1 and L2 in structural representations and provide the reader with plausible representations of IL.

1.4.2 Syntactic Structures

The following diagrams apply the above information to provide the reader with accurate L1 and L2 syntactic structures. In addition, the subcategorization frames illustrate some intricate behaviors that have been discussed throughout this chapter which we apply here to corresponding diagrams in order to better illustrate these differences. The first figure, figure 1-1, shows the syntactic representation of the English irrealis sentence *I want him to buy milk*. In English, V1 *want* selects an IP complement in which *to* is generated in the head of IP and the DP *him* is generated in the Spec IP position of the subordinate clause. *Him* is assigned accusative case from the head of VP. The Spanish equivalent of this sentence (*I want him to buy milk*) however, does not follow the same pattern as in English. The subcategory frame for the English verb *want* is as follows: *want*, V, [___IP [to]]. The Spanish example, *Quiero que pro compre leche*, requires an additional functional category. The subordinate CP is required in Spanish for the overt realization of *que*.

Quiero que él compre leche.
quiero, V, [___CP [sjv]]
que, C[s]v], [___IP [sjv]]
[[s]v], [___VP [sjv]].

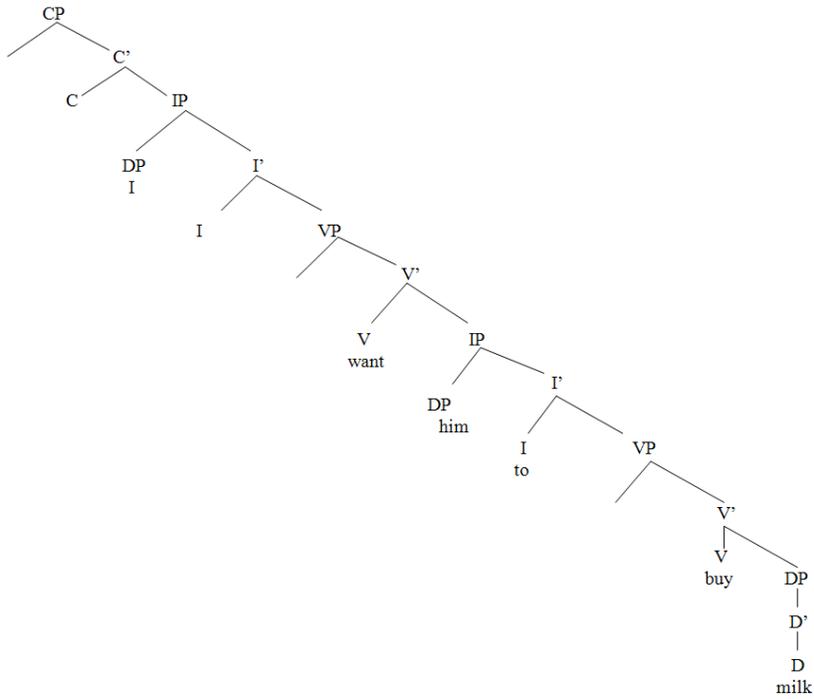


Figure 1-1. A syntactic representation of *I want him to buy milk*.

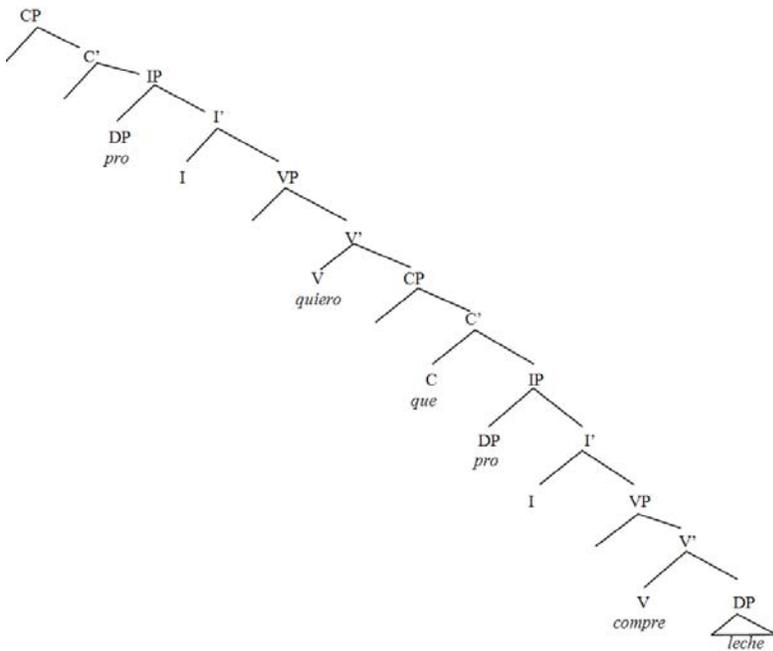


Figure 1-2. A syntactic representation of *quiero que pro compre leche*.

The most important difference between these two structures is the use of the functional category CP which has more recently become a focal point in L2 lexical development. As a result of this shift, it is suggested that learners must control the idiosyncratic behaviors of individual lexemes before L2 parametric values can be set and full acquisition can occur in a given language. For example, Herschensohn (2000) uses the analysis originally introduced in Speas (1990, p. 9) which shows the importance of lexical acquisition in L2. According to Speas, a learner needs to acquire the phonological, semantic, syntactic, and morphological information of a lexeme in order to reach native-like proficiency in the target language. Although Speas uses the word “eat” in English, we apply his analysis to the verb *espero* (‘I hope’) in Spanish. Therefore, in order for full acquisition of a given lexeme to take place, learners would need to acquire the following properties: (1) the phonological representation of *espero* is /espéro/; (2) the meaning of *espero* is ‘I wish’; (3) syntactically this lexeme is categorized as [+V –N], and finally, (4) morphologically *espero* refers to the first person singular (1PS) of the verb *esperar* (‘to wish’). Notice that in our syntactic analysis of *espero*, we show that this verb can select a CP as its complement. Such a selection is necessary in Spanish subjunctive contexts. In latter sections of this chapter, we discuss how the incomplete acquisition of lexemic properties contributes to mismatched features in L2 and shed light on the importance of functional categories in L2 development.

The acquisition of functional categories (FCs) in language development is relevant to the present study as we will be looking at different theories regarding learners’ access to functional categories during L2 acquisition. In the following sections we discuss several possibilities regarding such access. Among these possibilities we include the following: (1) learners do not have access to FCs as proposed by the Failed Functional Features Hypothesis (FFFH) presented

in Hawkins and Chan (1997); (2) learners gradually develop IP and CP complements in L2 (Vainikka and Young-Scholten 1998); and finally (3) learners have access to IP and CP complements even though such features are not always overtly present in learner production. This is referred to as the Missing Surface Inflection Hypothesis or MSIH (Prévost and White, 2000). We will argue in favor of the latter hypothesis as our study supports the existence of FCs in L2.

1.4.3 Functional Categories

Generative grammar makes a distinction between lexical categories and functional categories (FCs). To clarify the distinction between functional categories and lexical categories, we refer to Radford (1997) who claims that “nouns, verbs, adjectives, adverbs, and prepositions typically have descriptive content and so are contentives” (98). In opposition to these categories, however, exist “functors” (i.e., functional categories) which Radford defines as words that “have an essentially grammatical function” (38). In other words, functors are words that exist within grammar but have no relation to the outside world. Included in this list are determiners (ex: DP *the*), complementizers (ex: CP *that*), infinitival particles (ex: IP *to*), and auxiliaries (ex: *do*) (p.38). Learners’ access to such categories during SLA has been a topic of current research, according to Haznedar (2003), and are therefore discussed in greater detail in the present chapter.

In the following paragraphs, we look at different theories that have emerged over the years regarding FCs and their transferability in SLA. The first of these theories is called the Failed Functional Features Hypothesis (FFFH) which is defined by White (2003) as the “claim that adult L2 learners are unable to acquire features of functional categories [Det, Infl, Comp] which differ from those realized in L1” (276). As a result of these lacking features, some research has suggested that learners look for other ways to acquire the target language. The Failed Functional Features Hypothesis (FFFH), discussed in Hawkins and Chan (1997), concluded that L2 learners

do not have access to functional features. This conclusion is based on their study that looked at the acquisition of CPs in L2 English of L1 Cantonese speakers with knowledge of standard written Chinese. The participants of this study were separated into three specific groups that consisted of an elementary, intermediate, and an advanced group of learners. The majority of these learners had approximately six or more years of exposure to English, most of which took place in the classroom. Their principle assumption was that L2 acquisition of L1 feature specifications would only be possible if such features were present (either the same or similar) in both languages. This being their main assumption, one of Hawkins and Chan's main goals was to test whether or not the Chinese-speaking participants had the ability to acquire overt morphophonological properties of complementizers in L2 English. They chose a grammaticality judgment test to collect the data as their interests did not include, as they refer to it, "absolute performance" (203). The items used in this grammatical judgment task were specifically designed to test the acquisition of CP morphology in L2. The results indicated that beginning learners were much less accurate in their interpretation of CP use in L2 English (56%). The intermediate group showed 67% accuracy while the advanced group showed 79% accuracy. Hawkins and Chan concluded that as the Chinese speakers' proficiency increased, so did their ability to acquire CP morphology in complement position. With this said, however, results from the items that tested learners' unconscious knowledge of subjacency violations (i.e., limitations on movement) in English, showed a severe decrease from the elementary level to the advanced level. This led Hawkins and Chan to propose that even as proficiency in learners' L2 continued to progress and become increasingly more English-like, their IL systems did not mirror those of L1 English grammars. Although their results may seem rather discouraging in this respect, Hawkins and Chan suggest that learners find other ways to achieve proficiency in L2. In order to

compensate for FC deficiency in L2, Hawkins and Chan propose that learners do the following in order to advance in the target language: “they [learners] will map morphophonological forms from the L2 on to L1 feature specifications. The performance of L2 learners with such grammars would display properties of a familiar kind: L1 syntax with L2 lexical items” (216). In other words, researchers should expect to see English-like structures with Spanish vocabulary as seen in figure 1-3. Therefore, based on the above analysis, we suggest that the following figure (1-3) provides the reader with a plausible representation of what learners’ IL might look like during L2 subjunctive acquisition.

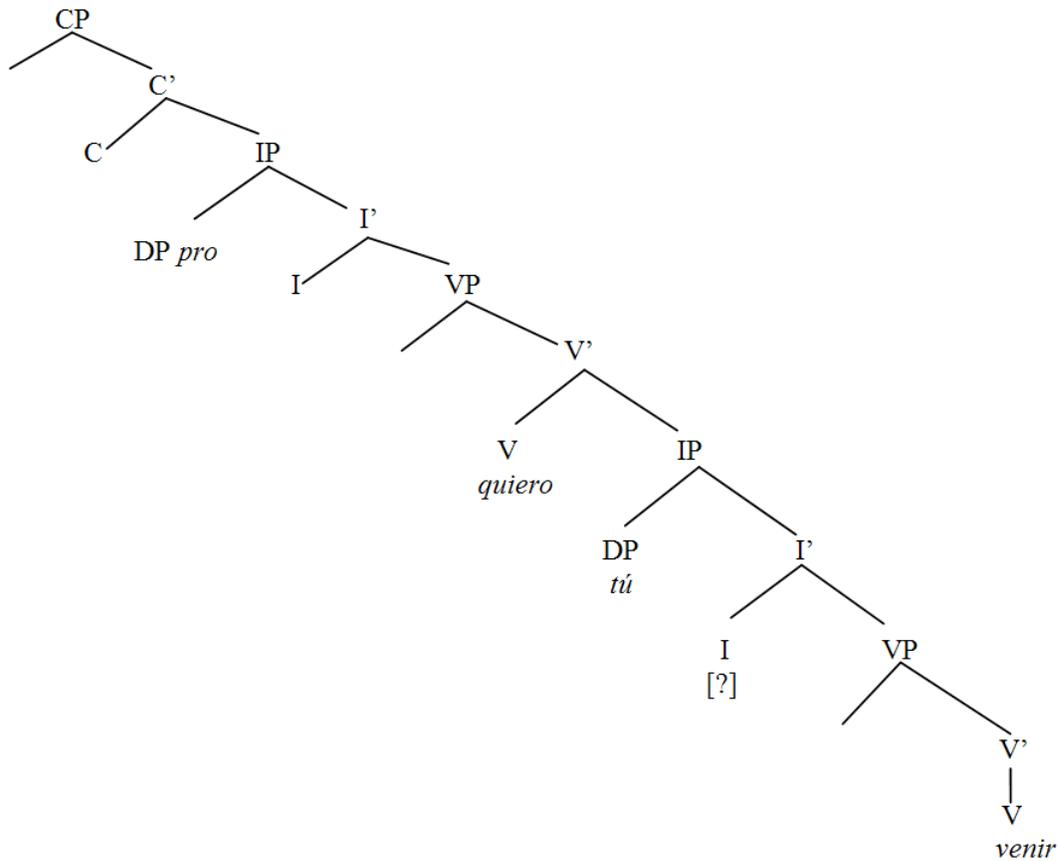


Figure 1-3. A syntactic representation of IL syntax during L2 subjunctive acquisition: IP complement **quiero tú venir*

In figure 1-3, we see that CP is missing from the structure. In theory, this missing CP does not affect the main clause. The problem exists in the subordinate clause because the verb

incorrectly selects for an infinitival IP rather than the correct finite CP. The question mark in I represents the fact that we do not know exactly what is in I, a notion we return to in latter sections of this chapter. In figure 1-4 we use indicative morphology instead of the infinitive verb form. Figure 1-4 is still incorrect, however, because the functional category CP is missing. Both diagrams 1-3 and 1-4 represent common errors that L2 learners of Spanish make during the acquisition process. The errors make sense if we accept the idea that learners do not have access to CPs in L2. The unavailability of CPs in L2 is highly unlikely, though, considering that CPs are available in L1 English.

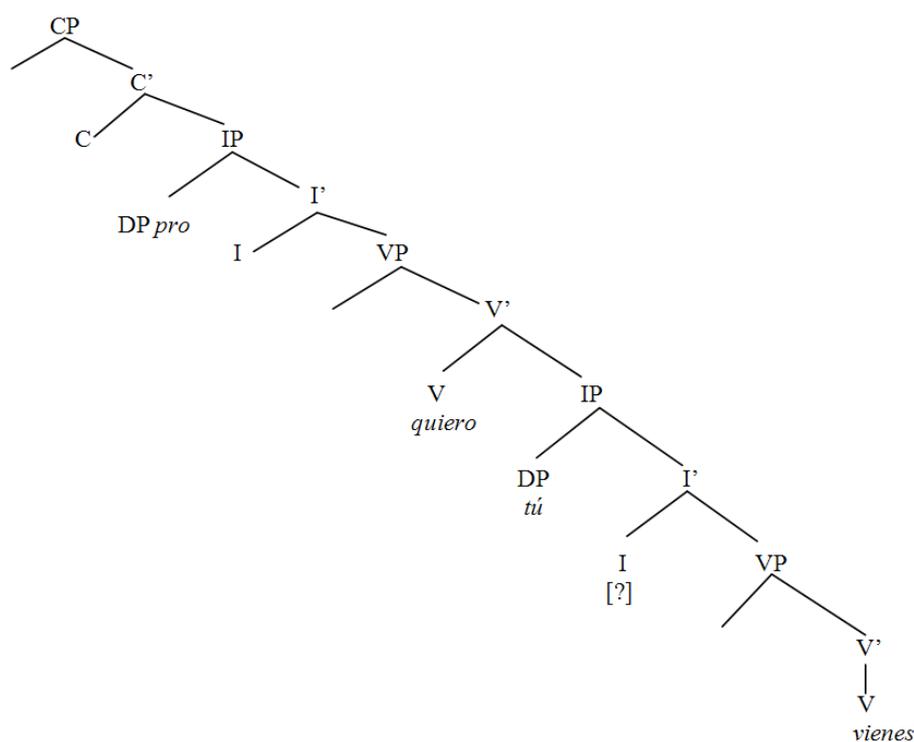


Figure 1-4. A syntactic representation of IL syntax during subjunctive acquisition (**Quiero tú vienes.*)

Structures 1-3 and 1-4 may be expected representations of IL during subjunctive acquisition if the reader accepts FFFH, for example. Such representations are not the only options, however, as Vainikka and Young-Scholten (1996) present a different view.

Vainikka and Young-Scholten (1996) propose that functional projections are gradually acquired, which they explain in several ways. First, Vainikka and Young-Scholten's suggest that functional categories emerge as a result of a VP-based grammar in which L2 learners transfer lexical VPs from L1 to L2. In turn, these VPs serve as the foundation for learners' initial L2 grammars. Second, Vainikka and Young-Scholten present the possibility of a gradual process in which learners build their grammars from the bottom up. Included in this gradual process, however, is the appearance of unspecified Functional Phrases (FPs). FPs are thought to emerge at the IP level after the VP has been transferred from L1. The unspecified FP allows the verb to move even though phi features (i.e., person, number, tense) do not match. From this perspective, we can explain why mismatched subject-verb agreement often occurs in L2 production, for example. To better illustrate this idea, we refer to White's (2003) structural interpretation of this process.

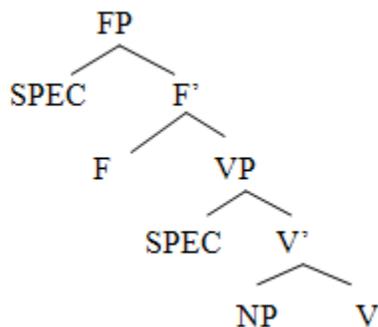


Figure 1-5. Unspecified FPs

As discussed previously, and more clearly demonstrated in figure 1-5, FPs emerge at the IP level. Problems occur when the unspecified FP features do not match the properties of a given lexeme (see figure 1-3). According to Vainikka and Young-Scholten, however, eventually these FP projections evolve into IPs, ultimately giving way to CP complements. As a result, researchers should expect that CPs will be the last of the functional categories to be acquired.

Vainikka and Young-Scholten support their theory with evidence from a longitudinal study that analyzed naturalistic data from adult L2 learners of German. The participants were L1 speakers of Korean, Turkish, Italian, and Spanish. The researchers used a wide variety of tasks to elicit oral production data; all of which were tape-recorded and analyzed. By the end of the study, over several hundred samples were collected from each speaker. The results of the data show that all learners had transferred L1 headedness properties from L1 to L2. For example, for Korean and Turkish speakers, L2 acquisition was faster because both languages, like German, possess head-final VPs. In other words, Korean and Turkish participants began acquiring L2 by transferring L1 VP properties to L2 with the understanding that German, like their native Korean and Turkish languages, was also a head final VP language. Unlike the Korean and Turkish participants, however, the Italian and Spanish participants had more difficulty transferring such properties. Italian and Spanish learners were required to switch their headedness parameter from head initial to head final. With this said, though, Vainikka and Young-Scholten claim that in early stages of L2 acquisition, the Turkish and Korean participants showed few signs of verb raising which they operationalized as “a verb preceding VP material” (18). For the Spanish and Italian participants, verb raising depended on the position of negation phrases and temporal adverbs (See also Pollock 1989). Vainikka and Young-Scholten reported that the Turkish and Korean participants showed evidence of verb raising only 14% of the time while the Spanish and Italian speakers showed no indication of verb movement at all which, as stated previously, is linked to access to FCs. For example, Bongiovanni, the Italian participant recruited for this study, produced the following sentence in his L2 German (18):

19. *Nein en matina nix essen.*
 No in morning [Ital.] not at -INF
 ‘I don’t eat in the morning’.
 (Nein, morgens esse ich nicht(s))

In this example, we see that the VP appears after the negation phrase which indicates no sign of verb raising. Therefore, due to the overall lack of movement among participants of this study, Vainikka and Young-Scholten suggested that L2 learners did not have access to functional categories at the time of the study. In addition, Vainikka and Young-Scholten claim that their data showed no signs of auxiliaries, modals, agreement patterns, complementizers or WH-movement; all of which one would expect to notice if FCs were available during initial stages of L2.

Epstein, Flynn, and Martohardjono (1996) also show support for the gradual development of functional projections discussed in Vainikka and Young-Scholten. In this study, over 50 participants were recruited for a project that required them to complete a series of imitation tasks in L2 which would measure learners' use of IP and CP complements in their production. The participants included over 30 children and approximately 18 adults. Overall, learners' ability to imitate sentences with IP projections was approximately 20% better than their ability to imitate sentences with CP projections. This greater accuracy in IP production can be taken to mean that learners had not completely acquired CPs at the time of the study.

Thus far we have presented the reader with several theoretical options in relation to the role of FCs in L2. Among these options we have included FFFH (Hawkins and Chan 1997) and VP-based L1 transfer (Vainikka and Young-Scholten 1996). In the following paragraphs, we present The Missing Surface Inflection Hypothesis (MISH) which is supported by the data of the present study.

MSIH (Prévost and White 2000) proposes that learners have knowledge of functional categories even though their production does not always reflect such competence. In addition, learners are thought to have full access to FCs even during the initial stages of acquisition, unlike

the theories presented above. Prévost and White (2000, p.113) suggest that learners have problems with “the realization of surface morphology such that they resort to non-finite forms” (see also Haznedar and Schwartz, 1997). This implies that even though accurate surface inflection is not always visible in L2 production, researchers should not take this to mean that learners lack syntactic competence and access to functional categories. In their study, Prévost and White conducted a longitudinal case study of four adults who were learning second languages. Of this group, two of the participants were learning French as a second language while the other two were learning German. After conducting a series of oral interviews with each participant during a one to two year period, Prévost and White found that even the more advanced learners of the group had the tendency to use non-finite forms during their oral interviews. In other words, contrary to what one might expect, learners’ use of non-finite verb forms was not limited to early stages of acquisition. In addition, they show that non-finite verb forms were raised in some cases. Such phenomena was discovered when learners produced sentences in which a verb appeared before a negation phrase (as discussed in Vainikka and Scholten 1996). The V Neg order was considered a raising environment while the Neg V order was considered a true infinitive environment. Prévost and White show that there was systematic V Neg order in their study indicating early availability of FCs. This order is illustrated in the following example (117).

20. *ich studiere nicht*
I study-1S not

Prévost and White also found that learners’ use of non-finite verb forms demonstrated variability meaning that in some cases, an infinitive verb would appear before the Neg phrase showing that learners were using infinitival forms in finite contexts. We will make reference to

these findings in latter chapters as our study supports the conclusions reported in Prévost and White (2000).

Herschensohn (2001) supports the findings of Prévost and White (2000). In this study, two American high school students served as participants for the project. The data collection procedure consisted of a series of oral interviews over a six month period. The results of Herschensohn mirror those of Prévost and White (2000). The results show that even though both participants had progressed in their overall morphological ability throughout the duration of the study, they both continued to use non-finite verb forms in finite contexts, even at more advanced stages of L2 development. Herschensohn concluded that “the use of infinitival forms in SLA is rather accidental, incorrect inflection that is a result of interlanguage processing difficulties” (292). In addition, she suggests that infinitives in L2 are different from infinitival verb forms in L1 because, as shown previously in Prévost and White (2000), L2 learners use finite and non-finite forms interchangeably in some cases.

Haznedar (2003), like Herschensohn (2001) and Prévost and White (2000), advises against linking inaccurate surface morphology to the lack of functional features in L2. Haznedar's suggestion is based on her study of two participants. Haznedar's study is similar to the two previous studies mentioned above in that it too was a longitudinal study that included a series of tape recorded interviews. Her approach was slightly different from the others, however, in that she focused on Case-markings to gauge the morphological and syntactic accuracy in L2. The first study was conducted on Erdem, a child with L1 Turkish who was learning English as a second language at the time of the study. According to Haznedar, Erdem's ability to accurately assign nominative Case to subjects in his speech production indicated that IPs must have been available for feature checking. In addition, she adds that Erdem's use of CPs was also fairly productive.

In her second study, Haznedar collected oral production data from an American student named John who was learning Turkish as a second language at the time of the study. The data was gathered over a period of 5 months in which each session lasted anywhere from 60 to 90 minutes. Like Erdem, John was successful in assigning nominative Case to subjects, again showing support for the availability of IP in L2. John was not as successful with other types of Case, however. The error rate for the Case markings of accusative, dative, locative, and ablative Case were especially high while genitive case was considerably lower.

The results of Haznedar's studies show evidence against Vainikka and Young-Scholten's VP-based proposal that IL grammars do not have access to FCs during initial stages of L2 acquisition. They also present evidence against Hawkins and Chan (1997) who suggest that FCs do not exist in L2. Instead, Haznedar shows that the L1 Turkish speaker (Erdem) had very few Case errors meaning that feature checking in IP must have been available at the time of the study. More specifically, she suggests that if IPs had not been available to the learner, he would have committed more nominative Case errors in his production. The data revealed the opposite, however, showing that this participant (Erdem) had almost no errors of this type. Although in John's production, accusative, dative, locative, and ablative Case assignment was highly inaccurate, nominative Case assignment was highly accurate. Such findings suggest that IP must have been available at the time of the study, as we saw with Erdem. Otherwise, John would not have used nominative case successfully to the extent that he did. In other words, there was enough evidence in these two studies to support the existence of FCs in L2. Based on her studies, Haznedar concluded that "the lack of functional elements should not be taken as evidence for the absence of the associated functional categories" (148). Such findings are consistent with those of

Prévost and White (2000), and Herschensohn (2001), and add additional support for the present research.

The next article we discuss in this section comes from Sorace (2000). She claims that the MSIH hypothesis predicts the following in second language acquisition: (1) “finite forms are truly finite and thus occur only in finite contexts whereas (2) non-finite forms are sometimes genuinely non-finite and sometimes used as a default substitute for finite forms” (99). Sorace offers a very clear picture of the MSIH perspective and the goals of this theory. In addition she claims that:

“learners’ knowledge of the syntactic consequences of finiteness seems to be in place despite the frequent surfacing of non-finite forms in finite contexts. This indicates that a clear distinction should be made between knowledge of abstract features, which is unimpaired, and knowledge of surface morphology, which can remain problematic in L2 development” (99).

In other words, as suggested previously, the theory claims that L2 learners have access to functional categories, like CPs for example, even though such access is often not visible in L2 production. To better illustrate the concepts presented in Prévost and White (2000), Herschensohn (2001), and Haznedar (2003), we present the reader with figure 1-6. In this diagram, we insert a null CP complement to represent IL structures. Figure 1-6 is the predicted IL representation for the sentences found in figures 1-3 and 1-4.

We present figure 1-6 as an expected representation of IL during subjunctive acquisition based on the studies mentioned here. In the present study, we agree with Prévost and White (2000), Herschensohn (2001) and Haznedar (2003) that the lack of overt morphological production does not indicate a lack of functional categories in L2. Such a syntactic deficiency does not make sense considering that learners have access to CPs (and FCs in general) in their L1. The studies in this section have shed light on the relationship between syntax and morphology (or lack thereof) and provided a variety of ways in which FCs are acquired in L2.

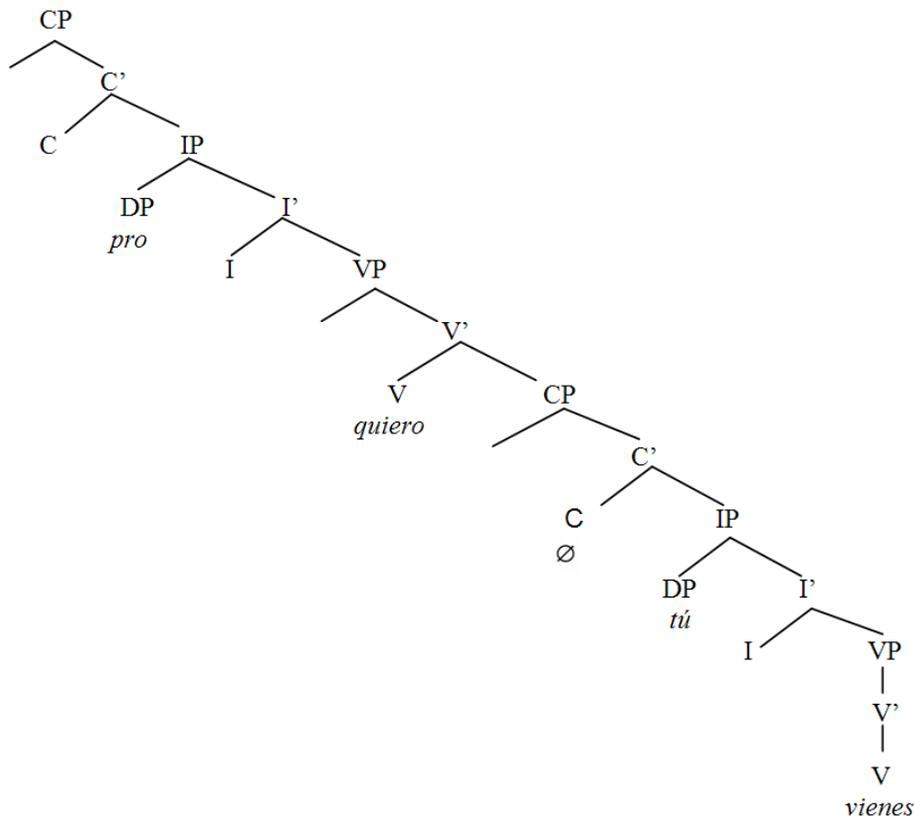


Figure 1-6. A syntactic representation of IL syntax during subjunctive acquisition (**Quiero ø tú vienes.*)

We argue in favor of MSIH as the findings of the present study support this hypothesis and will be discussed in greater detail in chapter 4.

Thus far, our analysis has included a discussion of mood, which has presented the reader with some of the syntactic and modal issues that L2 learners of Spanish encounter when acquiring the subjunctive. We have also argued in favor of FC studies such as those of Prévost and White (2000), Sorace (2000), Herschensohn (2001), and Haznedar (2003), that provide information about learners' access to FCs in L2. It is at this point in our analysis that we raise the following question: if learners have access to FCs in L2, as we have argued here, and surface morphology does not always represent such access, then is it possible that L1 transfer plays a role in learners' L2 subjunctive development? The studies discussed in this section have already

identified problems in L2 including overt morphological production and accuracy of complex syntax. With this said, however, we have not addressed the deeper issue as to why such phenomena occur which is why we propose L1 transfer. MSIH provides support for the idea that learners have access to structures already acquired in their L1. Therefore, if L1 transfer is indeed at play in L2, we may be able to explain IL grammars and provide support for our structural representations. In order to do so though, we need further evidence that L1 transfer is a viable option for our analysis. Based on this necessity, we discuss L1 transfer in greater detail and look for further evidence of L1 syntactic transfer in previous L2 studies in the following section.

1.4.4 L1 Transfer

Ellis (1994) mentions two types of transfer in language acquisition. The first type is referred to as “borrowing transfer” (where the L2 influences L1) while the second is referred to as “substratum transfer” (see p. 310). Borrowing transfer occurs when L2 influences L1 and substratum transfer occurs when L1 influences L2. For the purposes of our study, we focus strictly on substratum transfer in which a learners’ L1 affects L2 development. Before presenting these studies, however, in the paragraphs below, we discuss some of the characteristics of L1 transfer based on Zobl (1980, p.472). Such characteristics have helped us identify the existence of L1 transfer in the current study and also in previous research.

Based on previous studies, Zobl (1980) compiles a series of characteristics and error types that can be used to distinguish L1 transfer from other developmental issues. Among these he includes the following factors: (1) “errors reflect learner’s use of L1 as a crutch at low level of L2 proficiency”; (2) errors reflect use of L1 as a source of hypotheses about L2”; (3) errors reflect inability to separate the two languages”; (4) “errors result from L1 habits”; and (5) “errors represent an interlingual generalization”. We use these characteristics as indications of L1

transfer to analyze the studies mentioned here and again in latter chapters to discuss the results of our study.

White (1992) conducted a study that looked at L2 parameter setting of native speakers of French with L2 English. White explains that in French, finite verbs raise past the negation phrase (NegP) which she illustrates using examples such as the one seen in the following example.

21. *Jean n'aime pas Marie.*
Jean no like-3p-sing.neg marie
'John doesn't like Marie'.

Verb raising in French can also be seen in sentences that include adverb phrases (AdvP) in which the adverb is also post-verbal. If we look at the sentence found in example (23), *Jean regarde souvent la television*, ('John often watches television') we notice that the adverb *souvent* ('often') appears after the verb *regarde* ('watches').

22. *Jean regarde souvent la television.*
Jean watches-3p-sing. often television.
'John often watches television.'

In English, however, adverbs and negation phrases do not appear after thematic verbs as shown in the translations of the French examples in examples (22) and (23). A native speaker of English would not say “*John likes not Marie” or “*John watches frequently television”, for example. White suggests that if learners raised verbs in L2 English over NegP or AdvP, then this would serve as evidence of possible L1 transfer in L2 acquisition.

In order to carry out her study, she recruited a total of 97 participants which were separated into two distinct groups. The larger of the two groups received instruction regarding question formation while the other learned about adverb placement in English. White included both a preference task, used to measure learners' competence, and an oral production task, used to measure learners' syntactic ability in L2. Both tasks included negation phrases (NegP) and

adverb phrases (AdvP). It was suggested that if learners raised thematic verbs over NegP or AdvP in L2, learners were transferring L1 parametric values of French to L2 English. The data revealed that the learners were successfully able to formulate questions in L2 English meaning that they knew English verbs did not raise. This means that learners were aware that long movement from the nucleus of VP to the nucleus of CP was prohibited in English. With this said, however, learners did accept optional short movement of the verb past the adverb in L2. Short movement such as this shows evidence of L1 transfer of French to English considering that verbs in English do not move.

White (1985) looks at the application of the Pro-Drop Parameter of L1 Spanish speakers learning English as a second language. According to White, three syntactic properties are associated with this parameter: (1) subject-verb inversion in declarative sentence structures as seen in *Canta Paco* ('Paco sings'); (2) that-trace effects as in *¿Quién dijo que llegó tarde?* ('Who said that he arrived late'); and (3) missing subjects and subject pronouns as seen in *Conduce bien* ('he/she drives well'). Her study looked at how frequently native speakers of Spanish and French learning English as a second language identified such properties as acceptable or unacceptable in L2. In her study, the Spanish group was considered the experimental group while the French group was added as the control group. The French group was used as the control group because French, unlike Spanish, does not allow for missing subjects and is therefore not a Pro-Drop language. From this perspective, French and English share more properties than English and Spanish. Consequently, the results of the Spanish group were compared to those of the French control group. In doing so, White wanted to observe whether or not the application of L1 Spanish parametric values in L2 ultimately caused transfer errors.

In order to collect data for her study, White used a grammaticality judgment test which was distributed to a total of seventy three adult learners of ESL. Fifty four of the participants belonged to the native Spanish speaking group while the remaining nineteen made up the French control group. Both groups were broken down further in to five distinct proficiency levels. Level 1 was considered a low proficiency group (i.e., beginners) and Level 5 was referred to as the high proficiency group (i.e., advanced learners). The results of her study show that some of the properties of the Pro-Drop Parameter transferred from L1 to L2 while others did not appear to carry over. The results between the Spanish and French group for the missing subject property of the Pro-Drop Parameter was significant. The data show that native speakers of Spanish learning English at the beginning levels accepted sentences with missing subjects more frequently than those at more advanced proficiency levels. The French group, on the other hand, even at the beginning levels, rarely accepted sentences with missing subjects in English as grammatical. Based on these findings, White ultimately concluded that resetting L1 parameters in L2 contribute to transfer errors.

Eubank (1994) conducted an empirical study which suggests that L1 lexical and functional projections transfer to L2. It is proposed in his analysis that headedness properties associated with such functional projections also transfer from one language to another while strength and agreement features do not. In other words, not all properties are transferable from L1 to L2. In order to make this claim, Eubank bases his discussion on data compiled from previous studies including Pollock (1989), Belletti (1990), and Chomsky (1991) among others. In his analysis, he looks at the L2 acquisition of English by L1 French learners. We have already mentioned that English and French both require overt subjects. French and English are different, however, in terms of feature strength of V. As in Spanish, verbs raise in French as a result of strong features.

Using Pollock's Split Infl hypothesis, Eubank analyzes verb raising in French. He suggests that French verbs undergo long movement meaning that finite verbs originate in V (under VP), move to T (under TP), and ultimately land in Agr (under AgrP). In French, nonfinite verbs may also undergo short movement from V (under VP) to T (under TP). They do not, however, move to Agr (under AgrP). In his analysis, Eubank suggests, that L1 French learners of L2 English have interlanguage systems that possess neither the strong agreement features of their L1 nor the weak agreement features of their L2 at beginning stages of acquisition. This underspecification of features may explain why learners apply an optional verb raising rule in L2 creating ungrammatical structures in English. Such structures include learners' preference for non-finite verb forms in declarative sentences, as predicted by Eubank, which he later supports with data collected in Gerbault (1978).

The final study we mention in this section, Collentine (1995), deals exclusively with the Spanish subjunctive and the complex syntactic structures that accompany this mood. We review this study only briefly here as it is discussed in greater detail in the following chapter. This study is useful in showing how L1 affects both modal and syntactic development in L2 Spanish. Collentine (1995) looks at intermediate-level learners' mood selection in nominal clauses. The results of his study show that participants relied on L1 syntax in L2 production tasks. This was based on observations that even though learners attempted to form complex structures using the Spanish subjunctive in their L2, they actually only produced a series of simple sentences that were mostly attached by commas. Morphological errors were also abundant showing that learners had the tendency to use indicative morphology rather than subjunctive morphology. Collentine's study, like the previous studies mentioned by White and Eubank, show that learners have the tendency to transfer L1 properties over to L2 fitting Ellis' explanation of L1 transfer.

1.5 Summary of Goals

One of the goals of this study is to provide the reader plausible IL representations that more clearly illustrate the developmental issues L2 learners face when acquiring the subjunctive. On the following pages, we provide the reader with a total of five diagrams. The first two diagrams represent common English irrealis and Spanish subjunctive structures used by native speakers of each language. The latter structures, however, serve as representations of IL systems during subjunctive acquisition. The syntactic errors shown in these diagrams include V1 selection of an IP complement with V2 [-finite], V1 selection of an IP complement with V2 [+indicative], and finally, V1 selection of a null CP complement with V2 [+indicative]. Logically, other syntactic representations can be fathomed. For example, V1 selection of null CP complements with V2 [+subjunctive] or V1 selection of IP complements with V2 [+subjunctive] are also possible representations. The diagrams we have chosen to analyze here, however, are more relevant to the current study.

On the following pages, we compare the latter three diagrams to the first two in the series so that the reader can identify the errors and processes that we will be referring to in the following chapters. We begin this discussion by analyzing figure 1-7. In figure 1-7 we look at the correctly structured Spanish example of *Quiero que pro bailes* ('I want you to dance'). In this structure, we observe that the main clause consists of one subject and one verb (S1 + V1). V1 (*quiero*) appears with indicative morphology and selects a CP complement. In the subordinate clause we find S2 (*pro*) and V2 (*bailes*) in which the subordinate verb appears in the subjunctive mood. Both the subject of the principle and subordinate clauses receive nominative Case in this deontic, nominal structure.

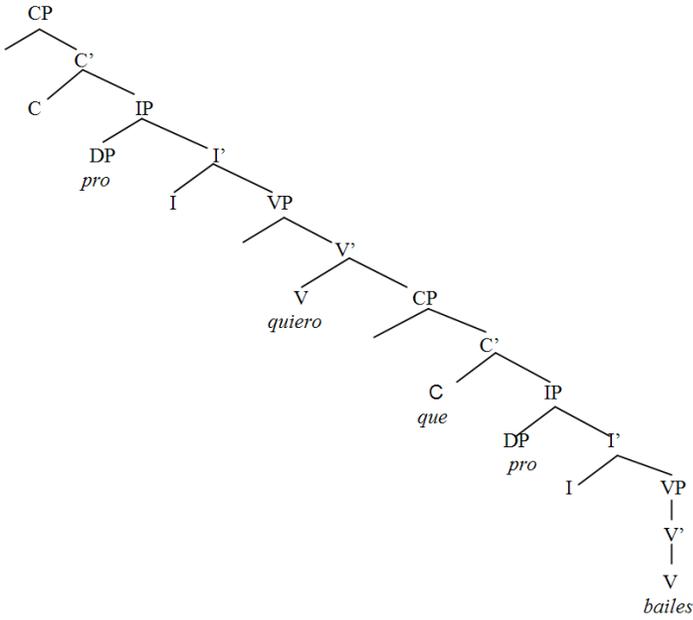


Figure 1-7. A syntactic representation of Spanish subjunctive syntax (*Quiero que bailes.*)

In figure 1-8, the English equivalent to *Quiero que bailes* ('I want you to dance'), we see a different structure. In the English version V1 selects an IP complement rather than a CP complement.

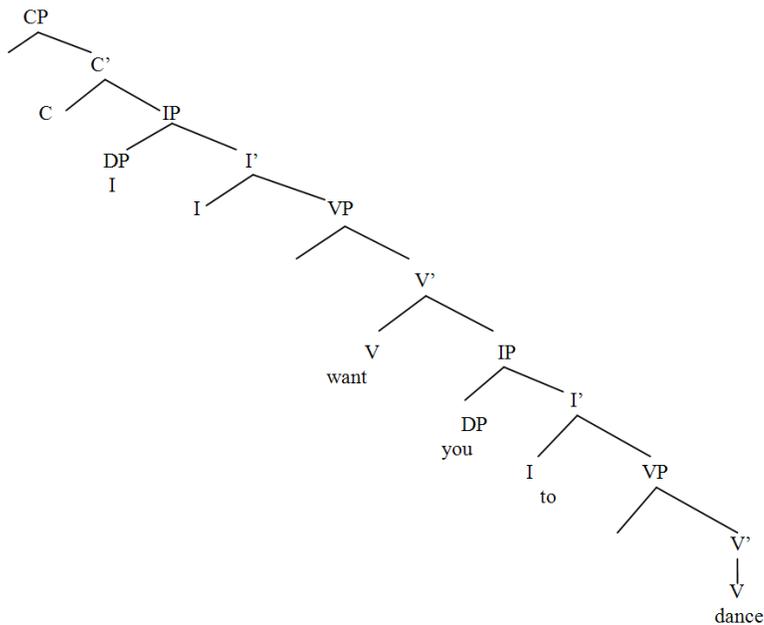


Figure 1-8. A syntactic representation of L1 English irrealis syntax (*I want you to dance.*)

Now that we have presented a few examples of grammatical structures in L1 and L2, we turn to plausible representations of IL. Based on the previous studies mentioned in this chapter, we suggest that the following IL representations are highly accurate. Recall that we support MSIH and L1 transfer. Based on these hypotheses, we discuss IL structures that include both IP and CP complement structures. We later argue in favor of structures that include CP complements which we attempt to support in chapters 4 and 5 with the results of our study.

In figure 1-9, for example, we notice that V1 *espero* ‘I hope’ selects an IP complement under which V2 appears in the infinitive (*venir*). We need to ask ourselves whether or not learners actually do have access to FCs as discussed in previous studies (see section 1.4.3). The reader should notice that we have placed a question mark in the head of IP in the subordinate clause of figure 1-9. The question mark represents the fact that we do not know exactly what is in I. In other words, we don’t know if learners perceive the verb as [+finite] or [-finite].

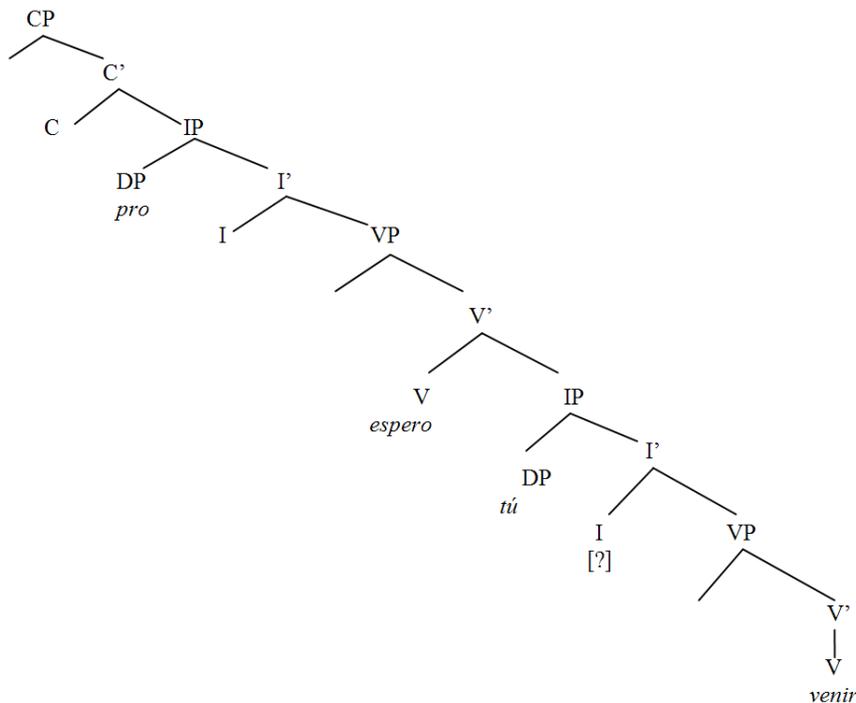


Figure 1-9. A syntactic representation of IL syntax during L2 subjunctive acquisition (**Espero tú venir* *‘I hope you to come’)

Figure 1-10 provides the reader with nearly the same structure as 1-9 but with one very important difference. In figure 1-10, we consider an alternative representation that includes a null CP. In this representation, we leave the verb *venir* ('to come') in the infinitive based on the analysis given in Prévost and White (2000). Recall that Prévost and White suggest that the absence of surface inflection (i.e., infinitival verb forms) does not mean that learners are actually using the non-finite form in non-finite contexts. Rather, non-finite verb forms are being used "as default forms exhibiting properties of finite verbs" (109). This means that in some instances, learners are using infinitive structures as they would finite verbs. The point here, however, is not that this structure will result in an ungrammatical surface construction. Instead, the purpose is to consider the possibility that learners use infinitival verb forms in finite contexts.

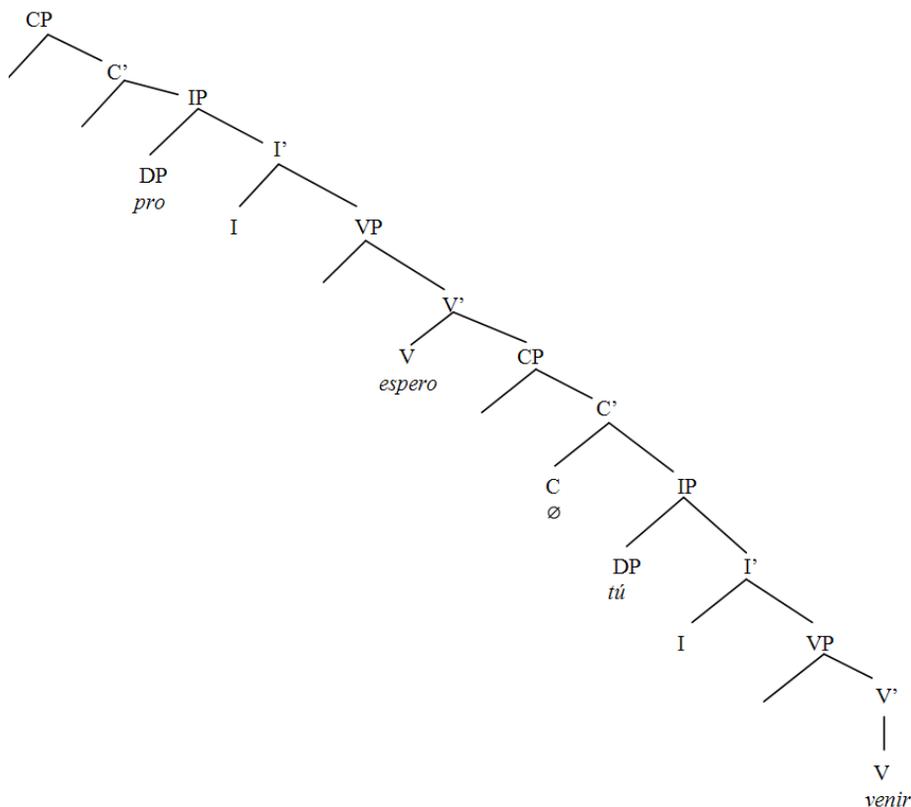


Figure 1-10. A syntactic representation of IL syntax during L2 subjunctive acquisition (**Espero o tú venir* *'I hope you to come')

Figure 1-11 is another example of errors that we suggest occur in learners' IL systems. The reader should notice, however, that this structure is formed exactly like an English irrealis structure that would be used with the verb *hope* for example. As discussed previously, the verb *hope* selects a CP complement in which the overt appearance of *that* is optional as seen in *I hope (that) he comes to the party*. We also notice that in this structure, the indicative mood is used in the subordinate clause. In addition, this structure shows that the learner is applying the [+optional] overt CP rule in English to the target language. Regardless of production errors, though, we strongly suggest that learners have access to FCs in L2, even if they are not overtly available in performance tasks.

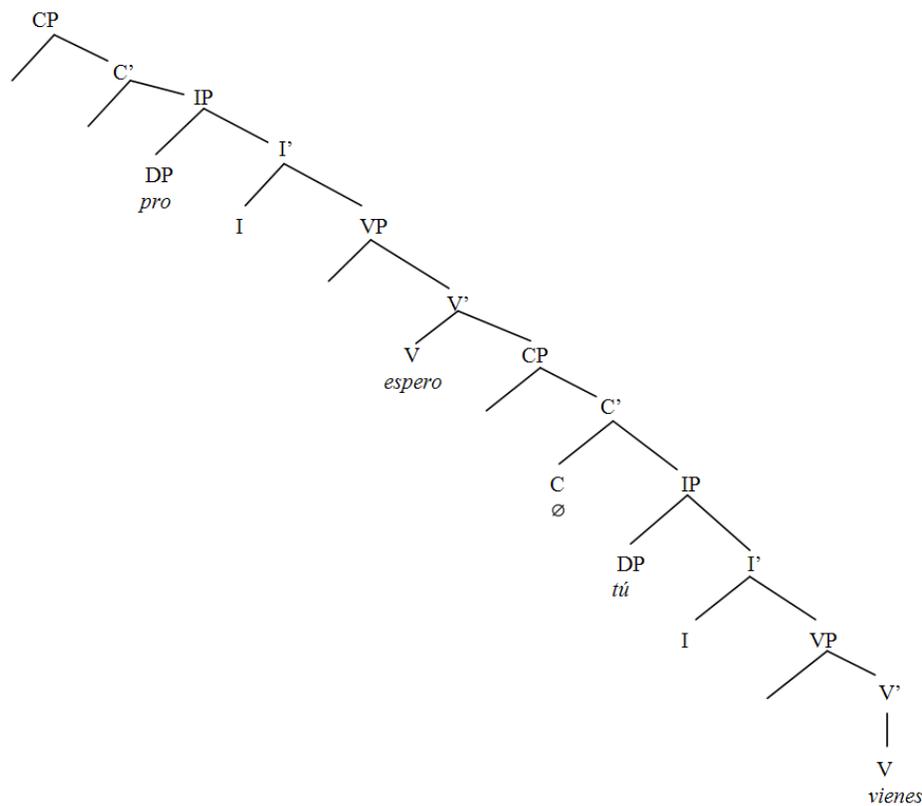


Figure 1-11. A syntactic representation of IL syntax during L2 subjunctive acquisition (**Espero phi tu vienes* 'I hope you come')

The figures shown in this section compare accurate syntactic structures in Spanish and English to representations of IL during L2 subjunctive acquisition. We also present these figures as a way to follow L2 processes and show areas of potential difficulty in L2 development. For example, it has been argued in previous studies that surface inflection is an indication that functional categories are available in interlanguage systems and that learners “have unconscious knowledge of functional categories” (Prévost and White 2000, p.103). In addition, Prévost and White suggest that even though adult second language learners have problems including overt FCs in surface structures, this does not mean that their IL systems lack such categories. The diagrams we have provided in this chapter take such possibilities in to consideration as well as provide representations of other error types found in L2.

1.6 Conclusion

After having identified the possible semantic and structural difficulties between the Spanish subjunctive and its English irrealis equivalents, the reader was presented with a detailed analysis of Spanish and English modal systems. Our investigation is useful to researchers because it applies theoretical information to the acquisition of complex syntax (i.e., S1, V1 + S2, V2) using intuition data in second language acquisition. It also clarifies difficult terminology and combines the grammatical notion of mood with the semantic notion of modality simultaneously to systematize and organize structural contrasts that exist between English and Spanish. Furthermore, it explores the structures used by English speakers acquiring the Spanish subjunctive and follows learners’ evolving IL systems using both theoretical explanations and concrete examples to explain specific phenomena in L2 subjunctive development. Moreover, L2 Spanish instructors will benefit from this research and from the examples presented in this study because many of them do not know which English structures are comparable to the Spanish subjunctive. As a result, instructors often misinform their students by telling them that the

subjunctive simply doesn't exist in English, which is untrue, as demonstrated repeatedly throughout the literature. In addition, this chapter has provided an overview of previous explanations of the Spanish subjunctive and has identified three fundamental concepts that dominate this literature: mood (indicative vs. subjunctive), modality (deontic vs. epistemic), and syntax (IP vs. CP).

The following chapters address the difficulty of L2 Spanish subjunctive acquisition. Chapter 2 discusses previous work conducted on L2 acquisition of subjunctive structures. Chapter 3 describes the methodology and data collection procedures followed for this study. The findings and results are discussed in Chapter 4. Chapter 5 briefly summarizes our findings and presents implications for the classroom, as well as suggestions for future research. We remind the reader that we have chosen a generative approach for this study. Such an approach allows us to analyze human language as a general system with unique, language-specific options that explain why not all languages share the same surface structure. In addition, P&P framework along with X-Bar Theory has provided us with a solid foundation from which to analyze our findings. By using X-Bar Theory, we were able to consistently propose plausible IL representations allowing us to make assumptions about learners' syntactic intuitions and therefore identify problems learners face during L2 acquisition.

CHAPTER 2 ACQUISITION OF THE SUBJUNCTIVE

2.1 Introduction

As discussed in Chapter 1, the Spanish subjunctive is among the most challenging grammatical concepts of Spanish grammar for L1 speakers of English to acquire (Collentine 1997, 1998; DiFranco 2005; Farely 2004; Gumestad 2006; Jelsinki 1977; Lubbers-Quesada 1996, 1998; Terrel & Hooper 1974; Terrell, Baycroft and Perrone 1987). As a way to facilitate the learning process and reduce the amount of information a learner is exposed to at a given time, textbooks often explain the Spanish subjunctive through syntactic analyses that are divided into three distinct clausal types: nominal, adverbial, or adjectival structures. Some studies also conduct investigations using clausal distinctions (Blake 1985) while others incorporate specific Second Language Acquisition (SLA) theories or pedagogical techniques, ranging from Generative Grammar (Cook 1988; Pollock 1989; White 2003) to Processing Instruction (Farley 2001, 2004; Collentine 1998). The goals of this chapter are as follows: (1) to show similarities in first and second language modal and syntactic development; (2) to discuss relevant studies that identify problems facing second language learners of Spanish when acquiring epistemic and deontic modalities within the subjunctive mood; and (3) to briefly review the role of functional categories in L2. Certainly one might ask why we have chosen to mention L1 studies of the Spanish subjunctive in our analysis. To answer this question, we suggest that L1 studies show similar developmental patterns to those of L2 studies. With this said, however, our goal is not to prove that L2 learners follow the same patterns as L1 learners. Rather, we highlight studies that emphasize subjunctive complexity drawing parallels between L1 and L2 developmental patterns.

2.2 L1 and L2 Acquisition Patterns

There are a number of reasons why learners make errors in L2. Floyd (1990) and Faingold (1998, 2000) for example, address subjunctive phenomena that occurs mainly in Mexico and Spanish-speaking areas of the United States. Based on previous work, the purpose of Faingold (1998) was to analyze the development of syntactic processes in relation to mood in first language acquisition, language learning, history of language, and language change in progress. In order to carry out his study, Faingold compiled a multitude of data retrieved from morphological, phonological, psycholinguistic, sociolinguistic, and historical studies from his own work. He also included research provided by authors such as Blake (1983), Goldin (1974), Pishwa (1989, 1991), and Wode (1983); *inter alia*. Using the data taken from these projects, Faingold analyzed the modal and syntactic development among Spanish speakers in the United States, Mexico, Argentina, and Spain. The compiled data show that Mexican children often used the indicative instead of the subjunctive in oral speech; an error often committed by L2 learners of Spanish as discussed in chapter 1.

Faingold (1998) is supported by Lazano (1995) who suggests that “it is not until late childhood that a Spanish speaking child utilizes the subjunctive of doubt and not until adolescence, that the difference between a dogmatic belief and a skeptical doubt are sorted out” (98). In this study, Lazano shows that both L1 and L2 learners of Spanish either left out or substituted subjunctive structures with indicative ones. Lazano was also able to identify several important language patterns shared by both L1 and L2 learners of Spanish, further demonstrating that accurate subjunctive use requires time to develop in both L1 and L2 language. These patterns are briefly summarized and more clearly illustrated in Table 2-1.

Table 2-1. L1/L2 parallel subjunctive acquisition patterns

L1 subjunctive acquisition patterns	L2 subjunctive acquisition patterns
Native Spanish-speaking children acquire the indicative mood before the subjunctive mood	Adult L2 learners of Spanish acquire the indicative mood before the subjunctive mood
Native Spanish-speaking children have the tendency to substitute the subjunctive with the indicative Subjunctive neutralization:	Adult L2 learners of Spanish have the tendency to substitute the subjunctive with the indicative Subjunctive neutralization:
Native Spanish-speaking children use the indicative or the infinitive with greater frequency	Adult L2 learners of Spanish use the indicative (including future indicative) and infinitive with greater frequency

Table 2-1, based on the data and results documented in Faingold (1998), provides the reader with a brief illustration and summary of shared L1 and L2 subjunctive acquisition patterns suggesting that both L1 and L2 learners follow similar developmental patterns. According to the studies we have discussed here, L1 and L2 learners show an overall greater use of infinitives and indicative verbs. Blake (1983) analyzed L1 acquisition of the Spanish subjunctive in all of the clausal environments such as deontic-complement, adverbial, relative, and epistemic-complement structures. He found that the epistemic modality in complement clauses of doubt, attitude, and assertion tended to be the most problematic for L1 learners. According to Blake, epistemic modality in relation to verbs of doubt and attitude do not completely develop until later in the acquisition process. He goes on to suggest that indirect commands (deontic-complement), adverbial, and adjectival clauses appeared to be less difficult. Consequently, the only clausal environments in which participants demonstrated adult-like comprehension and used by the age 10 were adverbial and deontic-complement clauses. Collentine (2003) for example, also suggests that “Spanish speakers do not master mood selection until adolescence, when sociolinguistic factors pressure them to conform to linguistic norms” (75). Collentine’s analysis was based on a

study conducted by Gili & Gaya (1972) that analyzed first language acquisition of the Spanish subjunctive by preschool children from Mexico and Puerto Rico. The results of this study showed that children confronted the subjunctive by employing semantic strategies that basically limited their options to deontic modality (as in *querer que*, ‘want that’) and adverbial phrases that made reference to the future (as in *cuando hable*, ‘when I speak’). Taken together, these L1 studies collectively sustain the idea that first language acquisition of the Spanish subjunctive is difficult even for native Spanish speakers. Such claims are based on findings that show Spanish-speaking children continue to overuse and substitute the subjunctive with infinitival or indicative morphology until latter stages of acquisition.

To briefly summarize, this section has identified several important problems that L1 learners of Spanish face during subjunctive acquisition resulting in the further identification of crucial issues that impede L1 (and some areas of L2) subjunctive acquisition. Such issues include the following: (1) substitution of subjunctive mood with indicative mood or infinitive verb forms; (2) inability to master epistemic modality in early development; and (3) limited syntax. Moreover, as mentioned previously in this chapter, native speakers of Spanish generally acquire epistemic modality during the latter stages of language development meaning that the indicative and infinitive forms are obviously acquired before subjunctive mood. Native English speaking learners of Spanish as a second language, like native Spanish speakers, also acquire the subjunctive later in the developmental process. Even though the subjunctive is taught early on in elementary Spanish, usually within the first or second semester, L2 learners have difficulty acquiring the Spanish subjunctive even at the more advanced levels of instruction. However, after learning how difficult it is for L1 learners of Spanish to acquire subjunctive mood, this challenge should come as no surprise to the reader. The studies discussed in the following

sections address some of the theoretical and instructional issues that L2 learners are confronted with when acquiring the Spanish subjunctive. Our study provides evidence for L1 transfer which is discussed in greater detail in chapter 4. In the next section, we focus exclusively on L2 subjunctive acquisition studies.

2.3 L2 Acquisition of the Spanish Subjunctive

The problem that second language learners face when acquiring the Spanish subjunctive is two-fold: the first problem being syntactic (i.e., complex clauses) and the second being semantic (i.e., deontic vs. epistemic). In order to explain such phenomena, we refer to concepts of Generative Grammar and various subtheories based on this approach. We have found this approach to be very useful in investigating L2 subjunctive development.

The Role of Failed Functional Features Hypothesis (FFFH) in SLA: In this section we briefly return to, and summarize several studies already discussed in chapter 1 in order to make them more relevant to the present study. In doing so, we demonstrate how functional categories such as IP and CP are partially responsible for parametric differences that exist between English irrealis and Spanish subjunctive syntax. In chapter 1, we introduced several hypotheses that address L2 acquisition of FCs. In addition, we presented the reader with studies that had been conducted on this issue in L2 acquisition. Vainikka and Young-Scholten (1994, 1996) for example conducted a study using production data which illustrated learners' inability to use functional categories in oral speech. Recall that this inability was interpreted as an indication that L2 learners were unable to access functors in their IL. As a result, they suggest that in L2 acquisition, only lexical words transferred from L1 while function words did not. They also claimed that during the first stages of L2 acquisition, learners' IL included non-specific FPs (i.e.,

functional projections) which later evolved into more specific AgrPs¹ (micro-projections within IP) and CP projections (i.e., FP→IP →CP).

In agreement with the studies mentioned in chapter 1, Radford (1990, 1995) made comparisons between L1 and L2 acquisition of FCs. Radford claimed that in his study of first language acquisition, children appeared to lack both IP and CP functional categories. He also suggested that the acquisition of L1 functional categories occurred in the following order: VP→IP [- finite verb]→CP[+ finite verb]. In other words, L1 learners acquire the VP [+ lexical] first and later IP and CP projections become available. VPs in L2, however, select unspecified functional projections (FP) which later assume other forms such as IP and CP projections with increased exposure to the target language. If Radford's theory is accurate, then L2 learners have an additional step in their development. In other words, rather than VP selecting an IP or CP directly, learners pass through a developmental stage in which unspecified FPs appear before IP and CP complements.

As stated in chapter 1, we do not agree with idea that FCs are unavailable in L2. Rather, we support the findings of Prévost and White (2000), Herschensohn (2001), and Haznedar (2003) who suggest that L2 production does not reflect lack of syntactic competence and FC accessibility. Instead, production data is often incomplete meaning that surface morphology is not always available. In keeping with this idea, the following studies exemplify the limitations of production data which raise concerns about premature L2 production.

2.4 Production Studies

Authors such as Terrell, Baycroft and Perrone (1987), Collentine (1995) and Stokes, Krashen, and Kartchner (1998) have conducted research using methodologies that include oral,

¹ Pollock (1989) separates IP into two micro-projections that include Agr P and T (i.e., agreement features and tense features).

written, and input-based tasks. Each of these studies reported having concerns about requiring students to produce subjunctive structures prematurely due to underdeveloped syntax in L2. In addition, two of these studies show evidence of L1 syntactic transfer which, as mentioned previously, may contribute to the syntactic simplicity in L2 production.

Terrell, Baycroft, and Perrone (1987) suggest that the subjunctive should be introduced later in L2 development of Spanish. In their study, they show that learners require time to learn the subjunctive and use it in oral speech. They claim that learners do not learn how to use complex clauses until the latter part of a beginning or intermediate course. In this study, the researchers investigate learners' interlanguage during first year Spanish in order to analyze learner strategies for using the subjunctive orally. They also look for evidence of comprehension, or lack thereof, during conversation. In order to carry out this study, the researchers recruited students from the University of California, all of whom had studied Spanish for at least two years. The class that the participants were enrolled in normally included an explicit presentation of the grammar point being covered. The presentation was usually followed by practice exercises that included both oral and/or written activities which were later applied in conversation.

Prior to conducting their interviews, the researchers scored exams that had been administered to the students on the subjunctive. Overall, the test scores were very promising and the students were satisfied with their grades and with what they had learned in the class. According to Terrell et al., the average score of the class on this particular exam was 23 out of 25. Although learners were confident in their scores and knowledge of the Spanish subjunctive, the researchers wanted to observe subjunctive accuracy in spontaneous conversation. In order to do this, the researchers required participants to answer a question (given in English) in Spanish. Out of twenty possible questions designed to elicit the Spanish subjunctive, the learners were

asked to randomly select one. Several of the questions used in the study are as follows: (1) “What sort of person would you like to marry?”; (2) “What are your plans for the future?”.

According to our interpretation of this study, a correct answer to the first question would require a learner to use the present subjunctive in a subordinate relative clause as in *Busco una persona que sea simpática* (‘I am looking for someone nice’) or *Quiero casarme con alguien que tenga buen trabajo* (‘I want to marry someone with a good job’), for example. In order to answer the second question, a grammatically correct answer could have included the present subjunctive in a subordinate adverbial phrase as in *Cuando me gradúe, quiero ser enfermera* (‘When I graduate, I want to be a nurse’). The researchers collected data from a total of six hours of taped oral interviews. The subjunctive examples produced by the learners were scored as either “correct”, “incorrect”, and “required but not used” (23). The total number of items analyzed by the researchers was eighty one. Out of these eighty one items, only a total of ten sentences, or twelve percent, showed correct use of the Spanish subjunctive. Rather than producing sentences like the ones shown above, the learners constructed a series of simple sentences not connected by overt CPs (see page 24):

23. **Mis padres quieren mi venga aquí.*
My parents want-3p-plural [Ø me come-3p-sing.-subj here.]
My parents want me to come here.

24. **¿Qué quieres mi diga?*
What do you want-2p-sing [Ø me to-say?]
What do you want me to say?

According to the researchers, only 10% percent (8 out of 81) of the sentences analyzed were comprehensible to native speakers of Spanish. These results contrast dramatically from the high test scores discussed previously on which learners achieved an average of 92% accuracy. The researchers also claimed that out of the eighty one items analyzed for the study, fifty two of

them were sentences that required, but were not used with, the Spanish subjunctive. The majority of these sentences (35/52) were constructed as noun clauses by learners. Twenty seven of these thirty five items were semantically categorized as volition, which in our analysis, fall under deontic modality. The remaining eight sentences were semantically categorized as doubt, which we refer to as epistemic. There were only a total of thirteen adverbial clauses and four relative clauses produced by learners. This shows the productivity of nominal clauses and deontic modality in L2 production. Based on the results of their study, Terrell et al. concluded that after one year of Spanish at the university level, learners had not acquired the rules of the Spanish subjunctive sufficiently to be able to use it correctly in oral speech. The results of Terrell et al. are similar to those of Collentine (1995), discussed below, in that both studies conclude that learners are unable to use the subjunctive in oral speech. In addition, both studies show evidence of L1 syntactic rules being applied in L2. For example, both studies show evidence that the [+optional] overt CP in English is applied in L2 production data (see Terrell et al. p.22).

Collentine (1995) conducted a study that looked at the development of complex syntax and mood selection at the intermediate level Spanish. In order to carry out this study, Collentine chose epistemic subjunctive development in noun clauses as the focal point of his research. He used two distinct types of oral production tasks to determine how L2 learners at the intermediate level used the subjunctive in oral speech. The first task was referred to as the “conversational task” which included a 10 minute discussion between the researcher and each individual participant (n = 40). The second task, called the “controlled oral production task”, presented the participants (n = 38) with a set of drawings that included distinct contexts used to elicit the subjunctive mood in NP clauses. The results of the first task showed that the majority of the 804 clauses produced by the learners were simple sentence structures such as *Juan come* (‘John eats’)

or *Yo trabajo* ('I work') employing the indicative (517/804 = 64%). With this said, however, Collentine stated that "these sentences were, nevertheless, frequently juxtaposed in a paratactic fashion, giving the effect of complex utterances" as seen in the following examples documented in his study (128): **Juan quiere...yo voy* (*'John wants...I go') instead of *Si Juan quiere, yo voy también* ('I John wants, I will also go') (127). Another example of such an occurrence included **no pienso es justo* (*'I don't think is fair') instead of *no pienso que sea justo* ('I don't think it's fair') in which the complementizer *que* ('that') was missing and two indicative verbs appeared side by side. As for the remaining 36% of the participants (287/804), their sentence structure production was labeled "biclausal" (i.e., coordinate structures, NPs, if clauses) with a greater use of nouns than verbs as in *Carlos come una ensalada, Yo estudio en la biblioteca* ('Charles eats a salad, I study in the library') (128). The use of such biclausal structures gave the illusion that learners at the intermediate level were able to create complex sentence structures when in reality, they were actually adjoining simple phrases.

The second task, which focused on both syntactic and modal development, was constructed to specifically elicit NP structures of both epistemic and deontic modality. The data revealed that most of the participants actually used NP sentence structures (64%). Unfortunately, however, one third (36%) of these NPs were simplified constructions missing the complementizer *que*, subordinate clauses, etc. According to Collentine, the simplified structures were used by a number of participants to avoid having to use subjunctive forms; a common occurrence among L2 learners of Spanish. The data also demonstrated that most of the learners' syntactic constructions involved parataxis (i.e., simple sentence structures appearing side-by-side) as seen in the following example (129): *Carla dice: ven aqui* ('Carla says: come here'). The overall simplification of complex syntax and high noun to verb ratio were discouraging for

Collentine. Ultimately, he concluded that the participants of this study had not yet reached a fully developed syntactic stage. The results also showed that overall, the participants were more comfortable using the indicative mood in oral speech and preferred to use less advanced syntax such as coordinate or single clause structures during conversation. More relevant to the present study though, is Collentine's observation that many of the learners seemingly relied on principles of English syntax to complete the controlled speech task. This suggests that learners either used simpler IP complements or applied the L1 rule of [+ optional] overt CPs instead of the required [- optional] overt CP rule in Spanish. Therefore, this study not only raises questions about how learners acquire the subjunctive, but also how L1 interferes with L2 acquisition of the subjunctive. Collentine (1995) is especially relevant to our research because our project builds upon his observations that learners frequently rely on L1 irrealis structures in L2 to fit the more frequently used L1 templates. In the present study, such templates include subordinate IP complements with nonfinite verbs and CP complements with V2 finite [+ indicative] verbs. Moreover, because we have access to large amounts of cross-sectional data, we are better equipped than previous studies to monitor both modal and syntactic evolution as it occurs across levels. In the following section, we look at research that focuses on learners' understanding of the Spanish subjunctive rather than their production of this mood. Stokes, Krashen, and Kartchner (1998), Salaberry (1996), and Leow, Egi, Nuevo, & Tsai (2003) all chose to look at the effects of input on L2 subjunctive development.

2.5 Input Studies

The results revealed in Stokes et al. (1998) suggested that free reading had a positive effect on L2 subjunctive competence (i.e., knowledge of language, not performance) over time. This study included a total of 59 students of Spanish, all of whom were studying Spanish at the University level. In order to carry out their study, the researchers required the participants to take

a test that would measure their competence in the Spanish subjunctive. The test consisted of audio recorded sentence completion which asked participants to complete nineteen phrases such as “*Siempre estudio cuando..., Los profesores generalmente dan exámenes para los estudiantes,...Espero conocer a algún profesor que...*”. In addition, learners filled out questionnaires asking them to include information regarding their overall exposure to Spanish prior to the study, amount of formal study in high school, how much time the learner had spent abroad in a Spanish speaking country, and whether or not they were aware that the subjunctive was the focus of the test. The data were analyzed using parametric statistics which showed that there was no correlation between the amount of formal instruction and study of the subjunctive. Therefore, the results indicate that formal instruction did not affect learners’ performance on the subjunctive test. A multiple regression test showed, however, that free reading in Spanish was a significant factor in determining a learners’ level of competence in relation to the Spanish subjunctive. In other words, reading impacted learners’ subjunctive acquisition while formal instruction did not. The researchers also claimed that raw scores indicated that it would take approximately one thousand hours of reading to raise learners scores on the test. Even though this sounds like a large number, there is reason to support the idea that reading improves subjunctive acquisition. In addition, even though the researchers clearly implied that learners would need to be motivated enough to engage in sufficient free reading in order to be successful, their results did show that high levels of input, as a result of reading, had a positive impact on learners’ subjunctive competence.

Leow, Egi, Nuevo, and Tsai (2003) and Salaberry (1996) each took the notion of reading to a more advanced level through either textually-enhanced examples or simplified input. Leow et al. tested the effect of textual enhancement by using data elicitation, otherwise known as think

aloud protocols, to test the effects of textual enhancement in second language acquisition. In order to carry out this study, a total of 188 learners were recruited. The target linguistic forms analyzed were the present perfect and present subjunctive in Spanish, neither of which the participants had been formally exposed to prior to the study. By the end of the study, a total of 116 participants were eliminated from the study based on poor attendance, inability to produce usable material for data analysis, not following directions, etc. The remaining 72 participants were divided into two groups: a textually enhanced group (i.e., experimental group) and an unenhanced group (i.e. control group). The materials used for eliciting the target structures included a text which learners were asked to read aloud and an assessment task. The assessment task was later used to measure learners' intake of the target structures. The reading text included ten present perfect items and ten present subjunctive items. The texts used for each of the experimental groups included augmented target items that would increase learners' awareness of the structure. By textually enhancing subjunctive examples through underlining, bolding, italics, etc., Leow et al. predicted that the learners' attention would be drawn to the subjunctive structures in question, thus making them more salient. Using a parametric t-test, the researchers discovered that there was no significant difference in the amount of noticing reported in either group. As a result, the researchers concluded that the textually enhanced structures did not significantly increase intake or affect learners' overall performance.

Salaberry (1996), on the other hand, researched the pedagogical value of simplified input by controlling the quantity and the level of input the learners received. He did this by manipulating texts so that the modified version of the original, more complicated texts contained both simpler lexemes and reduced syntactic structures. For example, the vocabulary used in the simplified passages was heavily based on English cognates and employed fewer idiomatic

expressions. The syntactic structures that Salaberry included in these texts avoided using the Pro-Drop Parameter. This means that every sentence included an overt subject. Further simplification included the repetition of subjunctive lexical cues such as *deseo* ('I desire') throughout the text he used in the study. In manipulating and simplifying these texts, the goal of the study was to improve learners' comprehension of the Spanish subjunctive and increase their L2 grammar. The instruments used to collect data for this study included a pre and post test, each of which contained a total of twenty-eight sentences (14 subjunctive items and 14 distracter items). All sentences were exactly the same on both tests and presented to the learners using a multiple choice format. The instruments differed, however, in the order in which the sentences were presented. All items on both tests were completely randomized. In order to carry out this study, Salaberry divided a group of 85 college students into 3 separate groups: simplified input group (which received modified, simpler texts), the non-simplified input group (which received unmodified texts containing more difficult vocabulary and syntax), and the control group (which received texts devoid of subjunctive examples). Using an ANOVA, Salaberry found that there was no significant difference between the pretest and posttest. What he did find, however, was that intermediate level learners performed better than beginning level learners. In addition, he discovered that overall, both experimental groups scored higher on the posttest than on the pretest. Considering that the data showed no between-group significance, Salaberry was unable to demonstrate that input reduction and textual simplification had any impact on the learners' subjunctive acquisition. In fact, the control groups' scores were comparable to both of the experimental groups indicating that there was essentially no acquisition value in presenting the learners' with simplified input. Taken together, these studies suggest that free, unstructured

reading, textually enhanced input, and simplified input are unlikely to facilitate or enhance subjunctive acquisition for the average L2 learner in Spanish.

Input Processing: The types of instruments presented in the previous section have not been the only instruction-based instruments used in subjunctive research. Some of the research conducted on the Spanish subjunctive has investigated the effects of Processing Instruction in L2 subjunctive acquisition (Collentine 2002; Carroll 2004; Gass 1997; and VanPatten 1996, 2004, among others). Processing Instruction (PI) is defined in Collentine (1998) as “ an input-oriented approach to grammar instruction promoting the intake of grammatical properties...” (576). PI focuses on comprehension skills rather than production skills and requires learners to follow rigid instructions that assist them in making form-meaning connections. According to Collentine (1998) “Processing Instruction encourages learners to notice a grammatical structure’s formal and semantic properties...” (580). The principle difference between more traditional grammar instruction and PI is that PI is an input-based method as opposed to an output-based method. In other words, learners are required to focus on sentence interpretation rather than morphosyntactic production. In order to achieve this, PI requires that learners be presented with the following components: (1) explanation of the relationship between a given form and the meaning it can convey; (2) information about processing strategies, showing learners how natural processing strategies may not work to their benefit; and (3) structured input activities in which learners are given the opportunity to process form in the input in a controlled environment more conducive to making form-meaning connections (see VanPatten 1996, p. 60, 67-68). Structured input, when used correctly within the PI framework, is beneficial for learners because intake is thought to be extracted from the input. Some researchers who have included Processing Instruction in their research have obtained successful results from their data analyses (Lee 1987, Farley 2001, and

Farley 2004), implying that learners' competence was positively impacted by PI's structured activities.

Collentine (1998) looked at the benefits of Processing Instruction (PI) in Spanish subjunctive development. To carry out his study, Collentine recruited a total of fifty-four L1 English speakers studying Spanish at the university level. All participants were enrolled in second-semester Spanish courses at the time of the study. The fifty four learners were randomly assigned to three distinct groups including a control group (n = 18), a PI group (n = 18), and an output-based instruction group (n = 18), which we will refer to here as OBI. The treatment for the PI and OBI groups was different only in the way it was processed. Packets including a review of subjunctive forms, an overview and comparison of subjunctive and indicative forms in relative clauses, and communicative and rote practice exercises were distributed to the OBI group. These tasks included fill in the blank activities, sentence completion tasks, student/student conversation exercises and teacher/student conversation exercises. The PI group received a review of subjunctive forms and information regarding relative clauses in both declarative and interrogative sentences, explanations regarding indicative and subjunctive differences in relative clauses, and practice activities relevant to the above factors. The PI treatment packet was created to raise awareness of the Spanish subjunctive by incorporating more explicit information and processing strategies. With this said, however, both groups were exposed to approximately the same vocabulary items, number of nouns and verbs. The control group was the only group not exposed to the Spanish subjunctive at the time of the study. Collentine also included a pretest and posttest to measure the success of the PI and OBI treatments. Each pre and posttest consisted of an interpretation and production task made up of twenty items. A distracter exercise, which included a series of open-ended questions, was distributed to the learners between the two tasks

in order to reduce the chance of priming effects. On the interpretation task, one point was awarded for each correct answer and zero points were awarded for an incorrect answer. On the production task, one point was awarded for the correct mood and zero points for incorrect mood. In order to analyze the data, a two-way analysis of covariance (ANCOVA) was used by the researcher in which the pretreatment subjunctive test means and pretest means were considered covariates in the posttest means. The ANCOVA analysis revealed that there was a main effect for group while the post hoc Scheffe showed that results for both groups were nearly the same. Collentine suggested that both the PI and OBI groups performed better on the posttests. In addition, considering that the researcher was unable to show that the PI group performed better than the OBI group, he concluded that the PI group did not benefit any more than the OBI group. Instead, he found that both treatment types increased learners' ability to perform and interpret structures in the Spanish subjunctive.

Farley (2001) on the other hand, presents different findings to those of Collentine (1998). He looked at how meaning-based output instruction (MOI) and Processing Instruction (PI) affected learners' ability to interpret and produce the Spanish subjunctive of doubt. In order to carry out his study, Farley recruited a total of 29 L1 English speakers at the university level enrolled in a fourth-semester Spanish course at the time of the study. Farley claims that by using fourth semester students, learners would know more vocabulary and therefore learners would have less difficulty performing in Spanish. Prior to the study, the learners had not been formally exposed to the Spanish subjunctive during their time at the university. In order to ensure that participants' ability level was homogenous, Farley eliminated participants who received sixty percent or more on the pretest. A score reaching sixty percent or more on the pretest that he administered before beginning the study indicated that learners' knowledge of the subjunctive

was too advanced for the study. The remaining participants were randomly assigned to either the MOI or PI treatment groups. The MOI group included a total of twelve participants while the PI group was assigned a total of seventeen. The materials used for the treatment included a total of two instructional packets. The packet created for the PI group incorporated eight structured input activities accompanied by an information sheet that contained explicit information regarding the Spanish subjunctive. Such information included structural content of the subjunctive, location in the sentence, semantic environment, and learning strategies. Learners were also warned that subjunctive verb conjugations are redundant meaning that they reflect the doubt or uncertainty already expressed in the principle clause.

The MOI group, like the PI group, received the same packet and explanations. The difference between these two groups, however, was found in the execution of the task. The MOI group, for example, was required to produce subjunctive present tense structures in complex clauses while the PI group was required only to make choices about the sentences in front of them. According to Farley, both groups were exposed to formatting that would increase saliency of the subjunctive forms. The treatment period lasted a total of two days. Two posttests were completed by the participants. The first was distributed the day after the treatment was completed while the second was administered one month later. The pre and posttests included a series of interpretation and production tasks. The data showed that both groups' scores increased from the pretest to the first posttest on the interpretation exercise. On the second posttest, the MOI scores were considerably lower than those presented by PI. Both groups showed improvement from the pretest to the first posttest on production exercises as well. Using a two-way ANOVA with repeated measures, PI and MOI were considered the between-subjects factor while the three tests (i.e., pretest, posttest 1, and posttest 2) were labeled as the within subjects

factor. The ANOVA analysis revealed that time had a significant effect on learners' performance meaning that both groups benefitted from increased exposure to the Spanish subjunctive. With this said, however, Farley states that there was a significant interaction between time and instruction type on the interpretation task which showed that PI performed better than MOI overall. A two-way ANOVA was also used for the posttest analyses which showed that both treatments improved learners' ability to produce the subjunctive in subordinate clauses. There was no significant effect for type of instruction on the production exercise.

Although the results of these studies differ, they all indicate that subjunctive acquisition appears to rely on, at least to some extent, the ability to interpret mood. Moreover, Terrell, Baycroft, and Perrone (1987) indicate that rote exercises do not demonstrate whether or not learners actually understand the irrealis connotation of subjunctive phrases nor do they facilitate subjunctive use in oral speech. These studies, along with Collentine (1995), also show that learners tend to produce nominal clauses considerably more than relative, adverbial, or impersonal clauses. Terrell, Baycroft, and Perrone make this point clear in their study as does Collentine (1995).

Massery (2008c) provides additional support for the findings for Terrell, Baycroft, and Perrone (1987) and Collentine (1995). For this study, a total of 155 oral and written examples were analyzed using an ANOVA and post-hoc Tukey test which ultimately revealed that learners were capable of successfully producing (on their own) the Spanish subjunctive in deontic-nominal clauses. The data were collected from 11 learners who were randomly chosen from a large data base provided by Dr. Joaquim Camps from the University of Florida. The results of this study showed that in oral production, learners produced the subjunctive in nominal clauses

115 times, with 61% accuracy. Learners produced adverbial clauses 18 times, with 9% accuracy and impersonal clauses 14 times, but with only 4% accuracy.

Taken together, these studies influenced our decision to focus on nominal clauses of deontic modality in our task design. Moreover, as a result of the limited production data found in many of these studies, we chose to rely on grammaticality judgment tasks, rather than production tasks, to avoid such restrictions. We address these issues, among others, in chapter 3.

2.6 Conclusion

Based on this review of Spanish subjunctive acquisition, and of the process of acquiring complex syntax and modality, we suggest that acquisition of the Spanish subjunctive is comprised of complex syntax (i.e., S1, V1 + S2, V2) and morphology. Therefore, it is no mystery as to why L2 learners of Spanish are faced with a difficult task when acquiring the subjunctive. In order to remedy such difficulties, we suggest that L2 learners of Spanish need exposure to the following components: (1) English irrealis structures; (2) familiarity of parametric distinctions that exist between L1 and L2, and how such differences result in unequal surface structures; (3) comprehension of epistemic and deontic modality; and (4) identification of functional categories. In addition, we have continuously drawn parallels between input and output based studies, which despite their varied test designs, present similar results. Taken together, the studies mentioned in this chapter have allowed us to make the following generalizations: (1) learners produce nominal clauses with greater frequency than other clauses in oral speech; (2) deontic modality is acquired before epistemic modality; (3) L2 production data is limited and does not reveal learners' competence; (4) the role of input in L2 subjunctive development is inconclusive.

Although these studies have provided us with ample information regarding the Spanish subjunctive and L2 acquisition, there are still some important aspects missing from this area

of research. For example, none of these studies test a wide variety of syntactic environments. Collentine (1995) shows us that learners produce combined simple sentences using commas. Terrell, Baycroft, and Perrone (1987) indicate that learners are able to produce nominal clauses of deontic modality. Together, these studies show us that production data is limited in L2. With such limited production, it is difficult to make sound assumptions about what IL may actually look like during subjunctive acquisition. Another problem includes the limited amount of class levels studied at one time. Studies have the tendency to focus on either beginning or intermediate learners exclusively which also limits our access to IL development. We have taken these issues into account in order to design a study that would include the following components: (1) a variety of instruction levels (i.e., cross-sectional test design); (2) competence tasks to test a wide variety of syntactic environments; and (3) nominal clauses as they appear to be the most prolific clausal structures in previous L2 studies. Such factors will allow us to test a variety of different classes and levels that could give us a better idea of L2 subjunctive evolution in average university classrooms. In turn, our design is used to identify acquisition patterns by creating plausible IL representations of L2 subjunctive development.

CHAPTER 3 METHODOLOGY

3.1 Introduction

The studies reviewed in the previous chapter have all made contributions to the field of L2 acquisition of the Spanish subjunctive and have provided researchers with many explanations regarding interlanguage development. However, none of this work has looked at the L2 acquisition of the Spanish subjunctive cross-sectionally, nor has it specifically addressed L2 acquisition of the Spanish subjunctive in terms of IP and CP complement selection in comparison to L1 irrealis structures. As a result, the following research questions form the foundation of the present research:

How does the subordinate marker *que* ('that') impact learners' judgment of grammaticality in complex sentence structures in L2?

With what accuracy do L2 learners at different levels of instruction of Spanish correctly identify mood and conjugate verbs using corresponding morphology in nominal clauses?

3.2 Participants

One hundred and sixty North American native speakers of English at the University of Florida were recruited for this study. All participants were students enrolled in varying levels of Spanish as a foreign language at the time of the study. The classes selected for this cross-sectional study were (1) SPN (Beginning Spanish II); (2) SPN 2201 (Intermediate Spanish 2); (3) SPN 3300 (Advanced Grammar and Composition); (4a) SPN 4420 (Advanced Composition and Syntax); and (4b) SPN 4780 (Spanish Phonetics). These sections were chosen as representative of 1st, 2nd, 3rd, and 4th year levels of instruction. Two classes at each level were selected for the study based on scheduling, availability, and willingness of the instructors to permit research in their classes. A total of eight classrooms were visited over a two week period.

At the start of the study, all of the participants had already been introduced to the Spanish subjunctive one or more times depending on the level. The instructors who allowed their classes to be used for data collection were informed exactly what class day and which period(s) the researcher would administer the activities. All participants were between the ages of 18 and 23 and all were native speakers of English studying Spanish as a second language at the time of the study. Gender was not controlled for in this study because we chose to analyze the data from a generative perspective. As a result, we did not look at specific sociolinguistic variables such as gender, age, race, etc.

3.3 Instruments

In order to answer the research questions presented in the previous section, the data for this study were collected through two instruments: an interpretation task and a production activity¹. In the following sections, we discuss each of the three data collection instruments in detail, including information about how each task was introduced to the participants of the study. In the latter portions of this chapter, we discuss the statistical procedures used to analyze and interpret the data. The ME task is discussed first because it was distributed to learners on the first day of data collection. L2MAC is discussed second, not only because it was distributed on the second day, but also because of its overall complexity.

3.3.1 Magnitude Estimation (ME)

The ME task was distributed on the first day of the study. ME is a technique which was originally used in psychophysics to estimate factors such as brightness or loudness and compare them with a physical stimulus. More recently, however, this method has been used in linguistics

¹ We included a third task entitled Syntactic Identification (SI). Unfortunately, due to possible priming effects, the results were skewed and therefore invalid. A full explanation of SI task design, scoring procedure, and corresponding RQ can be found in Appendices C and D.

and adapted to accommodate acceptability judgment tasks based on the notion that grammatical judgments can be obtained when learners are exposed to linguistic stimuli. In linguistics, ME can be described as a modernized way to monitor subtle linguistic intuitions and to numerically rank items as X is greater than Y. In other words, ME “ is a procedure whereby participants are asked to rank a stimulus by stating how much better or worse the stimulus is from the previous one” (Mackey and Gass 2005, p. 359). It has received a good deal of attention in SLA since the mid 1990s, including studies conducted by Zhang (1995), Bard, Robertson, and Sorace (1996), Southwood and Flege (1997), Gass, Mackey, Alvarez-Torres, Fernández-Garcia (1999), Keller and Asudeh (2001), and Featherson (2005a, 2005b).

ME allows the researcher to address L2 data with greater accuracy than the more commonly used interval scales. Analyzing the grammaticality of Spanish subjunctive structures using confining, traditional scales is difficult because the choice of mood is controlled and manipulated by the speaker meaning that it requires a more flexible and gradient numerical range. Interval scales, for example, require some type of numerical ranking among various items, which is advantageous because they allow researchers to measure linguistic data quantitatively. However, these scales implement somewhat rigid and artificial ranking systems that are controlled by the researcher rather than the participant. The rigidity of the more traditional interval scale requires participants to confine their intuitions to potentially restrictive scales. Such limitations stifle the participants’ ability to interpret linguistic data on a more intuitive level, ultimately putting in jeopardy the goal of the acceptability judgment tasks themselves. ME, on the other hand, combines the benefits of the more traditional interval scale (ranking and mathematical quantification) with linguistic intuition data. By allowing participants to select numerical values that represent the stimuli as they perceive them, the researcher gives each

participant the freedom to interpret the data on a more personal level and thereby provide a more accurate analysis of their judgment. This is advantageous for researchers because grammatical intuitions are gradient meaning that they function on an arbitrary slope that only the individual participant can create and fully control. From this perspective, it would be unnatural to confine such intuitions to a traditional seven or ten point scale controlled by someone other than the participants themselves. To our knowledge, there are currently no studies that use ME in relation to L2 acquisition of the Spanish subjunctive. Therefore, with this study, we expand the uses of ME in SLA to explore L2 subjunctive intuitions. In the paragraphs that follow, we briefly explain how ME works and how it was presented to the participants prior to the distribution of the actual tests used for data collection.

3.3.2 ME Data Collection

The first day of the study was dedicated strictly to the ME acceptability judgment task. Before the task was administered, a brief presentation about how ME was originally used in psychophysics to measure perception using visual stimuli was introduced to the participants using distinct line lengths. Following a study conducted by Keller and Asudeh (2001), the participants were asked to assign a number to the first line (also referred to as the reference line) that appeared on the board. After choosing this number, the learners were asked to judge the other two lines in relation to the reference line. The values assigned to the lines were entirely participant driven. In other words, the participant could have assigned 300, 30, or 3 to the reference line if that is how their intuition guided them. However, the remaining lines should have been judged in proportion to the reference line. For example, using figure 3-1 as the visual stimulus, if the learner assigned 300 to the reference line, the second line should have been assigned 150 and the final line 75. Once the learners had chosen numbers to represent their

perceptions of each line, we provided them with our analysis (see Figure 3-1), using the number 30, to clarify the process.

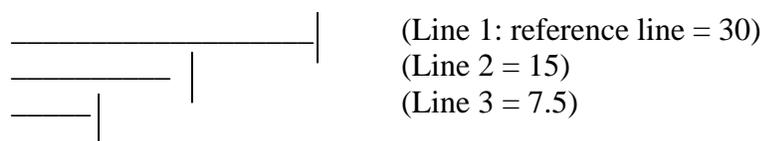


Figure 3-1. Sample reference line demonstration

By using this example, participants saw how this method was used in psychophysics which allowed us to more effectively explain how these same principles could be applied to ME tasks in linguistic studies. Before beginning the test, the learners were asked to complete a practice test, allowing them to apply the principles of ME they had been exposed to. The practice test included a total of 10 sentences in English that varied in grammaticality. All of the sentences provided in the practice exam were presented to the learners in English as a way to avoid altering their intuitions of Spanish in any way prior to the distribution of the actual test used for data collection. We also wanted to be sure that they understood ME. The ME task itself consisted of 60 examples in Spanish plus the reference sentence *El chico come hamburguesas en el parque* ('The boy eats hamburgers in the park'), for a total of 61 sentences. We chose to use the phrase *El chico come hamburguesas en el parque* because we did not want to run the risk of altering learners' intuition about the subjunctive. We were afraid learners would discover that the task was based on the subjunctive and therefore chose a sentence that was less likely to reveal its purpose. As we are the first to analyze L2 subjunctive intuition data using ME, to our knowledge, we had no direct references from which to draw upon in terms of what the reference sentence should consist of in Spanish. With this said, however, we do provide examples of other SLA studies that have designed ME tasks.

Featherson (2005), for example, told learners that the first sentence in a series of items was considered the reference line. All other items would be rated in proportion to the score assigned

to the reference line. He used the sentence “Jackie sent immediately the letter to her cousin” as the reference line in the practice exam that he administered before the actual task which was given in German. This sentence is not a native-like English sample as shown by the incorrect placement of the adverb. The second item presented to the learners “Jackie sent the letter to her cousin immediately” is completely grammatical. The third example, however, “Jackie sent to her cousin immediately the letter” is the least grammatical of the three sentences.

Southwood and Flege (1999), like Featherson (2005) used ME to judge second language acquisition data, only this time, it was used to judge the perception of foreign accents. They, like Featherson, also used a modulus that could be considered “middle of the range” (338). This “middle of the range modulus”, as they refer to it, consisted of an English sentence read by an Italian speaker whose accent was neither native-like nor incomprehensible in L2. As shown here, Featherson and Southwood and Flege chose reference examples that were neither completely correct nor incorrect.

In our study, the ME task required participants to assign a number to the reference sentence which appeared first in a series of sentences. The reference sentence used, *El chico come hamburguesas en el parque* (‘the boy eats hamburgers in the park’), did not include the grammatical structures that were being tested. It did, however, provide learners with a grammatically correct structure in Spanish. This sentence was also chosen as the reference sentence because it was easy for participants at all levels to understand on both a syntactic and semantic level. There were a total of six distracter sentences that used structures unrelated to the subjunctive interspersed randomly throughout the items. The remaining 54 examples were chosen because of their syntactic structure and are referred to as environments 1, 2, 3, 4, 5, and 6 in this study. These environments were ordered randomly so the students would remain unaware

of the various structures being examined. The six syntactic environments used are presented in table 3-1. Note that only several of these structures yield accurately structured subordinate clauses in Spanish, although the others yield phrases common in learner interlanguage. For example, environment 1 (+ *que* + subjunctive) is a grammatical subordinate structure in Spanish as seen in *espero que vaya a la fiesta* ('I hope he/she goes to the party'). Environment 3 (+ *que* + indicative), however, renders a correctly structured subordinate clause in English, and in Spanish, when epistemic verbs possess the following semantic properties: [+ existence] and [+ truth] Take the following example:

25. *Pienso que va a la fiesta.*

I think-1p-sing.that he/she 3p -sing. go to the party.

'I think (that) he goes to the party'.

From this example, we can see that in both languages, CP structures are used with V2 [+ finite] verb forms. In English, however, the overt CP is optional and V2 appears in the indicative mood. Unlike English, Spanish always requires V2 subjunctive morphology in deontic-nominal environments that include S1 and S2. The existence of a [+ optional] overt CP in learners' L1 raises questions as to how learners analyze L2 syntax and in turn, how the subordinate marker *que* affects their sense of grammaticality in L2. For example, are learners reducing complex clauses in L2 to [- *que*] IP structures or is the [+ optional] overt CP rule being transferred from L1 to L2? We address these questions among others in chapter 4. Before we can proceed further, however, we need to complete the present analysis regarding the syntactic environments analyzed in our study.

Environments 1-3 included the lexical item *que* ('that') while environments 4-6 did not. It was necessary to expose the learners to structures that included and excluded this lexical cue in order to measure the impact it had on the participants' perception of grammaticality, thereby

addressing research question 2: “How does the subordinate marker *que* (‘that’) impact learners’ judgment of grammaticality of complex sentence structures in L2?”

Table 3-1. Syntactic environments used in ME

Environment	Formula	Example <i>I want John to speak.</i>
1	+ <i>que</i> + subjunctive	<i>Quiero que hable Juan.</i>
2	+ <i>que</i> + infinitive	* <i>Quiero que hablar Juan</i>
3	+ <i>que</i> + indicative	* <i>Quiero que habla Juan.</i>
4	- <i>que</i> + subjunctive	* <i>Quiero hable Juan.</i>
5	- <i>que</i> + infinitive	* <i>Quiero hablar Juan.</i>
6	- <i>que</i> + indicative	* <i>Quiero habla Juan.</i>

This question was based on the hypothesis that learners would find structures that used *que* (as in environments 1-3) less grammatical than those that did not use *que* (as in environments 4-6) because the latter environments reflect the more commonly used English irrealis constructions.

3.3.3 L2 Mood and Conjugation Task (L2MAC)

We presented L2MAC (see appendix 1) on the second day of the study. L2MAC was designed to investigate the first research question: “With what accuracy do L2 learners at different levels of instruction correctly identify mood and conjugate verbs using corresponding morphology in nominal clauses?” In an effort to answer this question, this task required the participants to indicate the mood of each item by writing the letter ‘I’ for indicative or ‘S’ for subjunctive, and to conjugate the verbs found in the subordinate clauses according to their modal interpretation of the sentence. This exercise consisted of 15 sentences that were constructed according to the following three semantic environments: (1) epistemic subjunctive phrases (ES); (2) epistemic indicative phrases (EI); and (3) deontic subjunctive phrases (DS). The dual component test design required learners not only to conjugate the verb in the subordinate clause, but also to indicate how they identified the mood of each sentence. This design allowed for the

separate analysis of intended mood as well as morphological accuracy of their conjugations. L2MAC was constructed in this way to avoid relying strictly on performance data (i.e., production) because knowledge of the participants' modal competence is also important to this investigation. Therefore, we can see which mood the participants intended to use even if their choices were not reflected morphologically. For example, if the participant was exposed to the sentence *Mabel sugiere que Alejandra _____ (romper) su blackberry* ('Mable suggests that Alexandra break her blackberry') and she chose *S* as the mood and **rompe* ('he/she breaks') in the indicative as opposed to *rompa* in the subjunctive, we know that she was able to accurately identify mood in L2 even though the incorrect verb conjugation did not reflect her modal competence. Learners' ability to identify mood is important in this study, especially considering that learners' production is often limited as discussed in chapter 2.

3.3.4. Other Information

We chose to administer the ME task first in order to avoid priming effects. If we had distributed L2MAC prior to the ME task, it was likely that learners, especially at the more advanced levels, would have realized the purpose of the study. Such recognition would have made learners aware of the subjunctive focus of ME thus altering their intuitions. Upon completion of these tasks, participants filled out a language background form which asked them to indicate whether or not they had chosen Spanish as a major or minor, to list previous courses taken in Spanish, and finally, to specify how much exposure they had to the Spanish subjunctive prior to the study. Because the language background form required learners to include specific information about their previous experience with the Spanish subjunctive, it was administered after L2MAC in order to avoid potentially influencing the participants' performance on the tasks. On the second and final day of the study, we also revealed to the learners the nature, purpose, and goals of the project using a PowerPoint presentation. In addition, we also took the time to

answer any questions participants had about our study. Overall, learners asked very few questions pertaining to the linguistic aspect of our study and instead, took the opportunity to express their personal struggles with the Spanish subjunctive.

3.4 Scoring Procedures

In this section, we show how each variable was labeled and categorized, what types of tests were run, which statistical models were followed, and finally, how these components were used together to analyze and interpret the data of this study.

Each task followed a distinct set of scoring procedures. For the ME task, each participant chose numbers that reflected their individual reaction to the stimuli presented to them during the task. In this activity, as explained previously, the participants were allowed to judge the grammaticality of the sentences they read by assigning each sentence a score based on a scale that they themselves had created. In order to analyze this test statistically, however, the numbers had to be made comparable to each other before using an ANOVA. This was done by scaling and centering the data by using Excel. In order to center the data, we took the average score of each individual test first and then subtracted the average of these numbers. The difference was divided by the standard deviation of the set of observations. As a result, all of the observations were centered at zero causing the results to be subject to homogenous variability. The homogenous variability is what made the numbers analogous and therefore allowed us to more accurately observe the participants' behavior on the test. After the original scores had gone through the pretreatment process, the results were analyzed using a linear-mixed model which was used to capture a possible correlation in the responses of each participant. The name linear-mixed comes from the fact that some of the effects analyzed in a given study may be fixed while others may be random. In this particular project, the linear-mixed model considered the test to be the fixed factor while the participants were analyzed as the random factor. The tests and participants were

labeled this way because participants' exposure to the Spanish subjunctive prior to this study varied while the tests remained unaltered throughout the duration of the study.

In L2MAC, there were a total of 15 sentences. Each of these sentences contained a modal identification component which asked participants to indicate the mood of the sentence and another which asked them to conjugate the verb of the subordinate clause. One point was awarded for accurate mood choice and another for accurate verb conjugation. Each participant could obtain up to two points per sentence making the maximum possible score a total of 30 points (15 sentences x 2 points per sentence). Agreement morphology, however, was not taken into consideration. For example, if the target form of the verb *comer* ('to eat') was to be conjugated as *coma* (1st, 3rd person singular, subjunctive) in the subordinate clause and the participant's answer was *comas* (2nd person singular subjunctive), 1 point was awarded for accurate subjunctive verb conjugation. The statistical test used to analyze this data was a Two Way ANOVA which considered mood + conjugation ability as factor 1 and course level as factor 2 using the following formula: "prop = course + mood + course*mood (interaction) + student (random) + error". After running the Two Way ANOVA, a post hoc Tukey-Kramer test was conducted to observe the cross-sectional development between factor 1 (mood and conjugation ability) and factor 2 (course level). In addition to making separate conclusions about factors 1 and 2, we were able to see whether or not modal development and production skills evolved together or separately, and whether or not learners were better at interpreting mood than conjugating verbs at any time during interlanguage development.

3.5 Conclusion

This chapter presented the reader with information regarding instrument design and distribution, showing that each instrument was tailored specifically to address the IL development of the Spanish subjunctive. ME was designed to investigate learners' syntactic

competence in L2 subjunctive. L2MAC was designed to examine participants' ability to accurately choose mood and conjugate verbs in nominal clauses. Having explained how the data was collected, scored, and statistically quantified, we turn now to the results and interpretations of the data. In chapter 4, we discuss the results of each task in detail while revisiting and answering the two research questions presented at the beginning of this chapter. Finally, in chapter 5, we discuss the overall success of the project, goals and objectives for future research, and the pedagogical implications of this study.

CHAPTER 4 RESULTS AND DISCUSSION

4.1 Introduction

With the previous chapter's discussion of how the activities were used for data collection, their distribution, and scoring procedures in mind, this chapter discusses and interprets the results of each individual task. The tasks are discussed in the following order: Magnitude Estimation (ME) and L2 Mood and Conjugation Abilities (L2MAC). ME is discussed first providing readers with information regarding learners' syntactic intuitions in L2. L2MAC, the more traditional of the two tasks, helps to explain modal and morphosyntactic struggles that learners face during L2 acquisition of the Spanish subjunctive. L2MAC allows us to make reference to specific modal and conjugation errors in the data. Such examples help clarify more abstract concepts presented in the ME analysis. The following sections present the results along with the statistical analysis of the various factors included in each activity. Chapter 5 places the results of this study within the broader empirical and theoretical context in order to draw conclusions about our findings.

4.2 Magnitude Estimation Task

ME allows us to analyze learners' subjunctive intuitions in a way that, to our knowledge, has not been tested prior to this study. By using ME, we were able to show that the functional category *que* was either missing or null in learners' structural development. Furthermore, this task design required learners to rely on their grammatical intuitions, and shed light on learners' competence rather than their performance abilities; a feature that sets ME apart from more traditional task designs in L2 subjunctive acquisition. In this section, we show how the participants rated the distinct syntactic environments tested in ME and illustrate the impact that the functional category *que* ('that') had on learners' grammatical intuitions.

Recall that ME allows each participant to assign scores according to their own arbitrary scale (see chapter 3). Therefore, in order to make the scores comparable, we standardized the data for each participant. The reader is also reminded that eight grammatical sentences (4, 20, 25, 38, 41, 46, 51, and 61) were eliminated prior to the statistical analysis of this task as our focus was only on participants' reaction to ungrammatical structures. By using only ungrammatical structures, we were able to test a much wider variety of syntactic environments in the task, including those used in English. We used a Two Way ANOVA model in which we included the participants as a random effect. This means that we included the participants in the model as an effect and tried to capture a possible relationship between the responses of each learner. The results show that course was not a significant factor by itself; however, it should be kept in the model because its interaction with environment is significant. The current statistical model used for this analysis does not allow us to see exactly how course affects the results. We don't exactly know what would happen if we took it out of the model. However, as shown below, course does have an effect on the interaction with syntactic environment and level of instruction.

Table 4-1. Results for ME Task

Factor	F	P-value
Course	0.21	0.9307
Environment (syntactic environments 1-6)	159.73	<.0001*
Environment*Course	3.19	<.0001*

In chapter 3, it was hypothesized that participants would rank environments 1 (+ *que* + subjunctive), 2 (+ *que* + infinitive), and 3 (+ *que* + indicative) lower than environments 4 (- *que* + subjunctive), 5 (- *que* + infinitive), and 6 (- *que* + indicative). It was also suggested that this ranking order would demonstrate the tendency that learners have to reduce complex syntax (i.e., S1, V1 + S2, V2) to IP structures or [+ optional] overt CP complements with indicative morphology. The perceived correctness of such environments would show a preference for

English-like syntax over complex L2 structures. Our intuitions were partially correct.

Environments 5 (- *que* + infinitive) and 6 (- *que* + indicative), which are the most English-like structures, received the highest scores from learners. Environments 1 (+ *que* + subjunctive), 2 (+ *que* + infinitive), and 3 (+ *que* + indicative), however, were ranked between environments 5/6 and 4. These environments (1, 2, and 3) also received approximately the same score showing no significant difference between them. Environment 4 (- *que* + subjunctive) was ranked the lowest of all six environments and therefore considered to be the least grammatical structure by learners. Table 4-2 shows that there are statistical differences between each of the six environments. In other words, each environment is significant in the model. These differences, however, exist as a result of each environments' interaction with course. Course is not shown in this table, however, because course by itself provides only large p values and is therefore not considered significant in the model.

Table 4-2. Means and standard deviations for ME and corresponding p values

Effect	Environment	Estimate	Standard error	DF	t value	p value
Environment	1/+ <i>que</i> + subjunctive	-0.19	0.03	780	-6.02	<.0001*
Environment	2/+ <i>que</i> + infinitive	-0.13	0.03	780	-4.18	<.0001*
Environment	3/+ <i>que</i> + indicative	-0.07	0.03	780	-2.09	0.0365*
Environment	4/- <i>que</i> + subjunctive	-0.4	0.03	780	-13.51	<.0001*
Environment	5/- <i>que</i> + infinitive	0.52	0.03	780	16.75	<.0001*
Environment	6/- <i>que</i> + indicative	0.53	0.03	780	16.96	<.0001*

Table 4-3 on the following page summarizes the results of ME using Tukeys' post hoc test to adjust the p values. In order to understand the results provided in table 4-3 the reader must know how to read it. The syntactic environments in column A indicate that there is a difference between any two environments that appear in this column. For example, in row 3, we notice that there is an interaction between environments 1 and 4 as demonstrated by the low p value (p = <.0001). The estimated difference provided in column B is positive indicating that environment 1

(+ *que* + subjunctive) is the environment with the higher value. In order to clarify this information, each environment that assumes the higher score appears with an asteric (i.e., in row 3, environment 1 received the higher score). In table 4-3 we notice that there are no statistical differences between syntactic environments 1 (+ *que* + subjunctive), 2 (+ *que* + infinitive), and 3 (+ *que* + indicative), or between environments 5 (- *que* + infinitive) and 6 (- *que* + indicative). Environment 4, however, was statistically different from the other 5 environments and therefore appears separately in table 4-4.

Table 4-3. Compared Syntactic Environments: p values adjusted by Tukey

	A Compared syntactic environments	B Estimated difference	C p value
1.	1 (+ <i>que</i> +subjunctive) – 2* (+ <i>que</i> +infinitive)	-0.06	0.7831
2.	1 (+ <i>que</i> +subjunctive) – 3*(+ <i>que</i> +indicative)	-0.12	0.0620
3.	1* (+ <i>que</i> +subjunctive) – 4 (- <i>que</i> +subjunctive)	0.23	<.0001
4.	1 (+ <i>que</i> +subjunctive) – 5*(- <i>que</i> +infinitive)	-0.07	<.0001
5.	1 (+ <i>que</i> +subjunctive) – 6* (- <i>que</i> +indicative)	-0.07	<.0001
6.	2 (+ <i>que</i> +infinitive) – 3*(+ <i>que</i> +indicative)	-0.07	0.6804
7.	2 (+ <i>que</i> +infinitive) – 4 (- <i>que</i> +subjunctive)	0.29	<.0001
8.	2 (+ <i>que</i> +infinitive) – 5*(- <i>que</i> +infinitive)	-0.66	<.0001
9.	2 (+ <i>que</i> +infinitive) – 6*(- <i>que</i> +indicative)	-0.67	<.0001
10.	3 (+ <i>que</i> +indicative) – 4 (- <i>que</i> +subjunctive)	0.36	<.0001
11.	3(+ <i>que</i> +indicative) – 5*(- <i>que</i> +infinitive)	-0.59	<.0001
12.	3 (+ <i>que</i> +indicative) – 6*(- <i>que</i> +indicative)	-0.60	<.0001
13.	4 (- <i>que</i> +subjunctive) – 5*(- <i>que</i> +infinitive)	-0.95	<.0001
14.	4 (- <i>que</i> +subjunctive) – 6*(- <i>que</i> +indicative)	-0.95	<.0001
15.	5 (- <i>que</i> +infinitive) – 6*(- <i>que</i> +indicative)	-0.01	1.0000

In order to more concisely organize the information shown in table 4-3 we provide the reader with a summary of the ME rankings in table 4-4. The ranking of the six environments, as shown in table 4-4, allows us to make the following observations: (1) structures containing infinitive or indicative verbs in the subordinate clause were scored the highest by participants if the complementizer *que* was not included. We remind the reader that environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) are the most English-like structures illustrating a preference for syntax that resembles learners' L1; (2) structures containing the complementizer *que* received

the second highest ranking in which the subordinate V2 did not alter learners' sense of grammaticality; and (3) structures containing a subjunctive verb in the subordinate clause that did not include the complementizer *que* were ranked as the least grammatical structures among learners.

Table 4-4. ME Environment ranking

Environment	Rating
Environment 5 (- <i>que</i> + infinitive) Environment 6 (- <i>que</i> + indicative)	Highest ranked structures (i.e., perceived as the most grammatically acceptable syntactic environments by participants)
Environment 1 (+ <i>que</i> + subjunctive) Environment 2 (+ <i>que</i> + infinitive) Environment 3 (+ <i>que</i> + indicative)	Middle ranked structures (i.e., perceived as moderately grammatical environments by participants)
Environment 4 (- <i>que</i> + subjunctive)	Lowest ranked structures (i.e., perceived as the least grammatically acceptable environments by participants)

Based on these observations, we propose that learners identified subjunctive morphology in subordinate clauses as requiring the complementizer *que* in complex syntactic structures (i.e., S1, V1 + S2, V2). We suggest that this indicates that learners had access to functional categories in L2. In other words, if learners did not have access to FCs, they would have marked environment 4 (- *que* + subjunctive) as grammatical along with environments 5 (- *que* + infinitive) and 6 (- *que* + indicative). Even in English a structure resembling environment 4 (- *que* + subjunctive) would require at least a null CP. Take the sentence *I prefer (that) you go tomorrow*, for example. Even if the speaker chooses not to use the overt CP, the structure must include it. Therefore, we have evidence of L1 transfer. In chapter 5, we return to these results and apply them to X-Bar theory.

After having analyzed and discussed the results for the ME task, we are ready to discuss L2MAC. With L2MAC, we gain a clearer view of learners' semantic abilities and their

perceptions of deontic and epistemic modalities. In the following section, we present the reader with the results of L2MAC and revisit the research questions that motivated this study. In addition, we answer each question by applying the results and findings in our discussion.

4.3 L2MAC

L2MAC was the more traditional task presented to the participants of this study. In this sense, it more closely resembles the design formats of data collection instruments used in previous L2 subjunctive acquisition studies. L2MAC also mirrors the mostly mechanical ways learners tend to practice the subjunctive in foreign language textbooks. The design of this task is practical in that it requires learners to identify mood and conjugate verbs simultaneously. Therefore, the main purpose of this task was to test modal and morphological skills in L2. While it is important to continue to test and research aspects of L2 Spanish subjunctive acquisition in this way, it is not necessarily a new technique in the field of SLA. With this said, however, L2MAC is designed to observe how well learners were able to both choose the mood of a given sentence and complete guided production tasks that focused on V2 morphology. Having given the learners the opportunity to identify mood and conjugate verbs in the same exercise, we were able to measure L2 subjunctive competence cross-sectionally along with any potential interaction between course level (i.e., variable 1) and ability level (i.e., variable 2).

L2MAC required participants to indicate the target mood of each item (*I* for indicative or *S* for subjunctive) and then to conjugate the subordinate verb according to the chosen mood. A total of two points could potentially be scored for each item. One point was awarded for accurate verb conjugation and another point was awarded for accurate choice of mood. When looking at the verb conjugation and mood choice, it was observed that the participants rarely lost points on one aspect without losing points on the other. This was interpreted to mean that modal and conjugation abilities could not be teased apart. In other words, participants who accurately

indicated the target mood of a given item were also able to equally conjugate the verb accordingly. Conversely, participants who were unable to accurately choose the target mood could not accurately conjugate the verb. Most mood and conjugation scores were similar for each participant. Table 4-5 provides the reader with the raw scores for L2MAC. Here we see that all levels scored nearly the same on mood and conjugation. The conjugation scores for Beginning Spanish II (1131) are slightly lower than the mood scores. If we refer to the literature provided in chapters 1 and 2, however, such morphological inaccuracy may exist as a result of mismatched features in IL. These notions will be discussed in greater detail in chapter 5 and applied using X-Bar theory.

Table 4-5. Raw Scores for L2MAC

Level	Total mood	Total conjug	Total
1131 (Beginning Spanish II)	8.95	8.48	17.43
2201 (Advanced-Intermediate Spanish)	7.77	7.77	15.55
3300 (Advanced Grammar and Composition)	9.20	8.85	18.05
4420 (Advanced Composition and Syntax)	9.68	9.84	19.53
4780 (Spanish Phonetics)	8.92	8.83	17.75

Table 4-6 provides the reader with the results for five of the participants' mood and conjugation scores for L2MAC. We chose to show scores from one participant at each level as representations of common behavior among the learners. We see from this table that learners received identical or similar scores on mood and conjugation which, in only one case, varied more than two points.

Table 4-6. Sample scores for L2MAC (mood and conjugation abilities)

Participant	Total mood	Total conjugation	Total
P1131A	10	9	19
P2201B	7	7	14
P3300C	8	7	15
P4420D	10	10	20
P4780E	10	11	21

As mentioned previously, table 4-5 shows the raw scores for each individual group on L2MAC. In the last column, we see that Advanced Composition and Syntax (4420) received the highest score of all the classes. Advanced Grammar and Composition (3300) received the second highest score. We also observe that Spanish Phonetics (4780) received lower scores than the other two advanced levels. We remind the reader that Advanced Grammar and Composition (3300) and Advanced Composition and Syntax (4420) are language classes while Spanish Phonetics (4780) is a content class meaning that grammar is not the focal point of the course. As a result, the learners enrolled in the language courses were exposed to Spanish grammar examples more regularly than the learners in the Spanish Phonetics course. Table 4-5 also shows that Beginning Spanish II (1131) received higher scores than Advanced Intermediate Spanish (2201). At the time of the study, learners in Beginning Spanish II (1131) had just begun learning the Spanish subjunctive. The Advanced Intermediate course (2201), however, was working on other grammar topics that did not include the subjunctive. In addition, we suggest that learners' at the intermediate level may have scored lower on this task as a result of IL reconstruction; a concept we will discuss in latter sections of this chapter.

In figure 4-1, we apply the raw scores of L2MAC to a bar graph in order to more vividly illustrate the similar (and in most cases identical) mood and conjugation scores for all levels of instruction. This figure clearly shows that each course's mood and conjugation scores were identical or nearly identical and could therefore not be teased apart.

Having been presented with the raw scores for L2MAC, the reader is equipped to follow the statistical analysis of this task which we begin by presenting the reader with table 4-7. In table 4-7, it is observed that course is the only significant variable in the model as shown by the

low p value ($p = 0.0007$). The large p values for ability and course*ability indicate that they are not significant variables in the model.

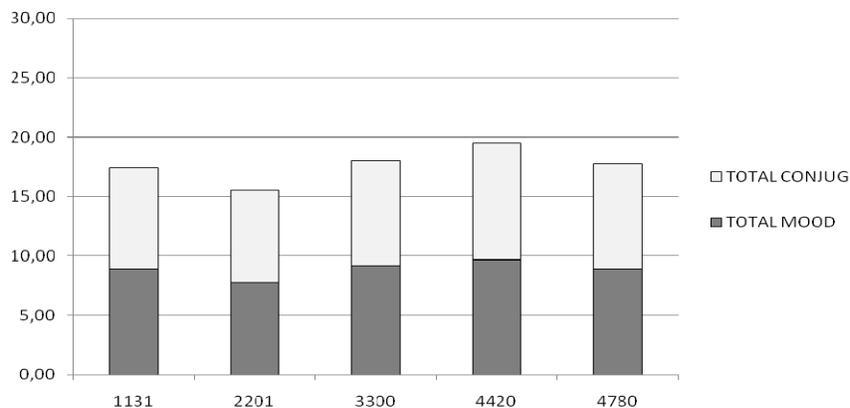


Figure 4-1. L2MAC raw scores (mood + conjugation) out of 30

To further analyze the results of L2MAC, a Two Way ANOVA was performed. A Two Way ANOVA was chosen because there were two distinct variables: course (variable 1) + ability (mood + conjugation skills/variable 2).

Table 4-7. Summary of tests for significant effects of the variables included in the model for L2MAC

Source	F Value	P value
Course	4.96	0.0007*
Ability (L2 mood + conjugation scores)	0.29	0.5929
Course*ability	0.23	0.9224

Table 4-8 provides the results of this test. We considered a model that would include group effect (i.e., levels of instruction), ability effect (i.e., L2 mood + L2 conjugation skills), and interaction. LS Means¹ was used to estimate the mean effect of the cells because the number of participants in each group was different. After adjusting multiple comparisons through Tukey post hoc tests, we found significant differences between Advanced Intermediate Spanish (2201)

¹ LS Means is a term used in statistics that refers to the statistical procedure necessary for computing the mean of the average in an unbalanced group.

and Advanced Composition and Syntax (4420), and between Advanced Intermediate Spanish (2201) and Advanced Grammar and Composition (3300).

Table 4-8. Least Squares Means for effect course for L2MAC

Courses	(1131) Beginning Spanish II	(2201) Advanced Intermediate Spanish	(3300) Advanced Grammar and Composition	(4420) Advanced Composition and Syntax	(4780) Spanish Phonetics
(1131) Beginning Spanish II		0.2633	0.5954	0.0574	0.9920
(2201) Advanced Intermediate Spanish	0.2633		0.0111*	0.0004*	0.2020
(3300) Advanced Grammar and Composition	0.5954	*0.0111		0.5715	0.9300
(4420) Advanced Composition and Syntax	0.0574	*0.0004	0.5715		0.2489
(4780) Spanish Phonetics	0.9920	0.2020	0.9300	0.2489	

Table 4-8 does not, however, allow us to see how well the participants in these groups performed on L2MAC. Therefore, we added table 4-9 which provides the actual scores for each course level. In table 4-9, we observe that Advanced Intermediate Spanish (2201) received the lowest score (8.03) while Advanced Composition and Syntax (4420) received the highest (9.76). Though it is not surprising that the Advanced Composition and Syntax class (4420) received the highest score, it is puzzling that Advanced Intermediate Spanish (2201) received the lowest score. We continue this discussion further in latter sections of this chapter. In table 4-9, we also notice that Spanish Phonetics (4780) received lower scores than Advanced Grammar and Composition (3300) and Advanced Composition and Syntax (4420). The differences between these groups are not significant, however, and will therefore not be addressed further.

Table 4-9. LS Means of the scores for L2MACcontrolling by course

Course	Score LS mean
Beginning Spanish II (1131)	17.44 (/30)
Advanced Intermediate Spanish (2201)	16.06 (/30)
Advanced Grammar and Composition (3300)	19.34 (/30)
Advanced Composition and Syntax (4420)	19.52 (/30)
Spanish Phonetics (4780)	17.76 (/30)

Recall that participants could receive up to a total of thirty points on L2MAC. L2MAC was specifically designed as a dual component task that allowed us to analyze the interaction between mood and conjugation skills (i.e., ability = L2 mood skills + L2 conjugations skills) and course level. With L2MAC, we also wanted to look specifically at how learners performed and perceived particular modal environments (i.e., DS, ES, EI). As mentioned previously, earlier studies show that deontic modality in nominal clauses is the most prolific syntactic-semantic environment among L2 learners. In our study, we wanted to see if learners' competence revealed the same tendencies. In order to do this, we separated the deontic subjunctive (DS) from the epistemic subjunctive (ES) and epistemic indicative (EI) modal environments.

4.3.1 Results for Epistemic and Deontic Modality in Nominal Clauses

In this section of the L2MAC analysis, we focus on modality (i.e., acquisition of epistemic and deontic modality). Table 4-10 provides the ANOVA for the effects of the model and shows the sum of squares, providing information regarding the interaction between the different variables. From this table, we see that course is significant ($p = <.0003$) and that modal environment (DS, ES, EI) is significant ($p = <.0001$). The interaction (i.e., combined effects) between course and environment is also significant ($p = <.0001$) suggesting that course level may have affected learners' ability to choose the correct mood (DS, ES, EI). Ability (L2 mood skills + L2 conjugation skills) is however, not significant in this model even through interactions (i.e., combined effects) with environment, course, and course*environment.

Table 4-10. ANOVA table for the model considering course, ability, and environment as variables

Source of Variance	DF	Sum of Squares	Mean Square	F Value	P values
Course	4	33.51	8.38	5.33	0.0003*
Ability	1	0.96	0.96	0.61	0.4344
Environment (DS, ES, EI)	2	557.55	278.77	177.35	<.0001*
Ability*Environment	2	4.93	2.46	1.57	0.2090
Course*Ability	4	2.13	0.53	0.34	0.8513
Course*Environment	8	90.01	11.26	7.16	<.0001*
Course*Ability*Environment	8	3.41	0.43	0.27	0.9753

Note: ability = L2 mood skills + L2 conjugations skills

Table 4-11 shows that there are statistical differences between all modal environments (DS, ES, EI) meaning that every environment is significant in this model. What this table does not allow us to observe, though, is which modality received the highest score and which received the lowest.

Table 4-11. P values for differences in modal environment adjusting by Tukey

Semantic Environment	1 (DS)	2 (EI)	3 (ES)
DS		<.0001*	<.0001*
EI	<.0001*		0.02*
ES	<.0001*	0.02*	

Therefore, in order to retrieve this information we look at table 4-12. Table 4-12 shows that learners performed more accurately on DS environments following results from Collentine (1995) and Terrell, Baycroft, and Perrone (1987). ES, on the other hand, received the lowest score. Recall that there were a total of 15 sentences in L2MAC. These 15 sentences were divided into the three modal subcategories (DS, ES, EI) making each individual environment proportional to 5.

Table 4-12. Multiple Comparisons: Acquisition of DS, EI, ES modalities for L2MAC

Semantic environment	Score (LS means)
DS (deontic subjunctive)	4.06 (/5)
EI (epistemic indicative)	2.51 (/5)
ES (epistemic subjunctive)	2.23 (/5)

We already know from the high score (4.06) presented in table 4-9 that DS modality was the most accurate semantic environment among learners. This is why we have decided to analyze DS by itself. In addition, we also notice that there is not a large numerical distinction between ES and EI environments which makes the epistemic analysis more intricate. Therefore, the epistemic discussion is broken down further in to two separate analyses: modal analysis of ES and epistemic context analysis, which are discussed after our DS analysis.

Table 4-13. P values for difference between courses for L2MAC controlling by DS environment

Course	Beginning Spanish II (1131) DS	Adv. Intermed. Spanish (2201) DS	Adv. Grammar and Comp (3300) DS	Adv. Grammar and Syntax (4420) DS	Spanish Phonetics (4780) DS
Beginning Spanish II (1131) DS		1.0000	0.1223	0.0069*	0.0697
Advanced Intermediate Spanish (2201) DS	1.0000		0.1103	0.0063*	0.0597
Advanced Grammar and Composition (3300) DS	0.1223	0.1103		0.9784	1.0000
Advanced Grammar and Syntax (4420) DS	0.0069*	0.0063*	0.9784		1.0000
Spanish Phonetics (4780) DS	0.0697	0.0597	1.0000	1.0000	

Table 4-13 looks exclusively at DS. In this table, we notice that there are two significant interactions here. The first of these differences is shown between Beginning Spanish II (1131) and Advanced Composition and Syntax (4420) while the second occurs between Advanced Intermediate Spanish (2201) and Advanced Composition and Syntax (4420). Table 4-13, however, does not tell us how each course performed. In order to find this information, we need to look at table 4-14.

Table 4-14. LS Means for the interactions of course and modal environment

Course	Environment	Score/LS mean
Beginning Spanish II (1131)	DS	3.63 (/5)
Advanced Intermediate (2201)	DS	3.54 (/5)
Advanced Grammar and Composition (3300)	DS	4.21 (/5)
Advanced Composition and Syntax (4420)	DS	4.58 (/5)
Spanish Phonetics (4780)	DS	4.35 (/5)

In table 4-14, we see that Beginning Spanish II (1131) received a score of 3.63 while Advanced Intermediate Spanish (2201) received a score of 3.54. Advanced Composition and Syntax (4420), however, received a score of 4.58, which is the highest score of all the levels. These results clearly show that Advanced Composition and Syntax (4420) performed the best out of all three courses mentioned in the DS analysis. Moreover, we observe a slight decrease in accuracy at the intermediate level. Although there is no significant difference between Beginning Spanish II (1131) and Advanced Intermediate Spanish (2201), these slightly lower scores at the intermediate level are worth addressing, which we do in section 4.4. First, however, we continue with our modal analysis, this time focusing exclusively on epistemic modality.

For organizational purposes, we divide our epistemic analysis further into two distinct analyses: modal and epistemic context analysis. The modal analysis focuses strictly on the acquisition of one specific modality crosssectionally and observes patterns within a specific semantic sub-category. In the epistemic context analysis, however, we focus on each individual level of instruction and the interaction between ES and EI within a particular context.

4.3.2 Modal Analysis of ES

We begin this discussion with the modal analysis of ES. Table 4-15 shows that there is a statistical difference between Beginning Spanish II (1131) ES and Advanced Intermediate Spanish (2201) ES. There is also a statistical difference between Beginning Spanish II (1131) ES and Spanish Phonetics (4780) ES. Table 4-16 shows that Beginning Spanish II (1131) ES received higher scores (2.77) than Advanced Intermediate Spanish 2201 (1.63). Beginning Spanish II (1131) also scored higher (2.77) than Spanish Phonetics 4780 (1.96) on ES environments.

Table 4-15. P values for difference between courses for L2MAC controlling by ES and EI environments

Course Level	BEG SPN II (1131) EI	BEG SPN II (1131) ES	ADV INT SPN (2201) EI	ADV INT SPN (2201) ES	ADV GRM COMP (3300) EI	ADV GRM COMP (3300) ES	ADV COMP (SYN) 4420 EI	ADV COMP (SYN) 4420 ES	SPN PHON (4780) EI	SPN PHON (4780) ES
BEG SPN II (1131) EI		0.5570	0.9945	0.0550	0.9999	0.9996	0.4925	1.0000	0.9995	0.9469
BEG SPN II (1131) ES	0.5570		0.9999	<.0001*	0.1044	0.9947	1.0000	0.7390	0.9998	0.0243*
ADV INT SPN (2201) EI	0.9945	0.9999		0.0018*	0.7693	1.0000	0.9956	0.9942	1.0000	0.3388
ADV INT SPN (2201) ES	0.0550	<.0001*	0.0018*		0.4307	0.0024*	<.0001*	0.4743	0.0098*	0.9899
ADV GRM COMP (3300) EI	0.9999	0.1044	0.7693	0.4307		0.8861	0.1294	1.0000	0.9176	0.9999
ADV GRM COMP (3300) ES	0.9996	0.9947	1.0000	0.0024	0.8861		0.9579	0.9993	1.0000	0.4592
ADV COMP SYN (4420) ES	1.0000	0.7390	0.9942	0.4743	1.0000	0.9993	0.6003		0.9989	0.9987
SPN PHON (4780) EI	0.9995	0.9998	1.0000	0.0198	0.9176	1.0000	0.9929	0.9989		0.5449
SPN PHON (4780) ES	0.9469	0.0243*	0.3388	0.9899	0.9999	0.4592	0.0323*	0.9987	0.5449	

*p = <0.05

This information reveals a decrease in performance in Spanish Phonetics (4780) on ES environments. Table 4-15 also shows that there are significant differences between Advanced Intermediate Spanish (2201) ES, Advanced Grammar and Composition (3300) ES, and Spanish Phonetics (4780) ES. If we turn to table 4-16, we see that the scores for these courses are not

what one might expect, just as in the analysis of Beginning Spanish II (1131) ES. Recall that Beginning Spanish II (1131) ES received a total of 2.77, while Advanced Grammar and Composition (3300) ES received a total of 2.53. As shown previously, Spanish Phonetics (4780) scored only 1.96. These results indicate an overall steady decline in accuracy among the groups in ES environments. The pattern thus far has indicated a steady decrease in ES accuracy crossectionally rather than an increase. With this said, however, the scores received by Advanced Grammar and Composition 3300 (2.53) show a slight increase from Advanced Intermediate Spanish 2201 (1.63) though the scores drop again at Advanced Grammar and Syntax 4420 (2.26) and again in Spanish Phonetics 4780 (1.96). Overall, there does not appear to be a clear pattern for epistemic environments.

Table 4-16. LS Means for the interactions of course and modal environment (ES Scores only)

Course	Environment	Score/LSMEAN
Beginning Spanish II (1131)	ES	2.77 (/5)
Advanced Intermediate (2201)	ES	1.63 (/5)
Advanced Grammar and Composition (3300)	ES	2.53 (/5)
Advanced Composition and Syntax (4420)	ES	2.26 (/5)
Spanish Phonetics (4780)	ES	1.96 (/5)

4.3.3 Epistemic Context Analysis

We now begin the second half of the analysis, which as stated previously, is referred to as the epistemic context analysis. In table 4-15 we see that there is a statistical difference between Advanced Intermediate Spanish (2201) EI and Advanced Intermediate Spanish (2201) ES ($p = 0.0018$). Advanced Intermediate Spanish (2201) is the only course that shows a statistical difference between the ES and EI modal environments. In table 4-17 we see that Advanced Grammar and Composition (3300) EI received a score of 2.16 while ES received a score of 2.53. In this table we also observe that Advanced Composition and Syntax (4420) EI received a score of 2.92 while ES received as score of 2.26. In Spanish Phonetics (4780) EI, like Advanced

Intermediate Spanish (2201) EI and Advanced Composition and Syntax EI (4420), received higher scores than their ES counterparts. Beginning Spanish II (1131) on the other hand, performed in the exact opposite way. In fact, Beginning Spanish II (1131) EI scores (2.33) were lower than their ES scores (2.77), as seen in Advanced Grammar and Composition (3300). Therefore, we see that for Advanced Intermediate Spanish (2201), Advanced Grammar and Syntax (4420), and Spanish Phonetics (4780), the EI contexts were scored higher than ES environments. The results for Beginning Spanish II (1131) and Advanced Grammar and Composition (3300), however, are the exact opposite showing that ES scores were slightly higher than their EI counterparts. In terms of ES and EI development, there does not seem to be any clear developmental pattern for either sub-modality. The only thing we can claim with any certainty is that, overall, EI scores were slightly higher than ES scores.

Figure 4-3 combines and applies the information found in tables 4-14 and 4-17 to a line chart which illustrates the overall decline in modal accuracy. Earlier in our discussion, however, we noticed a general decline in accuracy at the intermediate level on L2MAC as well. Recall that the L2 conjugation analysis showed that learners in Advanced Intermediate Spanish (2201) presented the lowest scores of all five groups. Therefore, in the following section, we address this decline at the intermediate level briefly before continuing with our analysis.

Table 4-17. LS Means for the interactions of course and modal environment

Course	Environment	Score/LS mean
Beginning Spanish II (1131)	EI	2.33 (/5)
	ES	2.77 (/5)
Advanced Intermediate (2201)	EI	2.60 (/5)
	ES	1.63 (/5)
Advanced Grammar and Composition (3300)	EI	2.16 (/5)
	ES	2.53 (/5)
Advanced Composition and Syntax (4420)	EI	2.92 (/5)
	ES	2.26 (/5)
Spanish Phonetics (4780)	EI	2.56 (/5)
	ES	1.96 (/5)

4.4 Decline in Accuracy at the Intermediate Level

In order to explain this decline in modal and grammatical accuracy, we refer to the U-shaped language diagram (Kellerman 1985a, 1986). U-shaped development can be explained as L2 learners' brief decline in accuracy as a result of increasing IL sophistication and complexity (Lightbown 1985). In other words, at the time of our study, it is posited that the participants at the advanced-intermediate level were in the process of restructuring their IL systems when L2MAC was administered.

According to Lightbown (1985) "an increase in error rate in one area may reflect an increase in complexity or accuracy in another, followed by an overgeneralization of a newly acquired structure, or simply by a sort of overload of complexity which forces a restructuring, or at least a simplification, in another part of the system" (177). In the current study for example, Beginning Spanish II (1131) scored higher than Advanced Intermediate Spanish (2201) on L2MAC on two of three modal interpretation tasks (DS and ES) as indicated by the higher scores. It was the case in this particular study, however, that learners in Beginning Spanish II (1131) had just been introduced to the present Spanish subjunctive shortly before the study was administered. Therefore, although this drop at the Advanced Intermediate level (2201) is alarming at first, we can suggest the following: (1) learners in Beginning Spanish II (1131) performed better on L2MAC because of recent exposure to the present Spanish subjunctive; and (2) the lower scores support U-Shaped development. If we apply the results retrieved from these two groups to Lightbown's claim above, they do appear to fit the U-shaped pattern. The idea presented in Lightbown and Spada (2006), is based on the Kellerman U (Kellerman 1986) which suggests that as learners' knowledge of L2 increases, they pass through a period of decreased accuracy.

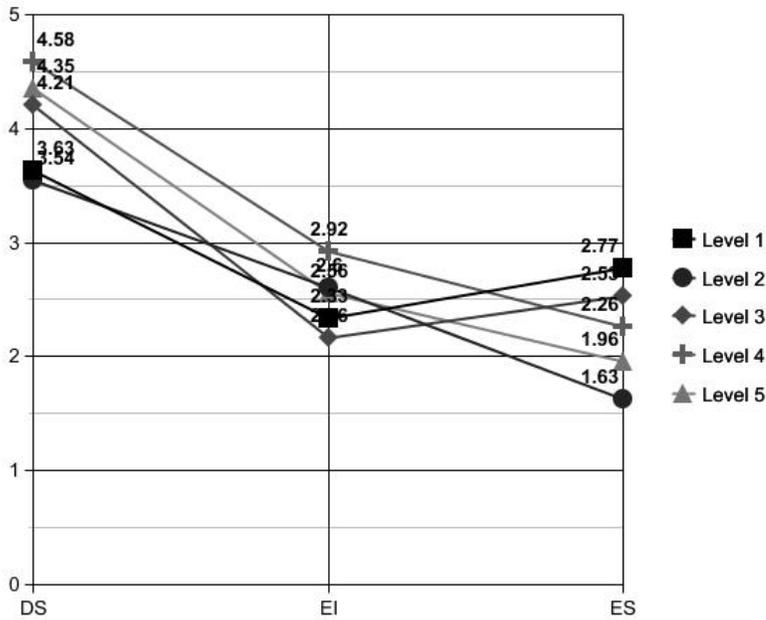


Figure 4-3. Line graph of DS, ES, and EI mood scores

To better illustrate this idea, we use the example *espero que [pro] bailes* ('I hope you dance') and apply the U-shaped diagram proposed by Kellerman. Moreover, in order to make this example more relevant to the current study, we apply the course levels most affected by this brief decline: Beginning Spanish II (1131), Advanced Intermediate Spanish (2201), and Advanced Grammar and Composition (3300). The Kellerman model illustrates how learners' scores drop temporarily and rise after increased exposure to L2. The correct form of the sentence *espero que [pro] bailes* is shown in the upper left hand corner of the U-shaped diagram in figure 4-4. This example represents the successful output learners produce when they are first introduced to the deontic subjunctive in nominal clauses, for example. At the bottom of the diagram, however, as in L1, we see the incorrect form (i.e., V2 = indicative) showing a decline in learner accuracy. According the figure shown below, after this brief decline in accuracy, learners are able to use the subjunctive correctly once they have incorporated the structure in to their IL systems.

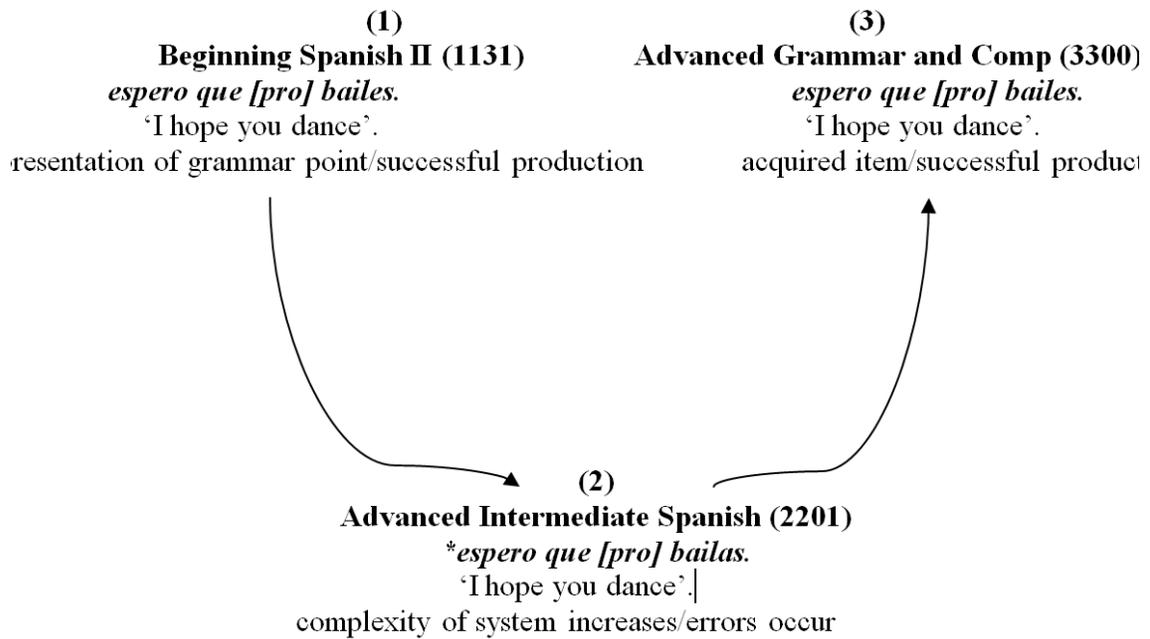


Figure 4-4. Example of error production and correction in developing IL systems

The sentence **espero que [pro] bailes* (‘I hope you dance’) in point (2) for example, is a possible representation of learners’ tendency to overgeneralize rules or verb forms in L2 during the learning process. Point (1) for example, in the upper left hand corner of the U, represents learners’ accurate use of the subjunctive when they are first introduced to it. The idea is that learners have the ability to use the subjunctive mood correctly when they are first exposed to this grammar point. As the IL system progresses, however, errors occur as a result of increased sophistication as shown in point (2). Point (3), located at the top right hand side of the diagram, represents learners’ ability to semantically and morphosyntactically use the subjunctive mood correctly once they have moved through the acquisition process successfully.

Although L2MAC is the more traditional of the two tests designed for the current research, we were able to test learners’ mood and conjugation abilities, which, as stated previously, are combined into one variable referred to here as “ability”. We were also able to show that learners received nearly identical scores on modal interpretation as they did on verb

conjugation. We confirmed that DS modality in nominal clauses consistently received higher scores than EI and ES semantic environments. In addition, we addressed the overall decline in accuracy at the intermediate level and suggested that learners' grammatical accuracy increased again in latter stages of acquisition showing support for Kellerman (1986) and Lightbown and Spada (2006). With these ideas in mind, and after having presented the reader with the statistical analysis of our data, we revisit the research questions that motivated this study. Our goal here is to answer each question by applying the results and data presented in the previous section. First, we address RQ1 which we answer using our findings from ME. Second, we answer RQ2 referring to our findings from L2MAC.

4.5 Research Question 1

The first research question asked "how does the subordinate marker *que* impact learners' judgment of grammaticality of complex sentence structures (S1, V1 + S2, V2)" and was tested using ME. Results of this task suggest that the complementizer *que* had an effect on the participants' syntactic interpretation of the structures. We found that the appearance of *que* in syntactic environments 1 (+ *que* + subjunctive), 2 (+ *que* + infinitive), and 3 (+ *que* + indicative) received the second highest acceptance ranking. In addition, we discovered that there was no significant difference between these environments, meaning that any complex structure that included the complementizer *que* received approximately the same score. With this said, however, the results also showed that environment 4 (- *que* + subjunctive) was scored as the least acceptable environment revealing that learners were able to recognize that a subjunctive verb in the subordinate clause should be preceded by the complementizer *que* in nominal clauses.

The most interesting conclusions that are drawn from the results of ME, however, lie within the ranking of environments 5 (- *que* + infinitive) and 6 (- *que* + indicative). Recall that environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) were ranked as the highest (i.e.,

most grammatical) of the six environments. If we consider the possibility that L1 syntactic transfer is at play, as we discussed in chapter 1, we can suggest that the participants of this study ranked environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) as the most grammatical because they are the structures most commonly used in L1 irrealis. In order to verify this claim, we analyze English syntax in greater detail in the following paragraphs. We show that our analysis fits the criteria of L1 transfer discussed in Zobl (1980) (see section 1.4.4).

In order to identify which of these six syntactic environments yields to grammatical utterances, we need to analyze them according to language. In the following discussion, we analyze these subordinate clauses as if they were preceded by a conjugated verb in the indicative mood. By discussing each environment as part of a whole sentence, the structure becomes clearer. In table 4-18 for example, we see that only environments 1 (+ *que* + subjunctive) and 3 (+ *que* + indicative) are accurate structures in Spanish. Why then, were these structures not ranked higher by learners? The first answer to this question comes from the results of ME which, as stated previously, reveals that learners found English-like structures (i.e., environments 5 and 6) to be more grammatical than the other syntactic environments. With this said, however, which of the ME syntactic environments analyzed here are actually acceptable in English?

Table 4-18. Possible subordinate structures in Spanish

Environment	Structure	Possible subordinate environment	Example
1	+ <i>que</i> + subjunctive	Yes	<i>Quiero que hable Juan.</i>
2	+ <i>que</i> + infinitive	No	* <i>Quiero que hablar Juan</i>
3	+ <i>que</i> + indicative	Yes	<i>Creo que habla Juan inglés.</i>
4	- <i>que</i> + subjunctive	No	* <i>Quiero hable Juan.</i>
5	- <i>que</i> + infinitive	No	* <i>Quiere tú hablar con Juan.</i>
6	- <i>que</i> + indicative	No	* <i>Quiero habla Juan.</i>

To answer this question, we provide the reader with table 4-19 which offers examples of grammatical subordinate structures in English. For this analysis, we are also considering overt CPs that precede indicative verbs.

Table 4-19. Possible subordinate structures in English

Environment	Structure	Possible subordinate environment	Example
1	+ that + subjunctive	Yes (uncommon)	I prefer that he go now.
2	+ that + infinitive	No	*I prefer that he to go now.
3	+ that + indicative	Yes	I believe that he speaks English.
4	- that + subjunctive	Yes	I prefer he go now.
5	- that + infinitive	Yes	I want him to go now.
6	- that + indicative	Yes	I believe he speaks English.

In table 4-19, we notice that there are more environments that represent accurate syntax in English than in Spanish. In English only environment 2 (+ that + infinitive) is unacceptable when preceded by an overt CP, for example. And although authentic subjunctive constructions, like that of environment 1 (+ that + subjunctive), sound artificial in English, they do exist, and are therefore grammatical. Environments 5 (- that + infinitive) and 6 (- that + indicative) are the most commonly used structures in English irrealis. This perhaps explains why learners rated these environments as the most acceptable in L2. Furthermore, by looking at table 4-19, we notice that English permits a wider variety of syntactic structures, two of which include overt CP complements. Therefore, if L1 English speakers learning Spanish have access to CPs in L1, shouldn't they have access to CPs in their L2?

Several studies have argued that functional categories, such as CPs for example, are accessible during L2 acquisition from the very beginning. Epstein, Flynn, and Martohardjono (1996) for example, suggest that based on the results of their studies on child second language acquisition of English and adult second language acquisition of Turkish, "the lack of functional

elements should not be taken as evidence for the absence of the associated functional categories” (148). Prevost and White (2000) agree with Epstein et al. as they state that “...variability in adult L2 performance does not reflect a deeper lack of functional categories or features associated with tense and agreement. Rather, L2 learners have difficulties with the overt realization of morphology” (104). In other words, and more specific to our study, is the suggestion that even though learners did not rate structures with overt CPs as more grammatical than structures without overt CPs, this does not mean that learners lack access to CP functional categories in L2. This provides further evidence that the problem is not that learners lack access to CPs in L2. Rather, learners are unaware of the [+ optional] overt CP rule in English. As a result, learners transfer this [+ optional] overt CP rule from English to Spanish. In our study, we conclude that L1 transfer of the [+ optional] overt CP rule to L2 caused learners to accept ungrammatical syntactic environments as grammatical.

By comparing tables 4-18 and table 4-19, we better understand why learners ranked environments 1-6 as they did on the ME task. For example, not only are environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) grammatical structures in English, they are the most commonly used. Consequently, learners ranked environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) as the most acceptable syntactic environments in L2. Environment 4 (- *que* + subjunctive), on the other hand, was ranked the least acceptable, indicating knowledge of FCs, while environments 1 (+ *que* + subjunctive), 2 (+ *que* + infinitive), and 3 (+ *que* + indicative) were ranked between the 5/6 and 4.

4.6 Research Question 2

The second research question asked “with what accuracy do L2 learners at different levels of Spanish correctly identify mood and conjugate verbs using corresponding morphology in nominal clauses?” In relation to RQ2, the results of L2MAC were interpreted to mean that mood

and conjugation skills could not be teased apart. The results also showed that the more advanced levels performed better overall than the beginning and intermediate levels on L2MAC. Such performance demonstrates that modal and syntactic abilities did increase with time and/or continued exposure to Spanish. We also discussed the fact that learners received higher scores on DS modality and that there were no clear acquisition patterns for EI and ES modalities. The difficulties learners have with epistemic modality may be attributed to its layered and gradient (a term used by Givón 1994) properties. As a result, though we cannot support this claim with our data, we suggest that EI and ES require greater time to develop. Figure 4-5 better illustrates epistemic complexity. Figure 4-5 provides the reader with a summary of the Spanish modal system. This diagram more clearly illustrates the complexity of both grammatical mood and semantic modality in Spanish. Notice here that epistemic modality is more complex than deontic modality. Epistemic modality is split in to two distinct branches; EI (epistemic indicative) and ES (epistemic subjunctive). For EI modal environments (i.e., *creer* ‘to believe’), learners must identify the following lexemic properties of V1: [+ reality], [+ existence], [+ belief], and [- subjunctive]. In other words, in order to identify a context as EI, learners need to know that EI lexemes refer to something factual, or perceived as factual, by interlocutors. ES environments, on the other hand, work in the opposite way. In ES contexts, learners find lexemes that possess the following features: [- reality], [- existence], [- belief], and [+ subjunctive] and therefore require knowledge of non-existence and low truth value. In the next section, we summarize our findings before continuing to chapter 5 where we apply them to X-Bar Theory and revisit the IL structures presented in chapter 1.

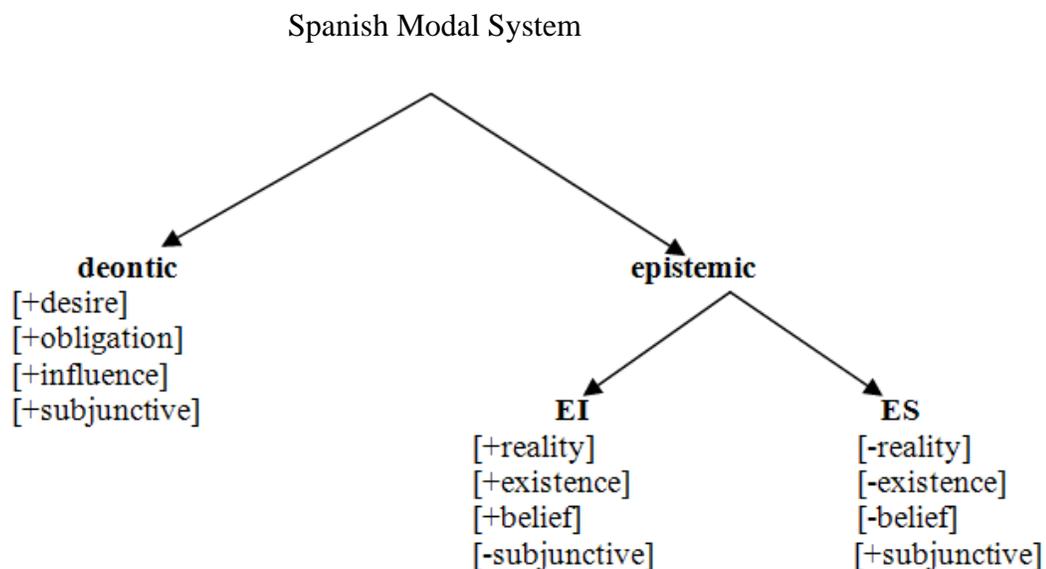


Figure 4-5. Complexity of Spanish Modal System

4.7 Summary of Findings

In this section, we answered both of the research questions that motivated this study. In answering these research questions, we found that the results of the present study are compatible with the tenets and predictions of the following theories: L1 transfer and Missing Surface Inflection Hypothesis (MSIH). L1 transfer helped to explain how L1 irrealis morphosyntactic properties are transferred from L1 to L2 during acquisition. MSIH was used to suggest that even though learners considered syntactic environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) as the most grammatical structures on ME, this does not reflect learners' inability to access functional categories in their IL. Therefore, to suggest that functional categories are missing in L2 would not be an accurate conclusion. Recall that table 4-19 shows that there are structures in English that require (null) CPs meaning that we cannot claim learners lack access to functional categories in L2 if they already have access to FCs in L1. What does seem to be happening, however, is that learners do not make the connection between required overt CPs in

Spanish and optional overt CPs in English. In other words, learners appear to transfer the L1 [+optional] overt CP rule of English over to Spanish.

In chapter 5, we revisit the syntactic structures previously introduced in chapter 1 and apply them to our results and findings. We also discuss the contributions our study has made to the field of SLA, suggest directions for future research and pedagogical enhancement, and conclude with a brief summary of our goals and general findings of the present study.

CHAPTER 5 CONCLUSION

5.1 Introduction

The purpose of this research was to investigate the acquisition of the Spanish subjunctive in nominal clauses by native speakers of English. In the process of doing so, we have looked at and reviewed a variety of structural issues relevant to L2 subjunctive acquisition including the lexical selection of IP and CP complements in nominal clauses. We have also addressed the morphosyntactic and semantic developmental difficulties facing L2 learners using a generative approach to grammar analysis. In addition, we used Chomsky's X-Bar Theory and the Principles and Parameters framework to help us explain the L2 acquisition process of the Spanish subjunctive. In chapter 1, we proposed a series of plausible IL structures thought to represent learners' developing systems in L2. Some structures used IP complements while others used CP complements. In this chapter, we return to these diagrams and argue that our data support IL structures that include CP complements. We show that learners have access to FCs in L2 because they have such access in L1. Furthermore, we show that learners are transferring the L1 [+optional] overt CP rule to L2 which explains why they use not only the indicative and infinitive morphology, but also why [-*que*] structures were rated as highly acceptable. In the following section, we briefly return to the most relevant syntactic structures presented in chapter 1 and review them in relation to our findings. In the latter sections of this chapter we review the contents of the present project, discuss pedagogical implications, and make suggestions for future research.

5.2 IL Representations

Recall that in chapter 1, we presented a series of syntactic diagrams which we introduced as expected IL representations. Among these representations, a few of the structures were

comprised of subordinate clauses with the following properties: (1) null CP + V2 infinitive; (2) null CP + V2 indicative; and (3) IP + V2 infinitive; (4) IP + V2 indicative. We used these diagrams to show that learners were either using null CPs in subordinate clauses or reducing complex syntax in L2 to fit commonly used IP templates in English. We argue here, however, that the findings of our study support the existence of CPs in IL. This means that learners are not reducing complex sentence structures to fit reduced IP templates. Instead, we argue that learners are actually including null CP complements in their structures.

Collentine (1995) discovered that what appeared to be complex sentence production in L2 at the intermediate level was actually a series of simple sentences structures. In our study, unlike some of the previous studies mentioned in chapter 2, we have data that supports learners' access to complex sentence structures. In other words, even though production data often shows no signs of such access, as shown in Terrell, Baycroft, and Perrone (1987) and Collentine (1995), our data shows that learners are including null CPs in their structures. On the following pages, we revisit IL representations that were introduced in chapter 1 and discuss their plausibility based on the results discussed in chapter 4. We review IL structures that include both IP and CP complements arguing in favor of the latter.

Figures 5-1 and 5-2 are based on ME syntactic environment 6 (- *que* + infinitive). Recall that learners rated this environment as one of the most acceptable structures in the series of syntactic environments. Figures 5-1 and 5-2 present the possibility of V1 selection of an IP complement. If we assume that figures 5-1 and 5-2 are accurate IL representations, we need to show that CPs are inaccessible in L2. This would have been a legitimate assumption if learners had considered environment 4 (- *que* + subjunctive) as equally as acceptable as environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) in ME.

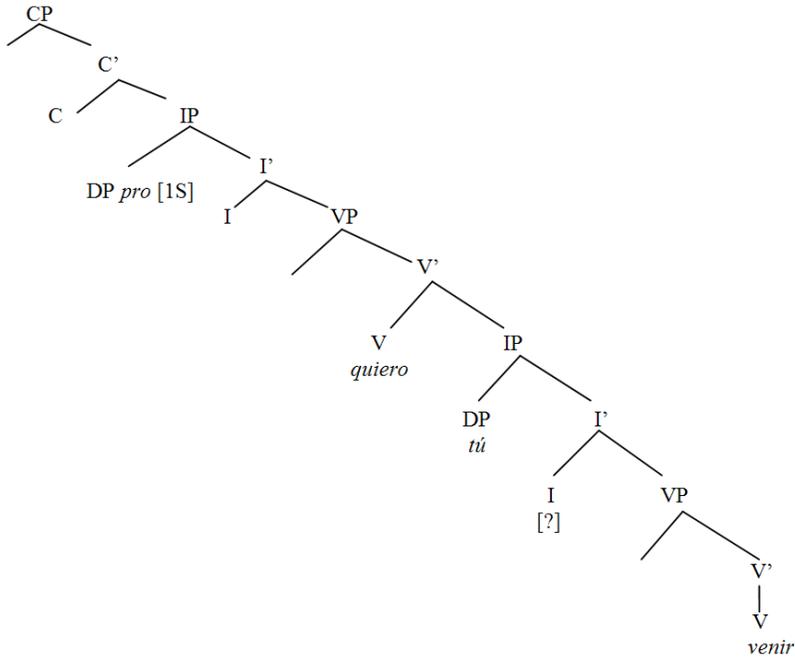


Figure 5-1. A syntactic representation of IL syntax during L2 subjunctive acquisition: IP complement (**quiero tú venir*)

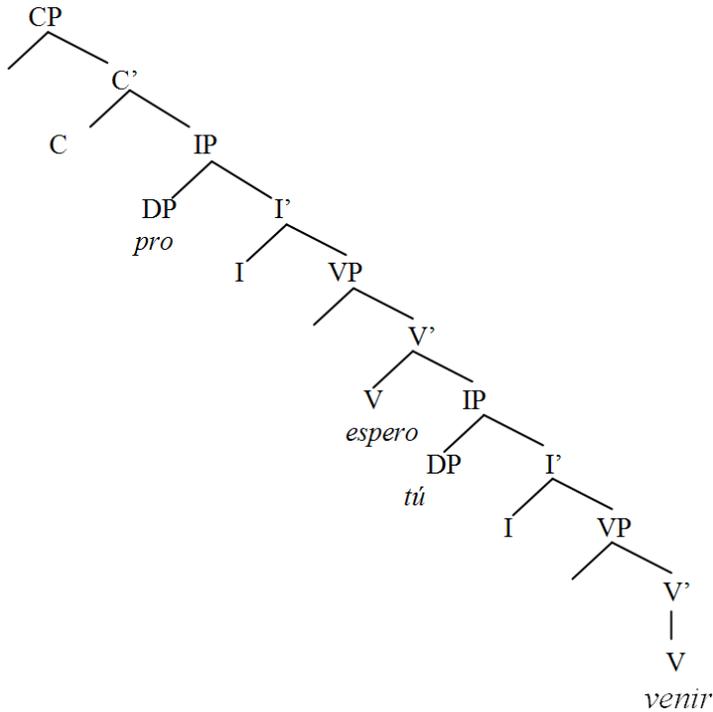


Figure 5-2. A syntactic representation of IL syntax during L2 subjunctive acquisition (**Espero tú venir*)

This was not the case, however, as discussed in chapter 4. In fact, learners considered environment 4 (- *que* + subjunctive) as the least grammatical structure of the six syntactic environments presented to them. The low ranking of environment 4 (- *que* + subjunctive) indicates knowledge of CP in L2. Based on this analysis, we conclude that figures 5-1 and 5-2 cannot be accurate representations of IL. Considering figures 5-1 and 5-2 as expected IL representations would be highly inaccurate because such representations conflict with the results of our study.

Figures 5-3 and 5-4, on the other hand, are considered highly expected IL representations. These figures more accurately reflect the results of our data as they include the possibility of CP complements. For example, in figure 5-3, we suggest that learners are using a null CP with V2 [ind] morphology. This structure mirrors common irrealis structures in English as seen in *I hope (that) you come* where the overt CP is optional. Even though learners often resort to using indicative morphology instead of subjunctive morphology in equivalent L2 structures, at least now we have data that provides support for CP access. In addition to showing that learners have access to complex clauses in L2, we suggest that they are transferring the L1 [+ optional] overt CP rule to L2. In other words, if learners are accessing CP structures in IL, it must be that CP complements are not represented overtly. With such morphological inaccuracies in L2, we can also ask questions about how learners are using infinitive and indicative verbs in L2. For example, if we conclude that learners have access to CP complements, should we assume that learners use finite [+indicative] and infinitive verbs interchangeably? Take the English equivalent to **espero tú bailas* ('I hope (that) you dance'), for example. While in Spanish the accurate construction includes [- optional] overt CP + V2 [sjv], the English version requires

[+ optional] overt CP + V2 [ind]. Conversely, a sentence such as *I want you to go* in English requires an IP + V2 [-finite] complement structure while the Spanish equivalent of this sentence follows the same pattern as the previous Spanish example (i.e., [-optional] overt CP + V2 [sjv]). Considering that both environments 5 and 6 were rated as the most highly acceptable syntactic structures in the series, this may be an accurate assumption.

The only difference between figures 5-3 and 5-4 is the use of the indicative verb **vienes* in figure 5-3 and the use of the infinitive verb **venir* in figure 5-4. We consider the possibility that learners sometimes use infinitives as they would indicatives. If our analysis of CPs is accurate, then this analysis makes sense. In other words, even if the learner is not conjugating the verb accurately, this does not mean that the learner is actually using this verb as an authentic infinitive.

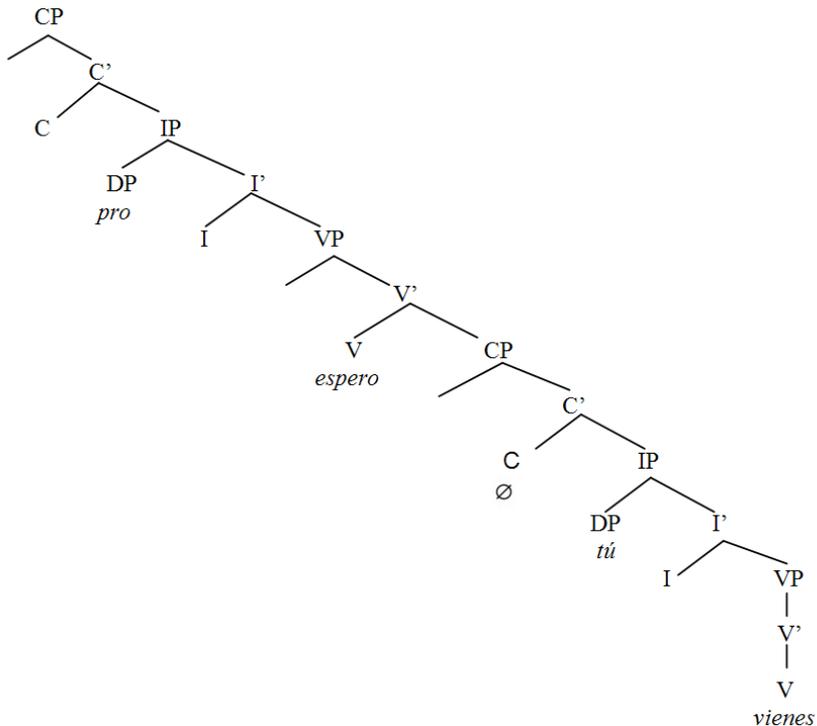


Figure 5-3. A syntactic representation of IL syntax during subjunctive acquisition (**Espero ø tu vienes.*)

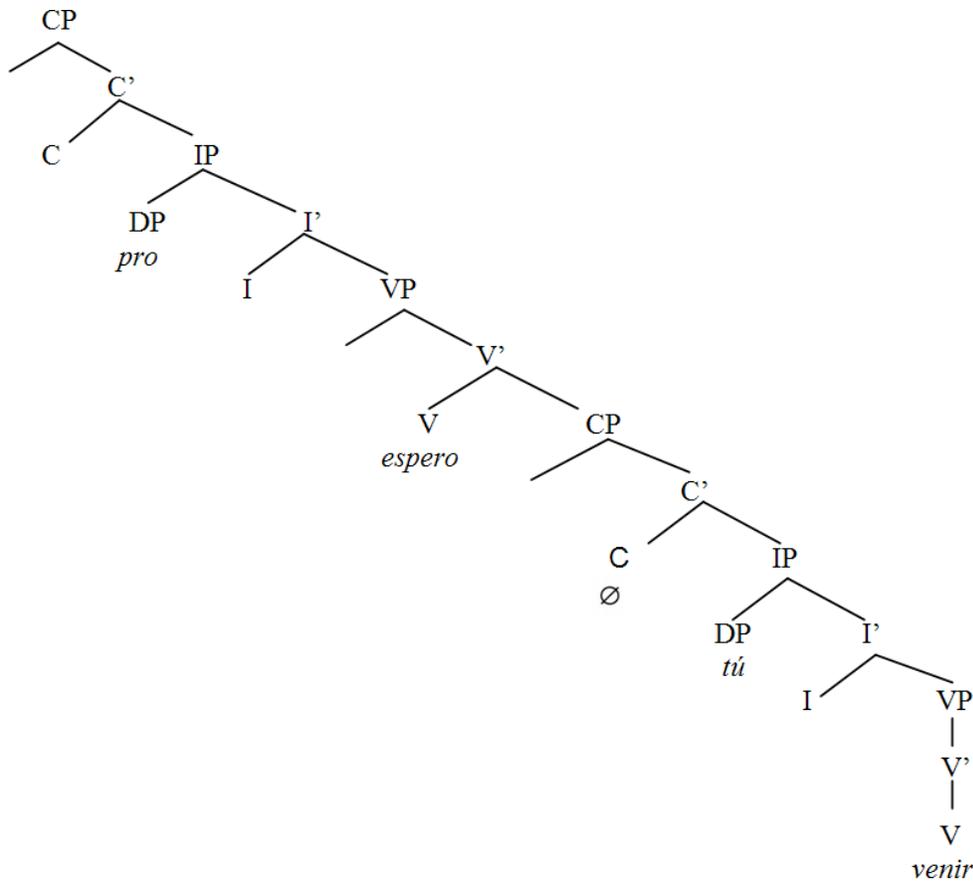


Figure 5-4. A representation of IL syntax during subjunctive acquisition (**espero \emptyset tú venir*)

We are able to support the idea that figures 5-3 and 5-4 are possible IL representations because we are basing them on intuition data retrieved from ME. ME has provided us with solid evidence that learners have access to FCs in L2. Therefore, if learners have access to FCs in L2, this means that they have access to the complex syntactic architecture necessary to construct subjunctive sentences. So why then, do learners continue to leave out overt CPs in oral and written production as shown in previous studies (see Terrell, Baycroft, and Perrone 1987 and Collentine 1995)? And why do learners continue to use inaccurate morphology? Once again, the data from ME has supported the idea that learners are transferring L1 rules to L2. This suggests that learners use infinitive and indicative verbs interchangeably in finite contexts leaving mismatched features in I. To provide another example, we refer to 5-3 **Espero \emptyset tú vienes*.

Notice that this sentence, though it is incorrect in Spanish, follows the exact same pattern as its English equivalent *I hope (that) you come*. This provides us with evidence that the following process is taking place:

Application of L1 rule [+ optional] overt CP → L2 [-optional] overt CP rule = *error

26. **Espero tú come.*
I hope-1p-sing. [you-2p-sing.-ind. come.]
'I hope Ø you come'.

Our ability in this study to present expected IL representations that include CP complements and provide support for such structures, is one of the strongest contributions that our study has made to the field of SLA. By using ME, we have gained access into learners' IL systems revealing access to complex syntactic structures in L2. In the following section, we consider other ways this study has contributed to the field of SLA. In doing so, we discuss how we may improve this study, or similar studies, in the future.

5.3 Contributions and Implications

The current project has shown that Magnitude Estimation is able to tap into learners' intuitions revealing learners' preference for English-like syntactic structures in L2. ME has also indicated that such structures include null CPs. Previous studies, such as Terrell, Baycroft, and Perrone (1987) and Collentine (1995), used production data to draw conclusions about IL and were therefore unable to separate performance abilities from learners' actual knowledge of the language. These studies did not show evidence of learners' access to complex syntax in L2. Performance data can be problematic as discussed in Hawkins and Chan (1997) and therefore may not present an accurate picture of L2 acquisition. The idea that there is a distinction, however, between competence and performance requires further explanation. In order to expand on this point, we turn to Radford (1997). Radford defines performance as a "term which denotes observed language behaviors, e.g. the kind of things people actually say when they speak a

language, and what meanings they assign to sentences produced by themselves or other people. Performance can be impaired by factors such as tiredness, drunkenness, etc” (268). Competence, on the other hand, refers to a person’s innate knowledge of language. So why do we feel that a test that would analyze learners’ competence instead of their performance was the better choice for this study? In the present project, we agree with Radford (1997) and his definition of performance. Like Radford, we suggest that performance data does not always reflect learners’ actual knowledge of the language. For example, in the production studies mentioned throughout this project, not one of them would be able to make the claim that learners intuitively find structures with V2 subjunctive morphology in a [*- que*] syntactic environment ungrammatical. This is a very important discovery because it provides additional support for learners’ access to complex syntax. We can also make this claim with greater confidence because we were able to test a wide variety of syntactic environments. In L2 production data, it is common to observe missing CPs and subjunctive morphology, as shown in Collentine (1995), for example. What is not common, however, is evidence indicating that learners access null CPs in L2. By using ME, we were able to test a variety of very specific syntactic environments which clearly showed learners’ preference for L1 structures.

In production data, as Radford points out, “we all make occasional slips of the tongue, or occasionally misinterpret what someone else says to us. However, this doesn’t mean that we don’t know our native language, or don’t have competence (i.e., fluency) in it” (2). Therefore, by studying learners’ competence through intuition data, we are not relying on learners’ limited ability to produce subjunctive structures in L2, as was the case in Terrell, Baycroft and Perrone (1987), and Collentine (1995). For this particular study, we suggest that competence data was less likely to be affected by fatigue, or other issues that would be more prevalent in average L2

classrooms, and therefore problematic. Furthermore, the intuition-based data retrieved by ME in the present research has made it possible to attempt to construct plausible representations of IL systems during subjunctive acquisition. We would not have been able to make these assumptions had we relied on production data. Had we used production tasks exclusively, we would have been limited to, and dependent upon, only what learners provided us with. As mentioned previously, both oral and written production at the undergraduate level is usually very limited and does not allow testing of specific syntactic environments. With this said, however, L2 production data is not without merit. We return to this notion in latter sections of this chapter.

With such limited production, it would have been difficult for us to make conclusions about learners' intuitions. For example, Collentine (1995) gives examples of the production data that he gathered for his L2 subjunctive acquisition study (for a full discussion see chapter 2). Recall that Collentine concluded that learners at the intermediate level were unable to produce complex subjunctive structures in L2. He found that participants often used parataxis instead of complex syntax as shown in the following examples (Collentine 1995, p. 128).

27. **No pienso es justo.*
 No I think 1p-sing. is- 3p fair.
 'I don't think it's fair'.

28. *John quiere... yo voy.*
 (a) John wants 3p-sing. I-1p go.
 (b) 'John wants me to go'.

29. *Carlos come una ensalada, yo estudio en la biblioteca.*
 (a) Carlos eats 3p-sing. a salad, I- 1p study in the library.
 (b) 'Carlos eats a salad, I eat in the library'.

In examples 20-22 we observe samples of what learners are capable of producing on their own. However, what we cannot observe is whether or not learners are transferring L1 rules to L2. In order to be able to make this claim, we need evidence that learners intuitively select

English-like structures from a series of plausible L1 and L2 complement structures. This is exactly what we were able to achieve in the present study. We suggest that by accessing what complement structures learners perceive as acceptable and unacceptable in their L2, we can access the root of the production errors. This way, we can ask why learners make such errors as opposed analyzing what errors they make (i.e., competence rather than performance). In our study, we found that learners found English-like syntactic structures more acceptable in L2.

Contrary to ME, L2MAC required learners to conjugate verbs according the modal environment of each item. L2MAC was a very controlled task meaning that we were able to test three distinct modal environments (DS, ES, EI) within nominal clauses. It would have been very difficult to elicit such specific modal contexts from participants in a full production task. In addition, deontic and epistemic subjunctive modalities have not previously been discussed to this extent in L2 Spanish studies to our knowledge. We have taken this study one step further than many others by splitting epistemic modality into EI and ES subcategories. For example, we provide evidence that even at advanced levels of L2 subjunctive acquisition learners' continue to struggle with the complexity and gradient properties of epistemic modality. Although this study was successful in helping us to paint a clearer picture of learners' IL systems and reveal related syntactic-modal issues, there were limitations that need to be addressed. Therefore, in the following section, we identify the limitations of our research and offer suggestions for future studies.

5.4 Limitations of Study

In this section, the limitations of the present research are discussed along with suggestions for future research. Among these suggestions are the inclusion of native Spanish speakers (NSS) as a control group, superior non-native speakers of Spanish (SNNS) as an additional experimental group, the incorporation of production tasks designed to observe verb raising (or

lack thereof) in L2, and finally, equal distribution of both matrix (V1) and subordinate verbs (V2) in ME tasks.

Native speakers of Spanish (NSS) and superior non-native speakers (SNNS) of Spanish should have been included in this study. The NSS group should have been added as a control group while SNNS should have been included as a superior L2 group. By including a NSS group as the control group, it would have been easier to make conclusions about L2 acquisition of the Spanish subjunctive. By comparing the results of the NSS group to the SNNS group, we would have been better equipped to compare the accuracy of L1 and L2 subjunctive intuitions. For example, what if L1 and L2 Spanish speakers presented opposite results? What if the NSS group found environments 1 (+ *que* + subjunctive) and 3 (+ *que* + indicative) to be the most grammatical as opposed to 5 (- *que* + infinitive) and 6 (- *que* + indicative)? Such results would further confirm the validity of the present study and support our findings. Conversely, what if the SNNS group presented results similar to those of the NSS group? In this case, we could have made the claim that learners no longer rely on L1 at superior levels. On the other hand, if the SNNS group continued to rank environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) as the most grammatical structures, we could have made the claim that, even at highly advanced stages of acquisition, learners continue to rely on L1.

The inclusion of the NSS and SNNS groups are not the only factors that we would include in a replication or similar study. We would also incorporate additional oral and written production tasks to more effectively illustrate the difference between competence and performance abilities in L2. As explained in previous chapters, we chose to use ME so that we could test a wide variety of specific linguistic environments that learners would not produce on their own. With this said, however, more L2 performance data would have helped us to make

clearer assumptions about learners' syntactic production abilities. Furthermore, White (1992) suggests that the combination of the oral production and preference tasks, like those used in her study, offered "reasonable insight" into learners' IL systems (285). Therefore, a combination of both competence and production data may have increased the validity of the overall test design.

Production tasks have also been useful in previous studies conducted exclusively on the Spanish subjunctive as shown in Terrell, Baycroft, and Perrone (1987) and Collentine (1995), for example. Recall that by using two different forms of production tasks, Terrell et al. discovered that even though learners could successfully complete subjunctive sentences in rote grammar exercises, they could not use the subjunctive in oral speech. By using oral production tasks, Collentine found that learners at the intermediate level were combining simple sentence structures that originally appeared to be complex. He was able to make the claim that even though learners at the Advanced-Intermediate level appeared to be producing complex sentences, a close analysis revealed that learners' performance was missing necessary syntactic components such as the overt CP, for example. In our study, a production task would have allowed us to see whether or not learners actually produced English-like sentences in oral speech or in a free writing task. It would have been interesting to see if learners used English-like structures on such tasks and whether or not their output directly mirrored their competence. Moreover, production data might also have provided further insight into learners' verb raising strategies and perceptions of finite and non-finite V2 forms.

It is suggested that future studies control for verbs in both the principle and subordinate clauses. Although we do not have data to support this notion, there is the possibility that learners' grammatical judgment was affected by different lexemes. As discussed in chapter 1, each lexeme encodes distinct semantic and syntactic properties and may therefore require equal distribution

on ME tasks. Some verbs, for example, have irregular conjugations in the indicative and/or present subjunctive (i.e., *ir*) which may alter learners' perception of grammaticality (see Collentine 1997). Most importantly, however, as discussed in chapter 1, is the idea that each lexeme possesses distinct linguistic properties and therefore behaves idiosyncratically (see Herchenson 2000 and Speas 1990). In the present study, the distribution of verbs in ME is organized according to environment. The verbs are categorized according to the specifications of the environment in which they appeared. Take the verb *encontrar* ('to find') in environment 2 (+ *que* + infinitive), for example. Generally speaking, this verb is considered a stem-changing verb because the mid-back vowel 'o', found in the second syllable, changes from a vowel to a diphthong in the present subjunctive (i.e., *ella encuentre* ('she finds')).

1. Syntactic environment 1 (+ *que* + subjunctive): (2x) *estudie* ('he/she studies'), *coma* ('he/she eats'), (1) *compre* ('he/she buys'), (1) *viva* ('he/she lives'), *tenga* ('he/she has')
2. Syntactic environment 2 (+ *que* + infinitive): *seguir* ('to follow'), *cantar* ('to sing'), *hablar* ('to speak'), *encontrar* ('to find'), *vivir* ('to live'), *buscar* ('to look for')
3. Syntactic environment 3 (+ *que* + indicative): *se casan* ('they get married'), *comprende* ('he/she understands'), *existen* ('he/she exists'), *se mudan* ('they move'), *llega* ('he/she arrives'), *sigue* ('he/she continues')
4. Syntactic environment 4 (- *que* + subjunctive): *lean* ('they read'), *sea* ('it, he, she is'), *suba* ('he/she rises'), *tenga* ('he/she has'), *ayude* ('he/she helps'), *se preparan* ('they prepare themselves'), *adelgace* ('he/she gets thinner/loses weight'), *fume* ('he/she smokes')
5. Syntactic environment 5 (- *que* + infinitive): *buscar* ('to look for'), *encontrar* ('to find'), *sobrevivir* ('to survive'), *pagar* ('to pay'), *tener* ('to have'), *hablar* ('to speak'), *ser* ('to be'), *estar* ('to be'), *conocer* ('to know')
6. Syntactic environment 6 (- *que* + indicative): *fuma* ('he/she smokes'), *tiene* ('he/she has'), *es* ('he/she is'), *compra* ('he/she buys'), *toma* ('he/she takes'), *vuelve* ('he/she returns'), *tomamos* ('we take'), *tiene* ('he/she has')

In this analysis, however, we categorized the infinitive form of the verb *encontrar* ('to find') as an *-ar* verb because in the infinitive form, stem changes are not required as the second syllable is not accentuated. The verb *tener* ('to have') in environment 4 (- *que* + subjunctive),

though, was categorized as an irregular verb because the present subjunctive form does not follow the morphological patterning of a regular *-er* in the subjunctive.

If we look at the use of verbs in environments 1-6, we notice that the distribution is unequal. For example, in syntactic environment 1, we indicate that the verb *estudie* was used twice by placing a (2x) to the left of the verb. Whether or not the innate lexical properties of these subordinate verbs affected the participants' grammatical judgment of the syntactic environments is unknown and therefore it is not possible to make any confirmations regarding this issue. With this said, however, we remind the reader that syntactic environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) were ranked as more grammatical than the others. This is worth mentioning because environment 5 (- *que* + infinitive) did possess the largest overall quantity of regular (i.e., as defined in this study) *-ar*, *-er*, and *-ir* verbs. A total of nine verbs pertaining to this category were used in environment 5. Environment 6 (- *que* + indicative), however, possessed only 5 regular verbs which was equal to the amount of regular verbs found in environment 1 (+ *que* + subjunctive). Despite the unequal distribution of V2 verbs, we actively avoided the use of uncommon and irregular verbs as much as possible in order to make the task accessible for participants at all levels of instruction. Now that we have identified the limitations of our study, we turn to the pedagogical implications. As shown in chapter 4, and discussed in the present chapter, we have evidence that learners are applying the L1 [+ optional] overt CP rule in L2. This means that we need to capitalize on such information and use it in L2 classrooms.

5.5 Pedagogical Implications

Spanish subjunctive instruction has undoubtedly changed over the last 30 years. Examples of such pedagogical evolution can be seen in the studies mentioned here. Blake (1985), for example, draws upon previous L1 and L2 subjunctive acquisition research that includes Bergen

(1978), Blake (1983), Gili & Gaya (1961), among others, to offer suggestions for teaching subjunctive in the L2 classroom. In doing so, Blake states that “on the basis of both ease of learning and frequency counts from adult speech, we would argue that the classroom teacher should concentrate on commands [deontic nominal] and adverbial expressions (e.g., *para que, a que, cuando, hasta que, aunque, después que, antes que*) in the beginning levels” (172).

According to Blake, presenting the subjunctive in groups such as these situates them in similar semantic categories that can be described as “yet-to-be-realized-events”. Collentine (1997) emphasizes the need to raise the communicative value of the subjunctive by creating techniques that would help learners make connections between the formal and semantic properties of the subjunctive. More recently, however, based on previous input studies, Massery (2008a) focuses on the importance of incorporating interpretation tasks into classroom and homework activities and proposes that modal identification abilities emerge prior to morphosyntactic production. Such an approach would alter the focus of subjunctive instruction from production to modal identification. This type of instruction would involve exercises that require students to read texts, check boxes, circle answers, underline concepts, etc; based on a related text or listening passage.

These are just a few of the many studies that have contributed to the pedagogical enhancement of L2 subjunctive. Taken together, they provide instructors with a variety of ways to compare and contrast English and Spanish structures through reading, contrastive analysis, and PowerPoint presentations. Even with all of this information, however, something is still missing in the L2 classroom as the subjunctive remains to be somewhat of linguistic mystery. Based on the current study, we encourage teachers to present nominal clauses of deontic modality prior to other modal-syntactic environments, especially at lower proficiency levels. If instructors present the subjunctive to learners for the first time using DS nominal contexts

(*Quiero que comas mejor*, ‘I want you to eat better’) for example, it is suggested that learners will be exposed to complex syntactic structures without having to concentrate on difficult semantic nuances like those found in ES (*No creo que conozcas a Juan*, ‘I don’t think you know John’) and EI (*Creo que conoces a Juan*, ‘I think you know John’) environments. This suggestion is supported by the results of L2MAC that showed learners scored higher on DS contexts than ES contexts. In addition to our results, recall that previous research such as Terrell, Baycroft, and Perrone (1987) and Collentine (1995) have shown that nominal clauses are the most prolific in L2 production. This suggests that learners are better able to use nominal structures in L2. Even with suggestions such as these, however, the subjunctive still remains one of the most difficult and complex components of Spanish grammar for L2 learners of Spanish. As a result, in order to facilitate subjunctive acquisition in the language classroom, one must not assume that technological bells and whistles will work their magic overnight, nor should one assume that dry, rote, production tasks are sufficient either. Instead, perhaps it is a combination of all of the above. In every classroom it is ultimately the decision of the instructor as to how she will conduct the class and what activities she will use with her students.

The use of contrastive analysis in English and Spanish when discussing the subjunctive is also thought to be a useful pedagogical strategy. In the present study, ME shows that learners find English-like structures more grammatical than complex, L2 structures. Therefore, instructors should capitalize on such information and use examples in English when presenting Spanish subjunctive structures. In other words, if an instructor were to ask learners what the Spanish equivalent is to the sentence *I want you to go to the store* (i.e., IP complement), based on our findings, they might say **[pro] quiero tu ir a la tienda* instead of *[pro] quiero que [pro] vayas a la tienda*. If the instructor can use such errors to point out the syntactic difficulties

learners have as a result their L1 intuitions, subjunctive structures might become more salient to learners. By presenting learners with irrealis structures and authentic subjunctive examples in English, it is further suggested that learners might better understand how the subjunctive works in both languages (Feeny 1978; Kilroe 1988). In addition, learners should be made aware that English uses a variety of structures to capture irrealis meaning while Spanish almost always follows the same pattern. This is something that learners had not fully incorporated into their IL systems at the time of the study.

If learners continue to apply the [+ optional] overt CP rule in Spanish, a deductive approach might help learners to visualize the structural differences between L1 and L2. It appears that learners access CP structures in IL without meeting the overt requirements of Spanish. In other words, L2 learners may be accessing CP, as they would in English, but they are not phonologically and orthographically producing *que* as a result of L1 optionality. A deductive approach in this case would allow learners to see that their mistakes are essentially minor and in need of some tweaking. We suggest providing learners with examples of the three English irrealis verbs that we discussed in chapter 1 (*hope*, *prefer*, and *want*) and their corresponding syntactic structures. These verbs could be presented alongside their Spanish equivalent structures. A side-by-side comparison of the English verbs *hope*, *prefer*, and *want*, and the Spanish verbs *esperar*, *preferir*, and *querer*, would more clearly illustrate their intricate lexemic-morphosyntactic differences and idiosyncratic behaviors. The following table provides an example of how we might present such information in an L2 Spanish classroom.

Table 5-3. Sample presentation of English irrealis and Spanish subjunctive structures

English irrealis [+ optional] overt CP rule	Spanish subjunctive [- optional] overt CP rule
I hope you dance.	<i>Espero que bailes.</i>
I hope that you dance.	<i>Espero que bailes.</i>
She prefers you dance.	<i>Prefiere que bailes.</i>
She prefers that you dance.	<i>Prefiere que bailes.</i>
They want you to dance.	<i>Quieren que bailes.</i>

We recommend emphasizing the [+ optional] overt CP rule in English by bolding *that*.

5.6 Closing

As mentioned previously, there are several important contributions this project has made to the field of second language acquisition. ME is a tool that allows the participants to take control of their reactions to linguistic stimuli unlike the more traditional grammaticality judgment tests for example. Bard, Robertson, and Sorace (1996) support the strength of ME by saying that “...its [ME] validity comes from intra-subject consistency, which is easily achieved with instructions that encourage subjects to make full use of the numerical scale in expressing their impressions” (63). Therefore, by introducing ME to the grammaticality judgment testing of L2 subjunctive syntax, we have increased the level of sophistication in L2 subjunctive testing.

Prior to this study, to our knowledge, no research had specifically looked at the development of L2 subjunctive syntax from this perspective. ME gave learners the freedom to choose numerical representations that more accurately represented their individual perception of grammaticality. We found that a wide range of numbers was used by learners showing that ME did not confine participants’ judgments to rigid scales as seen in previous studies. The variety of numbers used in ME to represent learners’ intuitions showed how different each participant’s perception of grammaticality actually was. For example, participant #P1A chose 100 as the highest possible score while #PB2 selected 60 to reflect her perception of the most acceptable structure. Participant #PC3 chose 20 while participant #P4D chose 50 as the highest possible

score. In addition, in chapter 4, we discussed how difficult it is to elicit the Spanish subjunctive in oral and written performance tasks. Such difficulties make it challenging to test specific syntactic environments or isolate particular structures in L2. Often times, as shown in Collentine (1995), learners end up using paratactic or bi-clausal structures joined by commas. Such structures give only the illusion of complex syntax in L2 production. We averted such problems by relying on tasks designed to test learner competence instead of production.

In the present study we have shown that even at advanced levels of instruction, learners had not accepted L2 syntactic structures in Spanish as grammatical. Our findings illustrate learners' tendency to rely on L1 syntax, even at advanced levels of instruction, providing evidence of L1 transfer in L2 subjunctive development. With this said, however, we have also provided strong evidence that learners have access to CP complements in L2 meaning that IL is capable of generating complex syntax. Taken together, we are able to suggest that the [+optional] overt CP rule in L1 is transferred to L2 during subjunctive development.

The approach adopted here has shed light on issues that learners encounter when presented with the Spanish subjunctive. We have learned that even at advanced levels of instruction, learners found English-like null CP structures to be more acceptable than complex L2 overt CP structures. In addition, we provide solid evidence that functional categories, and most importantly null CPs, were accessible to learners at the time of the study. We base this on the low ranking of environment 4 (- *que* + subjunctive). If learners were unable to access FCs in L2, they would have ranked environment 4 (- *que* + subjunctive) as "highly acceptable" along with environments 5 (- *que* + infinitive) and 6 (- *que* + indicative) in ME. This is also an indication that learners have difficulty recognizing *que* as [- optional] in L2 syntax.

Many of the studies that we have discussed in this project have looked at the production, or lack thereof, of functional categories in L2. Our study has taken the opposite approach. The principle benefit of our approach was that we were able to suggest that learners' intuitions led them to rate L1 subjunctive syntax as the most acceptable structures in L2. We can suggest with confidence that L2 learners of Spanish have difficulty acquiring the Spanish subjunctive for both syntactic and semantic reasons. The learners' syntactic problem is rooted in the transference of the [+ optional] overt CP rule in English to L2 Spanish while learners' semantic complications are rooted in epistemic modality. It is indisputable that L2 acquisition of the Spanish subjunctive is difficult and requires time to develop. With this said, however, the problems causing such difficulties are actually quite simple to identify. This study has effectively demonstrated that the problems for L2 learners reside essentially in the L1 and L2 syntactic differences and the modal intricacies of epistemic and deontic modality.

APPENDIX A
ME (MAGNITUDE ESTIMATION TASK)

(DAY #1) Activity 1: Choose the number that you think best reflects the grammatical accuracy of the reference sentence. Then judge all the other sentences against this sentence. For example, if you consider the reference sentence to be 'perfect' and you give it a '30', the other sentences below with either be as good as '30', just as the reference sentence, or they will be considered less than '30'.

1. El chico come hamburguesas en el parque. _____
2. Maribel proclama que su matrimonio seguir bien. _____
3. Pablo presume que Juana estudie más. _____
4. Juan Pablo recomienda aparcar detrás de su apartamento. _____
5. Ellos no anuncian que se casan mañana. _____
6. Ella no asume que Natalia cantar bien. _____
7. Claudia no demuestra que comprende el tema. _____
8. Isaac supone que ella coma sus verduras en la cena. _____
9. Elena requiere que yo hablar con mi amiga. _____
10. Pedro intuye Eduardo buscar algo mejor. _____
11. Manuel piensa que Antonio estudie más acá. _____
12. Leonor no intuye que existen problemas entre ellos. _____
13. Marcos propone que yo compre los boletos hoy. _____
14. Julián sugiere que ella encontrar mejor trabajo. _____
15. Los profesores suplican los estudiantes lean más en casa. _____
16. Los estudios permiten que se encontrar buen trabajo. _____
17. No admiten que Raúl viva en Nueva York todavía. _____
18. Benjamín no piensa Luis ir a sobrevivir allí. _____
19. José no demuestra sea capaz de terminar el proyecto. _____
20. La policía ruega a los ciudadanos que cierren las puertas por la noche. _____
21. Los marineros necesitan el gobierno les suba el sueldo. _____
22. Jaime nos asegura no fuma marihuana. _____
23. Luis no asume que siempre tenga razón como Roberto. _____
24. La familia desea que los vecinos se mudan de casa. _____
25. No me imagino que esa información sea la verdad. _____
26. Lorenza suplica su hermana pagar la cuenta. _____
27. Julio niega tenga deudas. _____
28. La maestra no piensa la administración ayude suficiente. _____

29. Paco supone el presidente tiene razón. _____
30. El profesor quiere sus alumnos se preparen mejor. _____
31. El señor Hernández exige los empleados trabajan de noche. _____
32. David me asegura que tener suficiente dinero. _____
33. David no niega Donato hablar bien español. _____
34. María recomienda que Benjamín llega por la tarde. _____
35. El gato bebe leche cocina en la. _____
36. Pelayo cree Inés es buena amiga. _____
37. Santiago confirma que sus notas ser buenas. _____
38. Martín declara que Ivonne se enamora de él. _____
39. Ana María percibe Lucas adelgace rápidamente. _____
40. Isaac no anuncia sus padres estar divorciados. _____
41. Iñaki considera que la situación está difícil. _____
42. A Noelia le gusta que lleguen temprano. _____
43. La madre desea que su hija sigue con sus estudios. _____
44. No sospecha que Antonio vivir en Boston. _____
45. Isabela sugiere su hermana compra la casa de a lado. _____
46. La señora Smith admite que Juan habla por teléfono en la oficina. _____
47. No creo Carmen toma la clase en serio. _____
48. Carmen sabe que los hermanos de Pablo llegarán hoy. _____
49. Ella no piensa Paco vuelve por la tarde. _____
50. Dudo que Ángela buscar a su novio allí. _____
51. Ricardo prefiere que Ana cocine por la noche. _____
52. Lucas no demuestra tener talento. _____
53. Fátima entiende Enrique tenga mucho trabajo. _____
54. Renaldo dice que azul color favorito es. _____
55. Lorenzo sospecha Sebastián fume tabaco con sus amigos. _____
56. Maribel ha hecho su tarea para hoy. _____
57. Tatiana prefiere tomamos leche con el desayuno. _____
58. Antonio sostiene Juan Pablo conocer a Alejandro. _____
59. Julián no expresa su esposa tiene interés en salir mañana. _____
60. Francisco cereales come en la cocina. _____
61. Ellos esperan cenar con sus tíos. _____

APPENDIX B
L2MAC (L2 MOOD AND CONJUGATION TASK)

(DAY #2) Activity 2: On the line to the left of each sentence, indicate whether the mood of the verb should be in indicative (I) or subjunctive (S). Once you have chosen the mood of the sentence, choose the appropriate form of the verb.

1. _____ Luis no sospecha que María (estar) _____ preparando una sorpresa.
2. _____ Ricardo exige que Laura (vender) _____ su coche.
3. _____ La profesora no cree que Rodrigo (mirar) _____ las noticias.
4. _____ Elena quiere que Penélope (cocinar) _____ pescado con limón.
5. _____ El jefe no duda que sus empleados (trabajar) _____ siempre.
6. _____ Los hijos no admiten que sus padres (discutir) _____ mucho en casa.
7. _____ Carlos no intuye que Marco (tomar) _____ mucho alcohol.
8. _____ Pablo presume que Julián (correr) _____ todos los días.
9. _____ Mabel sugiere que Alejandra (romper) _____ su *blackberry*.
10. _____ Supongo que Roberto (escribir) _____ sus respuestas.
11. _____ Enrique imagina que su novia (comer) _____ bien en España.
12. _____ Jorge desea que su hija (aprender) _____ alemán.
13. _____ No anuncio que mi esposo (vivir) _____ en otro estado.
14. _____ Juan prefiere que Marta (asumir) _____ sus responsabilidades.
15. _____ Ronaldo demuestra que (recibir) _____ bien a los invitados.

APPENDIX C
SI (SYNTACTIC IDENTIFICATION TASK)

(DAY #2) Activity 3: Choose the sentence in Spanish that provides the most grammatical equivalent to each sentence that appears in English. Please read all of the choices carefully before making your decision. Make sure to only choose one option.

1. Maria wants me to go to the store.

- María quiere que yo voy a la tienda mañana.
- María quiere que yo ir a la tienda mañana.
- María quiere yo vaya a la tienda mañana.
- María quiere que yo vaya a la tienda mañana.
- María quiere yo ir a la tienda mañana.
- María quiere yo voy a la tienda mañana.

2. Lorena does not believe that Michael spends a lot of money.

- Lorena no cree que Miguel gaste mucho dinero.
- Lorena no cree que Miguel gasta mucho dinero.
- Lorena no cree Miguel gasta mucho dinero.
- Lorena no cree Miguel gastar mucho dinero.
- Lorena no cree Miguel gaste mucho dinero.
- Lorena no cree que Miguel gastar mucho dinero.

3. John requires Martha to work every weekend.

- Juan exige que Marta trabaje cada fin de semana.
- Juan exige que Marta trabajar cada fin de semana.
- Juan exige que Marta trabaja cada fin de semana.
- Juan exige Marta trabajar cada fin de semana.
- Juan exige Marta trabaja cada fin de semana.
- Juan exige Marta trabaje cada fin de semana.

4. Paul does not demonstrate that his knowledge is extensive.

- Pablo no demuestra su conocimiento es extenso.
- Pablo no demuestra que su conocimiento es extenso.
- Pablo no demuestra que su conocimiento ser extenso.
- Pablo no demuestra su conocimiento sea extenso.
- Pablo no demuestra que su conocimiento sea extenso.
- Pablo no demuestra su conocimiento ser extenso.

5. I hope that Jacob studies for the test.

- Espero que Jacobo estudiar para el examen.
- Espero Jacobo estudie para el examen.
- Espero Jacobo estudiar para el examen.
- Espero que Jacobo estudia para el examen.
- Espero Jacobo estudia para el examen.
- Espero que Jacobo estudie para el examen.

6. Francis does not admit that Manuel is at his house.

- Francisco no admite que Manuel esté en su casa.
- Francisco no admite Manuel esté en su casa.
- Francisco no admite que Manuel estar en su casa.
- Francisco no admite Manuel está en su casa.
- Francisco no admite Manuel estar en su casa.
- Francisco no admite que Manuel está en su casa.

7. She suggests that David attend the meeting.

- Ella sugiere que David asistir la reunión.
- Ella sugiere David asistir la reunión.
- Ella sugiere que David asiste la reunión.
- Ella sugiere que David asista la reunión.
- Ella sugiere David asiste la reunión.
- Ella sugiere David asista la reunión.

8. Elaine doubts that Belén lives with her parents.

- Elena duda Belén vivir con sus padres.
- Elena duda que Belén viva con sus padres.
- Elena duda Belén viva con sus padres.
- Elena duda que Belén vive con sus padres.
- Elena duda Belén vive con sus padres.
- Elena duda que Belén vivir con sus padres.

9. The general commands his soldiers to attack the enemy.

- El general manda sus soldados ataquen el enemigo.
- El general manda que sus soldados ataquen el enemigo.
- El general manda que sus soldados atacan el enemigo.
- El general manda sus soldados atacan el enemigo.
- El general manda que sus soldados atacar el enemigo.
- El general manda sus soldados atacar el enemigo.

10. Matt does not think that his boss is a good person.

- Mateo no piensa que su jefe es buena persona.
- Mateo no piensa sea buena persona.
- Mateo no piensa es buena persona.
- Mateo no piensa que su jefe sea buena persona.
- Mateo no piensa ser buena persona.
- Mateo no piensa que su jefe ser buena persona.

11. Martha demands that her son look for work .

- Marta demanda que su hijo busca trabajo.
- Marta demanda que su hijo busque trabajo.
- Marta demanda que su hijo buscar trabajo.
- Marta demanda su hijo busca trabajo.
- Marta demanda su hijo busque trabajo.
- Marta demanda su hijo buscar trabajo.

12. Mabel does not suspect that her husband works for the CIA.

- Mabel no sospecha que su esposo trabaje para la CIA.
- Mabel no sospecha que su esposo trabaja para la CIA.
- Mabel no sospecha que su esposo trabajar para la CIA.
- Mabel no sospecha su esposo trabajar para la CIA.
- Mabel no sospecha su esposo trabaje para la CIA.
- Mabel no sospecha su esposo trabaja para la CIA.

APPENDIX D
EXPLANATION OF SI

SI was included because we wanted to compare English irrealis and Spanish subjunctive structures simultaneously in this study. For this reason, SI was developed as a syntactic identification task designed to test learners' ability to equate English irrealis structures to their Spanish counterparts in the subjunctive. This test was created in order to answer research question 3: "How accurately do L2 learners at different levels of instruction identify Spanish subjunctive structures with their equivalent forms in Modern English"? In this task, the learners were presented with a total of 12 English irrealis structures, each followed by a set of six Spanish subjunctive sentences. The participants were asked to choose which Spanish sentence most accurately and correctly conveyed the meaning of the English sentence. Every item in both Spanish and English belonged to a specific semantic category (i.e., ES = epistemic subjunctive, EI = epistemic indicative, and DS = deontic subjunctive) which formed part of a specific morphosyntactic environment. The reader will notice that these are the same syntactic environments presented to the learners in ME. Item # 1 for example, presents the participants with the following sentence in English "Martha demands that her son look for work" followed by six possible Spanish interpretations as seen in Figure 1.

<i>María wants me to go to the store.</i>
<input type="checkbox"/> <i>María quiere que yo voy a la tienda mañana.</i>
<input type="checkbox"/> <i>María quiere que yo ir a la tienda mañana.</i>
<input type="checkbox"/> <i>María quiere yo vaya a la tienda mañana.</i>
<input type="checkbox"/> <i>María quiere que yo vaya a la tienda mañana.</i>
<input type="checkbox"/> <i>María quiere yo ir a la tienda mañana.</i>
<input type="checkbox"/> <i>María quiere yo voy a la tienda mañana.</i>

The goal of this task was to see whether or not the participants could accurately identify the Spanish equivalents of the English irrealis structures presented to them.

SI only required the participants to choose one option. They received one point for a correct answer (i.e., environment 1) and zero points for an incorrect choice (environments 2-6). In the SI task, the researcher wanted to observe learners' ability to interpret English and Spanish syntax. In order to analyze the data of all five course levels, an ANOVA was used to see whether or not any differences existed between the levels. The data analysis for this test also took into consideration the syntactic environments that were presented to the learners. Unfortunately, the results of this task were unreliable due to the order in which the tasks were administered. It is suggested that L2MAC may have prepared participants for this task. In other words, potential priming effects may have caused learners to anticipate subjunctive examples on the SI task resulting in unreliable data.

APPENDIX E
BACKGROUND FORM AND QUESTIONNAIRE

(DAY #2) YOU MUST RETURN THIS FORM TO LAURIE MASSERY

I. SPANISH MAJOR OR MINOR

___Major ___ Minor ___Double ___Other

II. BACKGROUND

What, if any Spanish classes have you taken at the university level?

COURSE TITLE	COURSE NUMBER

III. EXPOSURE TO THE SPANISH PRESENT SUBJUNCTIVE

Please explain briefly the amount of exposure and/or formal instruction you have had regarding the Spanish present subjunctive

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