Native and Non-Native Processing of Spanish SE in a Self-Paced Reading Task

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NATIVE AND NON-NATIVE PROCESSING OF SPANISH SE IN A SELF-PACED READING TASK

By

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ABSTRACT

This project analyses the multi-functional Spanish SE and features of verb morphology that this particle forces on verbs of reflexives, passives and impersonals. The generative framework has been adopted to examine the acquisition and processing of SE at two proficiency levels (intermediate and advanced), through completion of a self-paced reading as an online task. The project contributes to the existing debate between two competing theories; the Failed Functional Features Hypothesis, FFFH, (Hawkins & Chan, 1997), which is contrary to the possibility of feature resetting in the second language, and the Full Access Full Transfer Theory, FAFT, (Schwartz & Sprouse, 1994, 1996), which differs from the former in its final acquisition aspect by arguing that a learner can acquire new features of a different value in the L2. Reflexive, impersonal and passive structures with SE were approached as very different constructions as to verbal features. This project follows Mendikoetxea’s (2008) proposal that the verb of impersonals is defective or devoid of person and number features, as it is not in agreement with any element of the sentence. Passive sentences are seen as partially defective structures, lacking person, but not a number feature. Mendikoetxea’s (2008) analysis of impersonals and passives was adapted to reflexives to contrast how reflexives with SE do contain a person and number feature, as the verb agrees at all times with the subject of the sentence. Results of the self-paced reading measure support FAFT. The advanced learners patterned with the native speakers in taking more time to read reflexives and passives, the structures with features. This project proposes that processing difficulties with SE in real time relate to verbal features, and not order of instruction, or frequency of appearance in Spanish. The more the features that need to be checked, the longer the processing time on the given structure.
CHAPTER ONE

A SYNTACTIC AND SEMANTIC DESCRIPTION OF THE PARTICLE SE

1.1 Introduction

Generative Grammar is one theoretical framework of Second Language Acquisition (SLA) theory. SLA is concerned about how learners of a native language adopt the linguistic system of a second one, regardless of the context in which such acquisition takes place. The role that the first language, the (L1) plays in acquiring the structures of the second one, the (L2) is relevant in particular for the Generative Grammar Framework.

The task of SLA is to gain more understanding on how L2 learners are able to acquire structures and map their corresponding form or structure into meaning in the L2. In the case of generative theory, the L1 may be seen as the departing point for the study of the L2, though in practice, it is hoped that the final state of the second language of any given learner should be similar to the grammar of its adult monolingual speakers. This is how SLA and generative grammar intersect.

As a theoretical framework, Generative Grammar relies on grammatical rules, and how they interact with the L1 and the L2 according to learner proficiency level, (White, 2003). Language comprehension and production are generated from an abstract linguistic system, a mental representation of the learner’s grammar. This knowledge of the abstract linguistic system is unconscious and could be influenced by the first language, the mother tongue of the learner , (White, 2007).

As one of the key pillars of the Generative framework, Universal Grammar (UG) is a cognitive, innate ability that translates into an internalized system of rules with which we are predisposed from birth to acquire an L1 as well as a limitless number of other languages. Since the ability is present since birth, we will be able to combine the linguistic elements of our interest in a limitless number of linguistic utterances. UG also recognizes that languages have universal principles, and this starting with the first language acquired at home, (Chomsky, 1995; White, 2003).

The purpose of this project is to present native speakers of English with L2 Spanish a self-paced reading task to test their knowledge of verbal agreement in various constructions containing the Spanish particle SE. This is a multi-functional structure of Spanish which has different functions in the language,
and it may appear in different kinds of sentences (reflexive, passive, impersonal, inchoative, middle are some of the most common uses of SE in Spanish). These functions appear related to different verb features; more specifically, person and number verbal features that vary according to use.

The fact that SE is a multi-functional structure makes it a good particle for experimentation, since learners have to identify its correct use in any given sentence, despite the particle always exhibiting the same shape, SE. L2 learners of Spanish have to be capable of mapping this underlying form of SE into the multiple meanings it may have in any given sentence. These meanings are different because they relate to person and number features that vary according to SE use. In this project, the constructions that will be presented to participants differ as to SE use as there are three different SE constructions being analyzed, (reflexive, passive, impersonal use) and they also differ as to verb agreement (verb agreement, no verb agreement).

This chapter will first offer a background to the UG framework within SLA theory and its main competing theories. A contrast between the Failed Functional Features Hypothesis, (Hawkins & Chan, 1997) and the Full Access Full Transfer Theory, (Schwartz & Sprouse; 1994,1996) as major incompatible theories within the framework will be presented first. The chapter will then proceed with the semantic descriptions and syntactic analyses of person and number verbal features of the three structures under experimentation (reflexive, passive, impersonal SE), and why they may result problematic for Spanish learners with L1 English.

1.2 Generative Perspectives on Acquisition: FFFH vs FAFT

The UG framework recognizes that there are universal grammar principles, which permit or prohibit certain structures from occurring in human languages, (Chomsky, 1988). Principles are present in the speakers’ first language, and in fact in any language. They do not have to be learned, and represent universal linguistic concepts which hold across languages. A clear example of a universal principle is the existence of verb phrases (VPs) in all languages to indicate actions or states. Principles include a limited number of universal characteristics that are present in all languages.

Another important concept that is part of the generative framework is that of language parameter. Parameters account for cross-linguistic variation. They relate to the systematic ways in which human
languages differ in their syntax. For example, a parameter associated with the Spanish language is its *Null-Subject* nature, which has a cluster of features associated with it, like the inclusion of person and number features in the verb that allow to drop the subject. Spanish is a null subject language (NSL) that allows for the dropping of the subject and the maintenance of grammaticality, as seen in example 1.1 next, in which the pro-drop parameter is discussed.

(1.1) Me bañé.

REFL 1st Pers. Sing. wash-1st Pers. Sing/ PAST myself

“I washed myself”.

English, on the other hand, is a Non-Null Subject Language (non-NSL). Dropping the subject in English would render sentences ungrammatical, as seen in the literal translation of 1.1 above, (*washed myself). *Parameters* then refer to features that exhibit variability in syntactic settings across languages, (Chomsky, 1988). These parameters must be reset or acquired at the L2 level, according to the existing values of the second language, (Duffield & White, 1999). According to the generative framework, it is in these cases where near-native competence in the L2 can be achieved.

In spite of the existence of universal *principles* that should facilitate the task of learning another language, learners are often faced with the task of resetting *parameters* that possess a different value in their L1, (Chomsky, 1988). Resetting a *parameter* in the L2 then involves the capacity to restructure linguistic values that have been acquired since birth and fixed by experience in one’s own L1. The capacity to reset parameters is something attainable, as the UG framework predicts.

For the generative framework, non-existent structures of the L1 that must be acquired in the L2 represent a *logical problem of language acquisition*. Generative researchers all agree that UG must also be present in L2 acquisition, since the complex, abstract linguistic system that we acquire in the L2 after years of exposure greatly exceeds the primary limited linguistic data we may have received as input. The logical problem of learning a first language is recurrent when learning the L2, as input itself is a poor argument to account for how linguistic knowledge is acquired in any language, starting with one’s L1. For example, how can we account for the attainment of native-like levels of language proficiency in L2 learners when they have not lived in an environment where the L2 is the official language?
The structure under investigation here, the particle SE, is a structure associated to a strong verbal morphology in the case of the reflexive structure. Strong verbal morphology is a feature of the Spanish language. It is not the particle SE itself which may result difficult to acquire in L2 Spanish, but its connection to person and number agreement in verb morphology. This salient verb morphology must be acquired in L2 Spanish, since it exhibits different feature values in English with weak person and number features in the verb, quite differently from Spanish, in which SE brings about person or number features on the verb, according to its function.

In short, the SE particle has one underlying form in writing (SE), which must be mapped into multiple meanings (reflexive, passive, impersonal, among others) in Spanish. Learners of Spanish with English as a L1 also must reset a parameter when learning L2 Spanish. They have to make the transition from a weak English morphology to a strong Spanish morphology for the case of reflexive SE structures, in which the SE forces person and number features on the verb.

Two main competing theories within generative grammar have been proposed in regards to the idea of parameter resetting in the L2: the Failed Functional Features Hypothesis (FFFH), originally proposed by Hawkins and Chan (1997), and the Full Access Full Transfer (FAFT) Theory, proposed by Schwartz and Sprouse (1994, 1996).

The FFFH (Hawkins & Chan, 1997) is a modern version of the No Parameter Resetting Hypothesis (Clahsen & Muysken, 1989). The FFFH assumes full transfer of the L1 in the L2 initial state. However, it goes against the possibility of UG restructuring in the developing L2. According to Hawkins’ research (1998, 2000), a subset of features of the new language will be non-acquirable and missing from the L2 permanently. So according to the FFFH, L2 learners fail to acquire new parameter values in the new language.

By contrast, the FAFT Theory (Schwartz & Sprouse, 1994, 1996) adhere to the idea that new parameters of the L2 can be acquired and reset even if they have significantly different values in the L1. Although the FAFT theory does share the assumption of the FFFH that grammatical features at early stages of the L2 interlanguage will be drawn from the L1, it differs from the FFFH in the final acquisition aspect, the end-of-state grammar of the L2. According to Full Access Theories (Duffield & White, 1999), a learner can acquire new values of a feature that are not characteristic of their L1, but
these feature must adequately represent the L2. Parameters will then be reset, but according to the existent values of the L2.

As we have seen, the **FFFH** and the **FAFT** theories of acquisition compete in how they view the end-of-state grammar of the L2 learner. This project contributes to the debate between **FFFH** and **FAFT** by testing if Spanish learners have full access to UG at all times during the acquisition process. Is there full access to the L2 parameters via UG, as proposed by (Schwartz & Sprouse, 1994, 1996), and based on the results of an on-line task presented to Spanish learners of various proficiency levels? By examining the acquisition of a multi-functional structure of the L2, this dissertation intends to contribute to the existing body of research on how native-like proficiency is achieved in another language when the structure of interest has different verb morphology and feature values from the L1.

The reflexive particle **SE** is a multi-functional structure of Spanish and primarily, it is part of the reflexive pronominal paradigm. It can also take on the function of a verbal clitic with various verb classes. Depending on the function the particle SE has in the sentence, verbal features may vary in the sentence as to person and number features. The features will be presented in detail in the following pages.

In English there is not a reflexive pronoun like SE with such various functions. SE does not appear with that underlying form in English. It may thus result problematic to process in L2 Spanish, because it can be identified early on in the L2 acquisition process solely as part of reflexive morphology; which is its primary use in Spanish, and in which the verb does exhibit person and number features, (Mendikoetxea, 2008), as portrayed in examples 1.1 and 1.2.

(1.1)Me bañé.
REFL 1st Pers. Sing. wash-1st Pers. Sing/ PAST myself
“I washed myself”.

(1.2)La niña se seca las manos.
The girl REFL dry- 3 Pers. sing/ PRES her hands.
“The girl dries her hands herself”.

5
The particle SE may be a structure difficult to acquire in L2 Spanish, due to the different values it exhibits in English. Again, this acquisition difficulty may be linked to the person and number features with which basic reflexive SE structures are associated in any given sentence. This is relevant for the generative framework as part of SLA acquisition theory, given that there are many uses of this structure in Spanish. Verbal agreement features that vary as to person and number in the different SE constructions represent a parameter that must be reset by L2 learners of Spanish. As mentioned earlier on, concerning the use of SE in reflexive constructions, learners must make a transition from weak features in English connected to person and number verb features to strong features in Spanish with the Spanish reflexive SE. It results interesting to investigate how these difficulties vary according to learner proficiency level and type of SE structure.

The following section of this chapter contains a preliminary analysis of the particle SE. It presents a contrast between English and Spanish verb morphology, and how it relates to SE as a reflexive pronoun. This morphological section serves as a preamble to the description of the SE uses that are examined in this project; reflexive, impersonal and passive use. The contrast between English and Spanish verb morphology is also aimed at preparing the reader to understand the different verb features that the three SE constructions exhibit, and why they could result problematic for learners of Spanish with L1 English. The chapter concludes with a summary of its main points.

1.3 A Contrast between Spanish and English Verb Morphology as to SE

As a reflexive pronoun, SE has person and number features, because it is part of a paradigm in which there are other reflexive forms. However, this distinct reflexive morphology does not correspond directly with the English morphology. The use of reflexive morphology in Spanish and English is in fact quite different. A simple contrast between English and Spanish in person/number verb features in the Simple Past Tense is portrayed in Table 1.1.

The table illustrates a paradigm in Spanish in the singular form, in which the verb agrees with the subject in person and number at all times. These specific verb features of Spanish as to person and number agreement contrast with the English verb forms in which there is weak person and number agreement, as noted in the identical verb morphology of the English translations for all grammatical persons.
Table 1.1  
A Contrast between Spanish and English Morphology and Person/Number Features

<table>
<thead>
<tr>
<th>Spanish</th>
<th>English glosses</th>
<th>English translations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yo estudié</td>
<td>I studied -1 pers.sing/Past</td>
<td>‘I studied’</td>
</tr>
<tr>
<td>Tú estudiaste</td>
<td>You studied -2 pers.sing/Past</td>
<td>‘You studied’</td>
</tr>
<tr>
<td>Usted estudió</td>
<td>You (Formal) study -2 pers.sing/Past</td>
<td>‘You studied’</td>
</tr>
<tr>
<td>Ella estudió</td>
<td>She studied -3 pers.sing/Past</td>
<td>‘She studied’</td>
</tr>
<tr>
<td>Él estudió</td>
<td>He studied -3 pers.sing/Past</td>
<td>‘He studied’</td>
</tr>
</tbody>
</table>

From table 1.1, it is noticeable that in Spanish, the verb form ‘estudiaste’ (study -2 pers.sing /Past) can only agree with the informal second person singular (tú ‘you’). This stands in sharp contrast with English, in which the verb forms are identical for all subject pronouns, which illustrates a weak feature in verb morphology. There is no overt agreement in English in the verb forms as to the grammatical person system.

There is weak agreement between the verb and its subject in English and the same point holds for all tenses. Spanish, however, exhibits a richer paradigm in verb morphology, with one unique and distinctive form for the first person, the second informal person (‘tú’), and the formal second (‘usted’), and third person singular. Verb morphology in Spanish exhibits more variation than English as to the reflexive paradigm as well.

Moreover, in Spanish, the unique morphology attached to each grammatical person will make it possible to drop the subject, and still have null-subject grammatical sentences. The verb encapsulates the correct subject in the corresponding morphology. As it will be discussed later in the chapter, this status of Spanish as a NSL makes possible the existence of impersonal SE sentences in which the clitic assumes nominal, subject-like characteristics, (Rivero, 2002).

By contrast, omitting subject pronouns in English will render the sentences ungrammatical. English is not a null-subject language, and null-subject sentences are not licenced in English. The weak nature of
features related to verb morphology; in particular, the absence of person and number features in many cases, as well as the lack of a complex paradigm in person and number agreement for most verb tenses in English make it difficult for verbs to signal a specific grammatical person, with the exception of the third person singular of the English Present Tense. To further illustrate the status of English as a non NSL, Table 1.2 presents the resulting contrast between both languages when subject pronouns are dropped in reflexive morphology.

Table 1.2  
Spanish as a Null-Subject Language / English as a non Null-Subject Language

<table>
<thead>
<tr>
<th>Spanish Reflexives</th>
<th>English Glosses</th>
<th>English translations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Me bañé</td>
<td>REFL 1 Pers.sing. wash-1 pers. sing./PAST myself</td>
<td>*‘Washed myself’</td>
</tr>
<tr>
<td>Te bañaste</td>
<td>REFL 2 Pers.sing wash-2 pers.sing/PAST. yourself</td>
<td>*‘Washed yourself’</td>
</tr>
<tr>
<td>Se bañó</td>
<td>REFL 2/3 Pers.sing. wash-2/3 pers.sing/PAST him/her/yourself</td>
<td>*‘Washed himself/herself/yourself’</td>
</tr>
</tbody>
</table>

Thus, the first difficulty associated with primary reflexive morphology and SE when learning L2 Spanish is that in English it is impossible to drop subjects and still have grammatical sentences with reflexive pronouns. It is important to mention that the pro-drop nature of Spanish is not a variable that is manipulated in this study; verbal agreement is. Nevertheless, when acquiring the basic use of SE in reflexive sentences that lack a subject, learners are forced to reset values of a feature related to person and number in verb morphology that is weak in English.

This feature is related to a strong verb morphology needed to check the subject of the sentence, basically person and number. Person and number are present in Spanish verb morphology, regardless of whether the subject has been dropped or not. The sentence will retain its grammaticality, even after the subject has been dropped. Learners are forced to process sentences that lack overt subjects in the L2. They must rely on Spanish verb morphology to check person and number features imposed by a subject (either dropped or not).
Given that SE is a particle that always appears next to a verb form, English learners of Spanish must understand not only the specific function of this particle in any given sentence, but in the case of reflexive SE sentences, they must process a verbal system in the L2 which exhibits strong person and number features which by comparison are weak in their first language. Returning to the main proposal of FAFT (Schwartz & Sprouse, 1994, 1996), it is expected that L2 learners of Spanish at the near native level of language proficiency should be capable of correctly acquiring the person and number features associated with the particle SE in reflexive sentences in L2 Spanish.

On the other hand, its competing theory, FFFH (Hawkins & Chan, 1997) will oppose the possibility of UG restructuring in the developing L2, as a subset of features of the new language will be non-acquirable and missing from the L2 permanently. This dissertation intends to widen the existing research on the two competing theories and to expand the knowledge existing on how learners of Spanish with L1 English restructure parameters connected to strong features of person and number in Spanish verb morphology.

SE may be a problematic particle to process in the L2, but it is by no means exclusive of Spanish. It also exists in other Romance languages like French, in which it has the same surface form as in Spanish, the form ‘SE’; and it also figures in Italian, with a different surface form, ‘SI’. The main difference between these languages and Spanish is that in Spanish, SE has a multi-functional nature, (Rivero, 2002). There is a single form in the input that has to be mapped into numerous meanings in the L2. In spite of having multiple meanings in Spanish with a multitude of different verbs, there is only one surface string, SE. A descriptive overview of the main uses of SE is presented now.

1.4 Most Common Uses of SE

Table 1.3 illustrates some of the most common uses of SE in Spanish, notably as part of reflexive (1.3), reciprocal (1.4), passive (1.5), impersonal (1.6), anticausative (1.7), aspectual (1.8), inherent (1.9), accusative, (1.10) and dative constructions (1.11). Though the SE uses from Table 1.3 do not provide an exhaustive list, they portray its most common uses in Spanish. These are the uses observed more frequently in oral and written Spanish nowadays.
Table 1.3
Most common uses of SE in Spanish

<table>
<thead>
<tr>
<th>Spanish SE use</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3 Reflexive Pronoun</td>
<td>La niña se (REFL) seca las manos. (The girl dries her hands herself).</td>
</tr>
<tr>
<td>1.4 Reciprocal Use</td>
<td>Los novios se (RECIP) escriben unas cartas de amor. (The lovers write each other love letters)’</td>
</tr>
<tr>
<td>1.5 Passive Morpheme</td>
<td>En el restaurante se (CLIT) cortan las verduras. (The vegetables are cut in the restaurant).</td>
</tr>
<tr>
<td>(to indicate Passive Voice)</td>
<td></td>
</tr>
<tr>
<td>1.6 As a generic/ impersonal particle</td>
<td>En las universidades se (CLIT) escribe las tareas para los profesores.</td>
</tr>
<tr>
<td></td>
<td>(People write assignments for professors).</td>
</tr>
<tr>
<td>1.7 Anticausative use</td>
<td>Se (CLIT) hundieron los barcos en la tormenta. (The ships sank in the storm)’</td>
</tr>
<tr>
<td>(unintentional meaning)</td>
<td></td>
</tr>
<tr>
<td>1.8 Aspectual SE</td>
<td>Se murió (REFL) el vecino. (The neighbor died).</td>
</tr>
<tr>
<td>[± perfective]</td>
<td></td>
</tr>
<tr>
<td>1.9 Inherent SE</td>
<td>La ropa blanca se (CLIT)seca bien al sol (White clothes dry well in the sun).</td>
</tr>
<tr>
<td>1.10 Accusative SE</td>
<td>Juan se (REFL) confiesa de sus pecados (Juan confesses his sins)</td>
</tr>
<tr>
<td>(Pseudo-Reflexive)</td>
<td></td>
</tr>
<tr>
<td>1.11 Dative SE</td>
<td>Andrés se (DAT) lo comió. (el pastel). (Andrés ate it).-the cake.</td>
</tr>
<tr>
<td>(Indirect object)</td>
<td></td>
</tr>
</tbody>
</table>

Originally in Spanish, SE had a primary use as a reflexive pronoun, (Mendikoetxea, 1999). Example 1.3 next points at the use of SE as a reflexive pronoun, and as part of reflexive morphology. In these cases, the subject can be any person. It may be a singular or plural entity, and the verb will clearly represent the subject, whether it is first, second, or third person; singular or plural form.
In the case of example 1.3, there is only one entity performing the action and receiving its effects. Therefore, the verb appears in the third person singular. When the particle SE appears as a reflexive pronoun, there are *person and number features* represented in the sentence, (Mendikoetxea, 2008).

(1.3) La niña *se* seca las manos.

The girl REFL dry- 3 Pers. sing/ PRES her hands.

‘The girl dries her hands herself’.

An ungrammatical counterpart of example 1.3 is presented next in 1.3b to indicate a contrast when the verb does not agree with the subject in number. It is in these cases that the sentence always results ungrammatical in Spanish. The reason is that the number feature of the subject and the verb do not match.

(1.3b) *La niña* se *secan* las manos.

The girl REFL dry- 3 Pers. plural/ PRES her hands.

*‘The girl dry her hands herself’*.

When the verb is in the plural form, the reflexive particle SE has acquired a different number feature. In example (1.4), the reciprocal subject in the sentence with agreement also signals the presence of person and number agreement in the verb. The ungrammatical versión of 1.4 is presented in 1.4b. Again, the sentence results ungrammatical, since the number feature of the subject and the verb do not match.

(1.4) Los novios *se* escriben unas cartas de amor.

The lovers RECIPROCAL write-3 Pers.plural/ PRES love letters.

‘The lovers write each other love letters.’

(1.4b) *Los novios* se *escribe* unas cartas de amor.

The lovers RECIPROCAL write-3 Pers.sing/PRES love letters.

*‘The lovers writes each other love letters’*.

However, the verb does not always carry person and number features with the particle SE. In 1.5 and 1.6 as seen below, verb features are not as crystal-clear as in the case of the reflexive constructions of
1.3, the NP ‘las verduras’. Differently from 1.5, example 1.6 portrays the use of the particle as a generic subject, a marker of impersonality which renders the verb form of 1.6 defective, devoid of person and number features. It is in cases like 1.6 that the particle SE becomes invariable, (Mendikoetxea, 2008).

(1.5) En el restaurante se cortan las verduras.
In the restaurant CLIT cut-3 Pers.pl/PRES vegetables.
‘The vegetables are cut in the restaurant’.

(1.6) En las universidades se escribe las tareas para los profesores.
In the universities CLIT write-3 Pers. sing/ PRES assignments for professors.
‘People write assignments for professors’.

This dissertation is limited to exploring reflexive, passive and impersonal use of SE given the different verbal features of these constructions, which makes them ideal candidates for contrasting person and number agreement in the sentence, and how learners of Spanish are able to acquire person and number features that vary according to SE use.

In the case of the reflexive construction, there are person and number features contained in the verb, as seen in 1.3 and 1.3b. On the other hand, there are no person features in the impersonal and passive constructions, though the latter exhibits number features, as previously seen in 1.5. Nonetheless, it is important to mention that as a multi-functional structure, SE might appear in Spanish under other uses as those of Table 1.3, and it may be associated with other verbal features not documented here. The semantic and syntactic differences between reflexive, impersonal and passive SE structures are presented in more detail next.

1.4.1 Reflexive SE

General Information

As already mentioned, this is the oldest and the primary use of SE in L1 Spanish. The use of SE as a reflexive particle is one in which the subject is interpreted as the only entity in the sentence affected by
the verb action. In a true reflexive and also in pseudo-reflexive actions containing SE, there is only one entity performing and receiving the verb action, and that is the subject of the sentence, as 1.12 from Table 1.3 clearly illustrates. This is not an ambiguous construction, given its verbal features of person and number.

1.12. (1.3). La niña se seca las manos.  
‘The girl REFL dry- 3 pers.sing/PRES the hands.’  
‘The girl dries her hands herself’.

Luján (1990) observes that as a reflexive particle, SE is a reflexive clitic complementing the verb phrase, and does not satisfy the category of NP (Noun Phrase). It does not substitute a nominal entity. We need the verb of the sentence to trace back the subject. Again, the main reference of SE goes back to the subject of the sentence, but SE cannot act as the main verb of the sentence.

However, SE as a reflexive particle, does contain person and number features, and it is a co-referential particle, as it will be analyzed in more detail in the following pages. In 1.13, Luján (1990) further illustrates the point that SE is not an NP when it is part of a reflexive construction. It is part of a reflexive paradigm with other reflexive forms.

(1.13) A: Juan se afeita todas las mañanas. ‘Juan shaves himself’
B: ¿A quién afeita? ‘Whom does it shave?’
A: *Se ‘himself’.

Semantic Description of a reflexive SE construction

In general, the co-referential aspect of SE in an action affecting the subject of the sentence is the most salient characteristic of its use as a reflexive construction. Another element that makes reflexive morphology distinct from other well-known SE uses is that when SE appears as part of reflexive morphology, it is disambiguating. The SE refers either to the third person singular and plural (he/she/they), or ir may refer to the second person singular/formal ‘usted’ (you), as in example 1.14 below. Those two instances within reflexive morphology should render the particle SE less ambiguous to interpretation in the L2.
SE is the reflexive form that is a part of an entire paradigm of other reflexive forms that also agree with
the agent of the sentence; me (‘myself’), te (‘yourself’), se-SING (‘himself’), nos (‘ourselves’), os
(‘yourselves’), se-PL (‘themseleves’) in person and number. When SE is a reflexive pronoun, there is
person and number agreement in the sentence, as examples 1.14, 1.15 1.16, 1.17 and 1.18 illustrate
below with the different reflexive forms (‘se, me, nos, se, se’).

(1.14) (Ella) La niña **se** seca las manos.
(She) The girl REFL dry- 3 Pers. sing/ PRES her hands.
‘The girl dries her hands **herself**’.

(1.15) Yo **me** seco las manos.
“I dry my hands **myself**.”

(1.16) Nosotros **nos** secamos las manos.
We REFL dry -1 Pers.plural/PRES our hands.
“We dry our hands **ourselves**”.

(1.17) Usted **se** seca las manos.
You REFL-dry- 2nd Pers. sing/PRES your hands.
“You dry your hands **yourself**.”

(1.18) (Ellas/Ellos) **Se** secan las manos.
‘They REFL dry- 3 pers.pl/PRES their hands themselves’.
‘They wash their hands **themselves**’.

In general, reflexive constructions tend to operate in a transitive context (Mendikoetxea, 2008), though
some verb forms can alternate between a reflexive and a non-reflexive meaning, like “disculparse/
disculpar”, (‘to excuse oneself/ to excuse someone’) and “perdonarse/ perdonar” (‘to forgive oneself/ to
forgive someone’). This verb alternation in the use of SE in reflexive morphology also adds to its
polysemic value in the L2.
As already mentioned, and due to the nature of Spanish as a NSL, reflexives and reciprocals can also behave as anaphoric constructions in null-subject sentences. These are sentences in which the subject is not overtly expressed, a characteristic exhibited by some Romance languages. Example 1.19 also illustrates a null-subject plural version of 1.3.

In 1.19 there is a reference that goes back to the subject of the construction, the only affected entity in a reflexive or reciprocal sentence. There is a single argument; an animate entity that fulfills the grammatical function of subject. Semantically, it can be concluded then that as a reflexive marker, the clitic SE is not an ambiguous construction in the L2.

(1.19). (Ellas/Ellos) *Se* secan las manos.  
‘They REFL dry-3 pers.pl/PRES their hands themselves’

‘They wash their hands themselves’.

*The Agreement features of a reflexive *SE *construction*

When analysing a reflexive structure containing SE, we must notice that there is a clear correspondence between the performer and the receiver of the action. The reflexive pronoun SE as seen in examples (1.3) and (1.4) must have person and number features, since it is part of a paradigm, in which SE co-exists with other reflexive forms. Person and number features are passed on to the verb of the sentence in a reflexive construction, as seen in Figure 1.1, a syntactic analysis of a reflexive construction adapted from Mendikoetxea’s (2008) SE constructions.

The tree of Figure 1.1 represents the reflexive sentence already presented in the original example of 1.3. This analysis follows a minimalist perspective, in which the verb has person and number features, undergoes movement, and lands in T, with person and number features. Some authors (Ordóñez & Treviño, 1999; Rizzi, 1997; Zagona, 2002) have placed pre-verbal subjects in a higher, topic-like position. This is not relevant for this project, and I therefore assume that subjects land in Spec TP, as shown in Figure 1.1, and not higher, as these authors have suggested.
Figure 1.1. A syntactic analysis of a reflexive SE construction

The tree provides a syntactic structure for the sentence, La niña se seca las manos”. The girl REFLECTED dry- 3 Pers. sing/ PRES her hands. *The girl dries her hands herself*. Although Mendikoetxea (2008) does not provide a separate analysis for reflexive constructions, I am adapting the system she uses for passives and impersonals to analyse reflexive SE sentences. Mendikoetxea’s (2008) analysis for passives and impersonals, has been adopted for the reflexive structure of Figure 1.1.

Person and number features are checked in a spec-head relation. In the tree of Figure 1.1, the subject “La niña” moves from spec VP to spec TP, while the SE cliticizes to the verb at the V- level, acquiring person and number features from the subject of the sentence. An English counterpart of the sentence portrayed in the tree is presented next in example 1.20.

(1.20). ‘The girl dries her hands herself’.
A structure like “La niña se seca las manos” or in English, ‘The girl dries her hands herself’ differs greatly from the sentence represented in 1.16, “Nosotros nos secamos las manos”, (“We dry our hands ourselves”). In the case of 1.20, there is third person singular represented in ‘la niña’/‘the girl’ with which SE and the verb agree in person and number. In the latter, the features have changed and the reflexive pronoun ‘nos’ is used instead of the reflexive form ‘se’. In the case of 1.16, “Nosotros nos secamos las manos”, the first person plural is depicted in the sentence. The reflexive pronoun ‘nos’ and the verb form have consequently acquired different person-number features as well.

What is it that Spanish learners need to acquire in a reflexive SE construction?

In reflexive constructions in general, the verb carries person and number features. The verb agrees at all times with the subject of the sentence. The reflexive SE behaves like a clitic, and it is also a part of the strong person and number features that all reflexive constructions exhibit. As part of a reflexive paradigm, the particle SE directly relates to the subject of the sentence forcing person and number features on the verb of the construction.

Person and number features directly relate to the strong Spanish verbal morphology, and it is one of the major parameters or syntactic variations of Spanish that learners have to reset when learning the language. They must acquire a strong value of person and number agreement related to verb morphology in Spanish, and contrast it with the weak values of English. Learners proceed from the weak value of person and number features of English to the strong values of Spanish. In the cases of reflexive structures containing the particle SE, T contains person and number features, as there is a definite antecedent, in this case the subject of an active sentence with person and number distinctive characteristics.

Learners then have to be able to connect the particle SE to an existing active entity which is the subject of the sentence. The verbal form would also relate to that entity in number and person. These clear-cut features are not always present in Spanish SE sentences, as it is in the case of reflexive sentences. The next two structures detailed in this project present difficulties in acquisition which are related to Spanish verb morphology features of person and number. The impersonal SE construction is analyzed next.
1.4.2 Impersonal SE

General Information

In Spanish, quite differently from other Romance languages, like French, the use of SE in impersonal sentences is actually a very productive one, in spite of the fact that it emerged after all other documented uses of SE in Spanish (Mendikoetxea, 1999). The impersonal use of SE is very common in the Spanish of the Americas and often mistaken with the passive use, as it began to be used after passive sentences regularly appeared with a verb in the singular form of the third person.

With a verb in the third person singular, it is much more difficult to notice the function of the affected agent, which is omitted in the case of impersonal SE constructions, as presented in example 1.21 next. This ambiguous nature of the impersonal construction contrasts sharply with the reflexive one, in which there is always person and number features in the verb.

(1.21). En las cocinas siempre se seca los platos después de lavarlos.
In the kitchens always dry-3 Pers.Sing/PRES the dishes… (after doing the dishes)
‘People always dry the dishes’.

This is an example of an impersonal sentence with the particle SE in which a transitive verb is used with an inanimate object, ‘los platos’. In these cases, the impersonality of SE is usually linked to a predicate that emphasizes a general human quality or action, and to a verb in the third person singular, that points at an action undertaken by a large number of people with regularity.

The clitic exists in Italian, another Romance language, with the same function. Its corresponding Italian counterpart, ‘si’, is used to indicate that the subject of the verb is human, but its identity is not specified. In the sentence ‘Si mangiano gli spaghetti in Italia’ (‘A lot of spaguetti is eaten in Italy’), the clitic ‘si’ can be seen functioning as a generic, universal subject. In French, on the other hand, there are some differences in this regard. The pronoun ‘on’-and not a clitic- is used to indicate a general or generic subject, as in the sentence ‘On avait dance beaucoup ici hier’/ ‘Se bailó mucho aquí anoche’/ ‘People danced a lot here last night’. In this context it is clear that the identity of the subject is unknown, but the reflexive form is not used to indicate genericity in French or the presence of an unknown subject. The pronoun ‘on’ signals the first person plural (‘we’).
**Semantic description of impersonal SE constructions**

In impersonal sentences, SE is not part of a paradigm of various reflexive forms, as when it is a reflexive pronoun. In 1.21, the clitic has above all a human feature and phi-features that connect with lexical entries like **alguien**, 'somebody' or **todos**, 'everybody'. The clitic of an impersonal construction relates to an unknown performer that is general in nature.

In this construction, the clitic SE functions as a generic pronoun, (Rivero, 2002), and not as a reflexive form that is part of a paradigm, as in a reflexive construction. The impersonal use of SE does not relate to a form that can be part of a paradigm and that can refer to any person, as when it is part of the reflexive system.

When SE is seen as an impersonal particle, it can be associated with verbs such as “bailar”, (‘to dance’), “comer”, (‘to eat’), and “vivir” (‘to live’), and other dynamic and less dynamic actions that exemplify everyday human activities. The impersonal use of SE would correspond to an active construction in which the clitic SE connects with a subject that is unspecified, a generic nominal element, a G-pro, (Mendikoetxea, 2008).

What is really a G-pro element? Mendikoetxea (2008) describes the G-pro as an unspecified, generic null-subject element. The G-pro element is absent from a reflexive SE construction, given the presence of person and number features in these sentences, as well as the presence of a traceable subject in the sentence. In addition, the G-pro can never be interchangeable with a phrase introduced by the preposition **por**, as the ungrammaticality of 1.22b suggests.

It is understood that the agent implicitly denoted by SE (‘the manager’) does not need to be mentioned in the impersonal construction in general, although it can appear in some contexts as an additional element not introduced by preposition (1.22a). Impersonal constructions tend to be thus agent-less sentences, unless attention wants to be brought to the agent to highlight its importance. In general, in impersonal SE sentences, the generic meaning introduced by the G-pro prevails above all.
The most important characteristic of impersonal SE constructions is their general nature. These are actions that could have been carried out by everybody, or in the case of negative sentences, by nobody. They are impersonal sentences because the agent is understood, or it does not need to be mentioned at all, as in example 1.23 next.

From example 1.23 we gather that assignments are usually written by students at all levels of instruction. It is a general characteristic of that social group and at that stage of life. To convey the impersonal meaning of the sentence, individual students do not need to be singled out. The verb of the impersonal construction is always in the third person singular. This characteristic of impersonal SE constructions is analyzed next.

### The Agreement features of an impersonal SE construction

In an impersonal sentence with SE due to the null generic subject –the G pro, and the absence of any known subject, the verb lacks person and number features. It is a *defective* verb form, (Mendikoetxea, 2008). Following her analysis here, the clitic SE is the head of a functional projection, the Clitic Phrase (CLP). In the syntax, the clitic SE heads a functional projection above T, which has no person or number features, since there is no subject –like in the case of reflexive sentences- against which the verb could check person or number features.
Figure 1.2. A syntactic analysis of an impersonal SE construction

The structure portrayed in Figure 1.2. ‘En las universidades se escribe las tareas’. In the universities CLIT write- 3 pers.sing/PRES homework. ‘One always does a lot of homework in college’ contrasts with the reflexive structure in Figure 1.1. Contrary to reflexives, the SE lacks a specific reference in Figure 1.2. If there is any reference at all in impersonals, it traces back to a generic antecedent that can be everybody, and no person in particular. In the case of the impersonal construction, the SE behaves like a 0-person/0-number clitic.
Mendikoetxea’s 2008 analysis results a practical one for this dissertation, as it allows for the contrast of agreement features; the absence of person and number features in impersonal SE sentences due to the G-pro element and the absence of a known subject. Mendikoetxea (2008) views the clitic SE in intransitive SE impersonal structures as associated with a null pronoun –the G-pro-, which is defective and generic in nature and rests inside the vP (Figure 1.2).

Mendikoetxea’s (2008) analysis has been adapted for a transitive structure such as the one portrayed in Figure 1.2. As mentioned earlier, SE behaves like a 0-person/0-number clitic in the sentence of Figure 1.2 due to the presence of the G-pro and the absence of a subject. With no person or number features in the impersonal construction, the verb has become defective (Mendikoetxea, 2008). In Spanish, there are no specific verb endings for 0-person and 0-number verbs. The third person singular is used instead as a default form.

How is the clitic SE also devoid of features in the case of the impersonal structure of Figure 1.2? The clitic SE checks a 0-person/0-number feature associated with the G-pro against the verb. As the clitic merges with the TP, and not in V –as in reflexive structures-, it assumes a subject-like function, and it projects a Clitic Phrase (CLP), as presented in Figure 1.2. The clitic SE ‘absorbs’ the functions of the G-pro generic pronoun, and renders the verb defective, or devoid of person and number features, (Mendikoetxea, 2008).

A similar analysis for the impersonal clitic has been offered by Rivero (2002), who shares common ground with Mendikoetxea (2008) in analyzing SE as a generic-impersonal clitic. Rivero (2002) also views the impersonal SE as merged outside the vP, attracting a defective nP as external argument of V. Given that SE has no phi-features when it is in the role of an impersonal clitic, it cannot enter into an relation of agreement with T.

Rivero (2002) claims that though T is finite (third person singular), it is basically defective, because it is not into an agreement relationship with any element, and the SE is defective as well as an impersonal clitic. This could explain the lack of verbal agreement in an impersonal construction with SE, in which the clitic SE functions as a feature-less nP that can bind, antecede and control the verb of the sentence, (Rivero, 2002).
The main difference in Rivero’s (2002) and Mendikoetxea’s (2008) analyses is that for the latter, the clitic SE relates to a null generic pronoun (a G-pro) in the specifier position of vP. The SE heads a functional projection above T, and it checks the 0-person/0-number feature of T. Impersonal SE -due to its generic nature in this type of construction - would turn a referential verb into a non-referential one, which results in a lack of agreement in impersonal SE sentences, or third person singular agreement by default, as represented in Figure 1.2. The verb is defective and lacks person and number features.

For Mendikoetxea (2008), the G-pro element is equivalent to a defective pronoun which merges in the spec of vP, and it is assigned the grammatical role of agent. Given that T lacks a referential person feature in the impersonal sentence because of the G-pro, and that SE here is a 0-person feature, the T would become defective, devoid of person and number features.

What is it that Spanish learners need to acquire in an impersonal SE construction?

In an impersonal sentence with SE, the verb is defective and it always appears in the third person singular. The verb has no person or number features. The lack of phi-features, or the absence of person and number features in the verb of an impersonal SE construction contrasts with the person and number features present in a verb form of a reflexive SE structure, in which the existing NP (the subject) to which SE binds as part of a paradigm to is a clear referent with person and number features (as in Figure 1.1).

The verb of SE reflexive structures can enter into an agreement relation of person and number with the subject and the verb form is not defective here, quite differently from impersonal SE sentences in which the verb is devoid of person and number features, resulting in a third person singular verb form or a default form.

Impersonal constructions can pose an acquisition problem in L2 Spanish, given that the verb lacks number and person features at all times. In the case of 1.24 below, L2 learners may fail to interpret the fact that somebody attacked the journalists, but the identity of the attacker does not need/want to be revealed. The existence of a G-pro in this sentence illustrates its generic nature.
In spite of the fact that the affected entity by the verb, ‘las periodistas’/‘the journalists’ is in the plural form, the verb form ‘agredió’ (‘attacked’) does not agree with the anímate NP, and appears in the singular form. This is why 1.24 is a clear example of an impersonal SE sentence. The existence of a generic/unknown null subject that renders the verb defective in the impersonal construction with SE represents a processing difficulty in this construction which must be acquired by learners of Spanish.

(1.24). Se G-Pro agredió a las periodistas.

‘CLIT attack 3 pers.sing/PAST a the journalists.

‘Someone attacked the journalists’ /’The journalists were attacked’.

In the case of the impersonal SE construction, learners of Spanish have to reset the weak English verb morphology to acquire a defective verb in Spanish. There are no person or number features in these sentences, and impersonal SE constructions always appear in the third person singular. This may be problematic when acquiring impersonal SE sentences, as they lack a subject and there are no verbal features to which the learners can relate in these sentences for the assignment of person and number distinctions in the verb.

Passive structures with SE share some similarities with impersonal SE constructions, but there are additional elements in passives which result in different agreement features for these sentences. The presence of a nominal agent brings about a number feature in the verb, which can appear in the singular or plural form. Consequently passives are not defective verb sentences, as impersonals are. Passive constructions with the clitic SE are presented next.

1.4.3 Passive SE

General Information

By definition, a passive sentence is one in which the subject does not perform the action actively. Rather, subjects in passives have been described as affected subjects, (Hernanz & Brucart, 1987). This is portrayed in example 1.25, in which the subject, ‘the car’ has been moved by a driver, and cannot move on its own.

Passive sentences in Spanish exhibit a flexible word order (Bruhn de Garavito, 1999). The passive subject can appear pre- or post-verbally in a passive sentence with SE. Word order, however, is not one of the variables being analyzed in this dissertation.
When SE is functioning as part of the passive voice in Spanish, the action portrayed in the predicate usually includes the idea of intentionality, or planned action, an effect on a passive, (Mendikoetxea, 1999), as also seen in 1.25.

(1.25). El coche se movió para evitar un accidente. Passive Construction
The car CLIT move-3 pers.sing/PAST to avoid an accident.
‘The car was moved to avoid an accident’.

In passive sentences, the general meaning points at an effect, a transformation in the entity controlled by the verb action. The idea is that something has occurred to somebody or something, as in 1.26:

(1.26). En el restaurante se cortan las verduras.
In the restaurant CLIT cut-3 Pers.pl/PRES vegetables.
‘The vegetables are cut in the restaurant’.

Semantic Description of Passive SE constructions

Passive sentences usually contain an affected subject, which becomes the object of the verb, or the entity affected by it. This passive subject can appear pre-verbally as in example 1.25, or post-verbally, as in 1.26, which results in a more flexible word order as compared to impersonal sentences. The idea is that somebody has caused an effect on an entity that cannot perform an action on its own. There is much confusion between passive and impersonal constructions that contain the particle SE in Spanish L1. However, semantically there are differences between the two.

One way to differentiate these constructions is based on their meaning. A passive sentence points at an effect on something or somebody, whereas an impersonal sentence points at a human activity carried out by large groups of individuals. When referring to impersonal sentences containing SE, Hernanz & Brucart (1987) have remarked that these utterances are not passive in meaning. Passive sentences in Spanish exhibit a flexible word order when compared to impersonal SE constructions. The passive subject can appear pre- or post-verbally in a passive sentence with SE. Word order, however, is not one of the variables being analyzed in this dissertation.
In general, impersonal SE sentences are not passive in meaning. Quite contrary, they portray a human activity or a state quite dynamic and general in nature, as in example 1.27 below, an ungrammatical sentence which ungrammaticality is introduced by the affected agent.

(1.27). * En las oficinas se pierde los documentos todo el tiempo por la gente.
In the offices CLIT lose -3 Pers.sing/PRES the documents all the time by the people.
‘People lose documents all the time in offices”. (impersonal/active sentence)

Impersonal sentences with SE are by definition active sentences, (Mendikoetxea, 1999). They do not include an affected agent. By contrast, passive sentences refer to actions that modify or change the condition of something or somebody which cannot undergo the modification on its own. Also, in passive sentences, the mentioning of the subject; in this case, the object of the verb may serve to clarify meaning, as in 1.28-1.29.

(1.28). En la oficina se pierden los documentos todo el tiempo.
In the offices CLIT lose -3 Pers.pl./PRES the documents all the time.
‘The papers are misplaced in the office”.

(1.29). En el restaurante se cortan las verduras.
In the restaurant CLIT cut-3 Pers.pl/PRES vegetables.
‘The vegetables are cut in the restaurant’.

Quite differently from impersonal constructions, there is no need to specify the subject in impersonal sentences, given their general, generic nature. The agent/performer of the action is omitted. This is the true nature of an impersonal construction with SE, and its main difference with a passive sentence. In impersonal sentences, an unknown subject (represented in the syntax by the G-pro) performs the action, but this unknown subject cannot be mentioned as noted in the ungrammaticality of 1.27 above.

A passive sentence would place emphasis on the thing, the entity being affected by the verb action. This emphasis is usually indicated by a singular or plural verb, the number agreement feature of the passive SE structures that will be discussed next. A passive variant of sentence 1.27 is represented in example 1.28, in which the meaning is also different from 1.27, as noted in the glosses.
(1.28). En la oficina se pierden los documentos todo el tiempo.
In the offices CLIT lose -3 Pers.pl./PRES the documents all the time.
‘The papers are misplaced in the office”.

Passive sentences, however, do share a similarity with impersonal SE structures. In both types of construction, the agent is unknown. Therefore, passive constructions with SE also lack a referential person feature due to the presence of a null NP, or generic G-pro-, (Mendikoetxea, 2008), which seems to reinforce the passive meaning of the sentence. Verbal agreement, however, will be different in the case of passive constructions, as there is an additional element that enters into an agreement relation with the verb: its internal argument, as shown in the NP ‘las verduras’ in example 1.29 next.

(1.29). En el restaurante se cortan las verduras.
In the restaurant CLIT cut-3 Pers.pl/PRES vegetables.
‘The vegetables are cut in the restaurant’.

To explain how agreement operates in a structure like 1.29, we will assume that the internal-nominal argument, ‘las verduras’, forces number features on the verb, (Mendikoetxea, 2008). In this cases, it forces plural on the verb form ‘se cortan’. As already mentioned, just as impersonal sentences, passives with SE are also marked by the presence of a G-pro null nominal pronoun, or a null generic element. Agreement features of the passive SE construction are next.

The Agreement features of a passive SE construction

A passive sentence with SE differs in the syntax from the structures of Figures 1.1 and 1.2. The main verb of a passive SE construction has an agreement relationship with the affected object not observed in the structure of 1.2. The G-pro element of the passive structure of 1.3 also makes the main verb a 0-person verb, but the passive meaning causes the NP ‘las verduras’ to introduce a number feature on the main verb of the construction. As seen next in Figure 1.3, a passive sentence with SE has no person feature, but it has number.
Figure 1.3. A syntactic analysis of a passive SE construction

The structure depicted in Figure 1.3 is ‘Se cortan las verduras.’ CLIT cut-3 Pers.pl/PRES vegetables. ‘The vegetables are cut’ represents a passive SE construction. As SE merges with the TP to form the CLP, the verb has already a complete set of phi-features. These features refer to the plural feature that the NP forces on the verb, given the passive meaning of the sentence. The internal argument, ‘las verduras’ is the entity being affected by the verb action, and it is plural in number.

The verb of the passive sentence then enters into a new agreement relation not seen in impersonal constructions. It can check a plural feature against ‘las verduras’, but it still remains a 0-person verb, as
it is also part of the same nominal operation triggered by the G-pro null pronoun. Consequently, the agreement resulting between the verb and the NP ‘las verduras’ is number rather than person agreement. The passive SE sentence remains a 0-person construction (due to the G-pro), but with a number feature, (Mendikoetxea, 2008) triggered by the passive meaning and the presence of a NP in the singular or plural form.

Mendikoetxea (2008) has proposed that in a passive sentence –just as in an impersonal SE construction-, there is no person feature due to the G-pro, but there is a number feature. In a passive SE sentence, the verb shares a number feature with the existing NP. In the tree represented in Figure 1.3, the verb shares a number feature – plural- with the NP, ‘las verduras’.

Following Mendikoetxea (2008), and as portrayed in Figure 1.3, the features of v remain unchecked until the null generic G-pro is merged in Spec of vP, and so does the number features of ‘las verduras’. When T is merged, it has already a complete set of phi-features (0 person, PL). There is no element that has exactly the same bundle feature as T, so T must enter different agreement relations of number with the NP ‘las verduras’. Consequently, passive SE structures will appear with a verb in the singular or the plural form, and this depending on the number of the internal argument element (NP).

What is it that Spanish learners need to acquire in a passive SE construction?

The main characteristic of any passive construction is that the subject cannot perform the action on its own. This is the meaning that prevails in a passive sentence; the passive ‘subject’ cannot perform or carry out the action on its own. The verb would point at the significance of a NP in a passive construction by agreeing in number with it. The passive meaning brings on semantic emphasis on the NP, and as a consequence, the verb form agrees with this NP in number. Passive sentences have a number feature. This is the main characteristic of a passive SE structure.

Learners of L2 Spanish with L1 English have to be able to acquire a strong number feature that is forced in the verb of the sentence by the existing NP of a passive SE construction. They have to reset a parameter connected to the existence of a number feature in the Passive SE construction. This NP is the internal argument of the verb, and therefore, the verb will agree with it at all times in the passive sentence. Otherwise, the sentence would result ungrammatical if its meaning is passive. In short, to
acquire Spanish SE passive constructions, learners have to acquire a partially defective verb structure in Spanish. There is number, but no person feature.

In English, the person feature in passive constructions is weak, although there is still a number feature. The learners have to proceed from a weak morphology in English to a partially defective one in Spanish with SE passives having a strong feature as to number, but lacking a person feature. These constructions also contrast with the totally defective nature of the impersonal one, in which the verb will invariably be in the third person singular lacking person and number features.

As to the analysis we have been following of Mendikoetxea (2008), impersonal constructions also lack a number feature, since the generic/impersonal meaning is the one above any other internal argument of the sentence, including a NP. Therefore, the verb in an impersonal construction always result defective (Mendikoetxea, 2008), and will invariably appear in the third person singular. As to the verb of the passive structure, it is partially defective and it will have a number feature that is reflected in the singular or plural form of the NP and the number feature in the verb.

What also complicates matters in acquisition difficulties of passive and impersonal SE sentences in L2 Spanish is that the use of Spanish SE with plural verbs sometimes alternate between the agreement and the non-agreement variant in native speakers, (Mendikoetxea, 2008), specially in the Spanish of the Americas. This leads to further confusion between passive and impersonal SE sentences. The alternation in agreement varies according to dialectal variation, even when the object is a full NP.

By definition, however, impersonal sentences with SE are non-agreement constructions, in which the third person singular is used by default, (Mendikoetxea, 1999). In impersonal sentences, SE is a 0-person clitic. It checks this 0-person feature in T, which becomes defective and has no number features either. Consequently, the verb lacks agreement features in an impersonal construction, even if it is mistaken by a passive constructions by native Spanish speakers.

In short, the main difficulty in acquisition associated with the particle SE stems from the agreement features it has in the three types of constructions examined here: reflexive, impersonal and passive structures. The confusion between the last two SE structures can compound the acquisition of SE in L2 Spanish, given that it is impossible to differentiate them as to meaning when the verb is in the third person singular form.
A passive sentence with a verb in the singular form is indistinguishable from an impersonal one, (Bruhn de Garavito, 1999). Table 1.4 summarizes the contrast in agreement features between the three SE uses documented in the project; reflexive, impersonal, passive use.

Table 1.4
Verbal Agreement Features of Reflexive, Impersonal and Passive Constructions

<table>
<thead>
<tr>
<th>Reflexive</th>
<th>Impersonal</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>La niña se seca las manos.</td>
<td><strong>Se</strong> escribe las tareas. (para los profesores)</td>
<td><strong>Se</strong> cortan las verduras.</td>
</tr>
<tr>
<td>SE is part of a paradigm of various reflexive forms, or reflexive pronouns.</td>
<td>SE is not part of a paradigm. It relates to an empty category, a null pronoun (generic G-pro).</td>
<td>SE is not part of a paradigm. It relates to an empty category, a null pronoun (generic G-pro).</td>
</tr>
<tr>
<td>SE is fixed by an antecedent, <em>the subject of the sentence</em> (which forces the paradigm). SE does not equal a NP.</td>
<td>The G-pro is the antecedent, and SE behaves like a 0-person clitic. There is no number features and T is <em>defective</em> at all times.</td>
<td>There is another antecedent (besides G-pro) that enters into an agreement relation with T: a NP (forcing number features on T) which is <em>partially defective</em>.</td>
</tr>
<tr>
<td>SE is not a clitic, but a reflexive element. SE is part of T, which has person and number features. It is a referential verb form, as shown in Figure 1.1.</td>
<td>SE merges with TP projecting a CIP. T becomes non-referential following SE (0-person). With no particular verbal ending in Spanish for 0-person, and a 0-number feature, the V shows default person and number agreement in the 3 person singular. T has no number features. It is defective, (Figure 1.2).</td>
<td>When SE merges with TP and projects the CIP, the v enters into an number agreement relation with the NP. It checks a number feature, but no person features (given the presence of the G-pro). The verb shows agreement in the singular or plural with a default third person. T has a number feature, (Figure 1.3).</td>
</tr>
</tbody>
</table>

Presently, SE is widely used with many kinds of verbs; verbs of emotion, activity, accomplishment, and condition. The particle has come to be regarded as a multi-functional structure, as it appears in numerous constructions exhibiting the same surface form, SE, and a multitude of functions. Again, its primary use is to point at a reflexive or reciprocal action, in which the reflexive particle relates to the subject of the sentence, and only to the subject.
Given the possibilities for its wide use in many Spanish structures and its changing nature with many verbs, SE could be best approached as a multifunctional particle of unstable nature in the Spanish language. However, this unstable nature can become predictable if learners can relate the particle to the different types of verbs and arguments with which SE appears at the sentential level, (Mendikoetxea, 1999). The verbal agreement of the three structures analyzed here is summarized next in Table 1.4.

In the three structures that are under investigation here; reflexive, passive, impersonal, the particle has different functional projections. Verbal agreement also operates differently in each case, as it has already been discussed. These differences can present acquisition difficulties to learners of Spanish. These acquisition problems should be able to overcome with increased proficiency in the L2.

1.5 Summary

This chapter has offered an overall semantic and syntactic description of the Spanish particle SE, and how it surfaces in reflexive, passive and impersonal sentences. Among all the many functions of SE in Spanish, these are the experimental uses which have been chosen to document in this project. Although SE is primarily a pronoun of reflexive use, it behaves like a multifunctional morpheme that defines verb features. Reflexive SE sentences exhibit a person and a number feature. Impersonal structures have 0 person and 0 number features. Passive SE sentences lack a person feature, but do contain a number feature (singular, plural).

SE contains a 0-person feature that relates to a null pronoun, a G-pro, (Mendikoetxea, 2008) in passive and impersonal constructions. This complicates its acquisition in the L2, since the verb exhibits different agreement features as compared to reflexive morphology or reflexive structures in which there is person and number encapsulated in the verb. When SE is part of reflexive morphology, it can represent any person of the grammatical system as part of a paradigm. The verb will always have person and number features in reflexive SE sentences.

As SE is acquired in L2 Spanish, it may result problematic for native speakers of English, a language in verb morphology behaves weakly. Verbal agreement differences between English and Spanish could make problematic the parsing of SE when L2 Spanish speakers with L1 English are forced to reset the
person and number feature values in the reflexive structure, going from a weak value in English to a strong value in Spanish, as they have to acquire person and number features in reflexive constructions.

Learners also have to proceed from the English weak morphology to a partially defective verb in Spanish to be able to acquire the number feature and the 0-person feature in the passive structure. Last but not least, they must proceed from the weak English morphology to the defective morphology of Spanish SE impersonal sentences, in which there is a defective verb form with no person or number features.

After the semantic and syntactic analyses of the SE structures under examination, it is important to revisit the main proposals of the two competing theories on the acquisition of Spanish features. The Full Access Full Transfer (FAFT) Theory predicts that years of exposure to the L2 make possible parameter resetting in the second language.

In particular, FAFT predicts that learners should be able to fully acquire structures of the L2 with native-like competence at very high levels of second language proficiency, and that there is full access to UG when learning a second language, (White et al, 2004). For FAFT, L2 Spanish learners should be able to fully acquire the agreement features of the three constructions as their proficiency level in the L2 advances.

**FFFH** also assumes full transfer of the L1 in the L2 initial state. However, it goes against the possibility of UG restructuring in the developing L2, as it proposes that L2 learners fail to acquire new parameter values in the new language, (Hawkins & Chan, 1997). This dissertation intends to contribute to the existing debate between FAFT and FFFH by testing FAFT against FFFH, by investigating how learners of Spanish with L1 English of different proficiency levels differ in their acquisition of Spanish reflexive, passive and impersonal sentences with SE.

Chapter 2 will follow next with a review of the literature on the acquisition of SE in L1 and L2 Spanish. It will report studies that support both, FFFH and FAFT. Based on the review of this literature, a rationale for the undertaking of this project is being proposed. The research questions and the corresponding hypotheses also appear at the end of next chapter.
CHAPTER TWO
A REVIEW OF L1 AND L2 RELEVANT LITERATURE ON THE PARTICLE SE

2.1 Introduction

This chapter discusses in more detail and based on research findings why the particle SE is problematic for learners of Spanish as a second language with L1 English. The particle SE is related to agreement verbal features with a different value in English, the main reason why it is problematic for L2 speakers of Spanish. This chapter also presents information on how SE is acquired in L1 Spanish by young children.

The chapter also draws on findings of relevant L2 studies with a generative perspective that seem to support the idea of full access to the L2 grammar features through UG (Schwartz and Sprouse, 1994, 1996; White, 1989, 2003), as well as others that have argued for a limited access to the L2 grammar features, (Hawkins and Chan, 1997; Kong, 2005; Tsimpli and Dimitrakopoulou, 2007). Can SE be acquired at near-native levels by L1 English learners who have reached a near-native level of language proficiency in the L2?

Within the generative framework, different authors have been able to document how the grammatical knowledge of the particle SE in L2 Spanish speakers is different with regards to native speakers. Some studies have examined the grammatical aspect of the particle SE, and whether L2 learners can acquire its structural properties when their L1 does not share any of these properties, (Bruhn de Garavito, 1999; Hodgson, 2009; Toth, 1999; Tremblay, 2006). In early studies, authors employed grammatical judgments to investigate the acquisition Spanish SE in the L2.

More recently, some researchers have gone beyond traditional Grammaticality Judgment Tasks (GJTs) to examine the semantic interpretation of SE by learners of Spanish, and how SE acquisition varies according to proficiency level in the L2, (Bayona, 2005; Hodgson, 2009; Montrul & Slabakova, 2003). Language processing studies have analysed from another perspective the interpretation of SE in real time by means of online tasks carried out by native speakers of Spanish, (Meseguer, Acuña-Fariñas and Carreiras, 2009). These relevant findings will be discussed in this chapter.
The motivation for this project is outlined at the beginning of the chapter. The rationale of the project is then followed by a review of how Spanish children first acquire the reflexive SE in their L1. The L1 acquisition of SE is followed by the report of the L2 literature, and its major research findings with regards to *FAFT* and *FFFH*. The chapter concludes with the study’s research questions and the research hypotheses.

### 2.2 Motivation of the Study

Some studies inserted within the Generative Framework (Bayona, 2005; Bruhn de Garavito, 1999; Montrul & Slabakova, 2003; Tremblay, 2006) have argued that all *principles* and *parameter* values of the L1 grammar can carry over in the L2, (Schwartz & Sprouse, 1996). *FAFT* theory assumes that parameter resetting is possible in the second language.

Other studies, on the other hand, propose that some features of the L2 are less accessible and difficult to reset, due to their settings in the L1 grammar, (Hawkins & Chan, 1997; Kong, 2005; Tsimili & Dimitrakopoulou, 2007). This leads to an ongoing debate between the possibility of *full access* and a *partial* or more restricted *access* to the L2 grammar. This dissertation intends to contribute to this debate by researching the processing of Spanish SE in real time.

Universal Grammar (UG) allows access to all the values of parameters in other languages. It is argued here that parameter resetting will occur even in cases when structures of the L2 do not exhibit the same feature values in the L1. Nonetheless, it is important to note that for some structures, this resetting may be gradual. It may take years of practice in the L2 to reset a given parameter having a different value in one’s L1, specially in the case of structures that are multi-functional in the L2 (Bruhn de Garavito, 2009; Montrul & Slabakova, 2003; Tremblay, 2006).

Although native-like mastery of sentences exhibiting Spanish SE takes time, near native competence with regards to verbal agreement in different SE constructions is possible, even if the particle has a different value in L1 English. The research undertaken by Bruhn de Garavito (1999), Montrul & Slabakova (2003), and Tremblay (2006) supports the idea of full acquisition of SE in the L2 at near-native levels of grammar proficiency.
This project assumes a Generative perspective to contrast the interpretation of grammatical and ungrammatical sentences in a processing task that contains the particle SE and three of its most common uses; reflexive, passive and impersonal use. This interpretation task will examine how L2 learners process the given three SE structures in real time, and tests whether the particle SE has become part of the L2 internalized knowledge. The participants represent diverse proficiency levels in L2 Spanish, and they share English as their L1.

To test the processing of SE in the L2, this project combines a self-paced reading task with a semantic interpretation one. The motivation of the project is to document learner processing of SE in a task that operates under real time constraints. The project also aims at gaining more understanding of how the particle SE is interpreted at the L2 near-native level of language proficiency. Based on the results of the experiment, this project can point at the main differences that exist between first and second language SE processing, and how these differences change according to SE uses.

To understand difficulties associated with the particle SE in English, it is important to note some observations on how Spanish children seem to acquire it in their L1. We know that Spanish SE is a problematic structure in the L2, given its multifunctional uses. How does it first surface in Spanish L1 child language? The acquisition and the use of SE in L1 Spanish helps to understand how this structure first surfaces in early years, and if there is a preference for any one of its uses at early stages of Spanish L1 acquisition. The next section relates to the L1 acquisition of SE. It will examine how SE emerges in Spanish L1 child language.

### 2.3 L1 Acquisition of SE

Reflexive SE is one of the first pronouns that surface in Spanish children speech. López Ornat (1994) has discussed how Spanish children use reflexive morphology with SE in a corpus data that included unaccusative verbs or verbs that indicate a change of state. Spanish children start producing reflexive morphology at an early age, before the age of 2, as in example 2.1.

(2.1). ‘Se ha caído la tapa, sí’.

REFL fell-3 pers.sing/PRESENT PERFECT the lid, yes.

‘The lid just. fell, yes’

María 1;10 (López Ornat, 1994)
Starting at age 2, Spanish children consistently learn SE with perfective aspectual value to refer to their toys and friends, as in 2.2 and 2.3, which represent examples of Spanish pseudo-reflexive verbs. This aspectual preference for the value of finished/completed actions in pseudo-reflexive actions, as in 2.2, also antecedes the use of the clitic as a passive and impersonal marker in Spanish L1 young children.

The use of SE in the preterite always precedes its use with imperfect actions, (Hodgson, 2009). The [-perfective] aspect of the imperfect is generally late acquired, around 4-5 years of age (Chomsky, 1967). In general, it seems that SE is produced more in early acquisition of L1 Spanish with verbs in the preterite, and with a single entity or excluding plurals, as seen next.

(2.2) ‘Se rompió.’

REFL break-3 pers.sing/ PAST.

‘It broke’.

(2.3) ‘Se mudó’.

REFL move-3 pers.sing/PAST

‘S/He moved’.

Hodgson (2002) suggests that although children produce aspectual morphology with [+perfective] verbs before the age of two, this knowledge of grammatical aspect is understandably restricted at such a tender age. Before the age of five (5), children still have difficulties separating perfective meaning from perfective morphology. In fact, the semantics of Spanish perfective aspect develops around age 5, which is consistent with the development of aspectual comprehension in other languages as well, (Chomsky, 1967).

With age progression, children seem to consistently associate Spanish perfective morphology as the end-point of an action, a telic action. Seven (7) and eight (8) year old children are already performing like adults in their accuracy of the comprehension of perfective aspect, (Hodgson, 2003).
However, it is important to know that before that age the connection of semantics and morphology in perfective tenses is not that consistent. The L1 acquisition of SE in the literature has also documented that very young children make omission errors of SE, and sometimes produce a sentence like 2.4 without the agent.

(2.4). “(Se) enfermó el niño.’
(REFL) get sick- 3 pers.sing/PAST the child’.
‘The baby/child got sick.’

Producing this sentence without SE does not render it ungrammatical, as the nature of Spanish as an NSL attested in Chapter 1. Rather, a sentence like 2.4 could indicate that children are still immature to notice the aspectual properties of SE in Spanish. Escobar and Torrens (2008) examined data from 3 Spanish L1 children. They undertook a quantitative analysis of the children’s production of present and past tenses, from ages 1;6 up to 2;11.

Escobar and Torrens (2008) have reported that most omissions occurred in the Simple Past around ages 2-2;5. The children omitted SE in contexts where it was required. One of the main findings of their study is that verbal tenses with or without SE held a significant relationship with age, \( p < .001 \), as noted in the results of the study. As the children’s language is still developing, they may be opting for less complicated structures, and decide not to include pronouns like SE.

Contextual clues at the sentential level seem to play a role since an early age in L1 Spanish, since children committed less errors in producing SE with sentences that contained affected objects clearly expressed, (Escobar & Torrens, 2008). It seems that from an early age, verb arguments help in the learning of completion in perfective morphology, because they may clarify the meaning of the sentences.

As a marker of telicity, SE is acquired early in the L1. In telic actions with the preterite, it indicates a relationship between the agent and the event when the agent is being mentioned in the sentence, as in 2.4. This relationship is important, because verb arguments can play a role in the accomplishment of the event. Young learners are able to observe this relationship when learning SE in L1 Spanish.
While investigating aspectual SE with a generative perspective, Hodgson (2002) researched whether Spanish-speaking children understood the semantics of SE in transitive verb-argument structures with singular and plural actions. SE appeared in sentences that contrasted in their use of a singular and a plural NP with a transitive verb, as in 2.5 and 2.6.

(2.5) (Se) enfermó el niño.

REFL. get sick- 3 pers.sing/PAST the child’. 

‘The baby/child got sick.’

(2.6) Se cayó la tapa.

CLIT fall-3 pers.sing/PAST the lid.

‘The lid fell down’.

(2.7) Se cayeron las tapas.

CLIT fall-3 pers.Pl/PAST the lids.

‘The lids fell down’.

The responses of 24 children of 3 different age groups (3-4), (5-6), (7-8) were compared with the ones of a control group of 20 monolingual Spanish speaking adults in an interpretation task. The results suggest that as children got older, they patterned with the adults in recognizing the singular and plural forms of the verbs with SE. Younger children (3-6) cannot make a consistent distinction between singular and plural actions. This seems to indicate that in L1 Spanish, SE is initially recognized as a reflexive pronoun involving a single entity. It is only later –around age seven—that awareness of the reflexive pronoun appears with a plural agent.

In terms of passives and impersonal sentences with SE, these structures are late-acquired. In general, passives are complex morpho-syntactic structures that involve two entities. Cross-linguistic studies with passives indicate that they are acquired after age six (6) in the L1, Marinis (2007). In general, passives and impersonals are more difficult to comprehend and produced when compared with reflexives.

In this dissertation, I propose that the main difficulty in the interpretation of SE is derived from its connection to verb morphology in Spanish. This is evident in early acquisition of L1 Spanish, and it is

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also relevant for L2 Spanish adult learners with L1 English. The two languages contrast as to verbal morphology.

Spanish has strong verbal agreement features while English exhibits weak agreement features, as seen in Chapter 1. It is expected that L2 Spanish English speakers may experience difficulties when processing a multifunctional element like SE correctly, because they have to reset a parameter related to agreement features; person and number features that are weaker in their L1.

How has the interpretation of the particle SE been reported in L2 studies that examine the acquisition of SE by Spanish L2 learners? It must be said that different authors have not employed a unique task in this regard. Some have adopted grammatical judgments, and written productions of SE. In the last decade, some researchers have turned to semantic interpretations and tasks of a processing perspective which observe the processing of structures in real time. The analysis of SE in L2 studies that have employed Grammatical Judgment Tasks (GJTs) is next.

2.4 The Manipulation of the Particle SE in GJTs: FAFT vs FFFH

In her doctoral dissertation, Bruhn de Garavito (1999) compared groups of advanced and near-native English and French-speaking learners of Spanish in a GJT as to their acquisition of passive, impersonal and inchoative constructions containing the clitic SE. It was relevant to compare these structures from a syntactic and a semantic point of view, since the object (O) accompanying the verb in a passive, impersonal and inchoative construction has strong features and it is incorporated into the syntax.

Spanish has strong AgrO (object agreement). This is relevant for L2 Spanish acquisition, as learners have to be able to associate the verbal features to the objects following the verb. Verbal agreement is usually marked in person and number in Spanish. The strong Spanish verb morphology makes it possible to drop the subject, and still have grammatical sentences. Therefore, learners have to be able to recognize those person and number features in the verb to be able to process a sentence correctly.

In the case of a passive sentence with SE, it carries a Noun Phrase (NP) that fulfills the functions of object/subject in the sentence, as this construction typically appears with transitive verbs, as in ‘Se
Bruhn de Garavito (1999) manipulated verbal agreement and word order as variables inexperimental sentences containing passive, impersonal and inchoative SE constructions. The researcher included 17 different conditions, with 5 sentences figuring in each condition. All 17 conditions were variations of agreement with the verb in the third person singular and plural and different word order possibilities for the passive, inchoative and middle constructions with SE. The manipulation of these variables rendered some sentences grammatical and some sentences ungrammatical. Some examples from Bruhn de Garavito’s (1999) dissertation containing the experimental sentences are presented next:

**Passive, + Agreement, V NP, grammatical**

(2.8) *Se construyeron unos edificios para vender.*

> se build-pl some building in order to sell

‘Some buildings were built to sell.’

**Inchoative, -Agreement V NP, ungrammatical**

(2.9)* *Se quemó unos edificios en el incendio que causó el temblor.*

> se burned-sing some building in the FIRE that the earthquake caused

‘Some buildings burned in the fire that the earthquake caused’.

(This sentence could also be interpreted as an impersonal SE construction, but this analysis would be incorrect due to the presence of the element *el temblor*, ‘the earthquake’, which obviously signals an natural/unintentional action without the intervention of a human element.)

**Impersonal, -Agreement, + Human NP, grammatical**

(2.10)* *Se arrestó a los García para impedir nuevos crímenes.*

> se arrested a the Garcías in order to impede new crimes

‘The Garcías were arrested in order to impede new crimes.’
Inchoative, + agreement, + Human NP, a personal, ungrammatical

(2.11)* Se murieron a los niños de María por la epidemia de tifo.

se died a the children of María because of the typhoid epidemic

‘María’s children died because of the typhoid epidemic.’

(Bruhn de Garavito, 1999)

Bruhn de Garavito (1999) included 90 sentences in the GJT. Fifty of the sentences were grammatical and 40 ungrammatical. The participants rated the sentences based on a 5 point scale; (-2 bad; -1 bad, but not so much; 0 cannot decide; 1 relatively good; 2 good). The researcher justified the inclusion of these 3 uses of SE as they exhibit the same surface structure, (SE NP V), and can be manipulated with word order and agreement as variables.

The purpose of the experiment was to examine whether reflexive impersonals, passives and inchoative constructions were more problematic for the L2 participants when there was lack of agreement in the sentences presented in the grammatical judgments. Was their interpretation similar, or different from the native speakers in the sentences that lacked agreement?

It was important to investigate whether the interpretation of these properties of SE were present in L2 Spanish, and this given the fact that the L1 of the participants was English and French. English weak verbal morphology does not have a particle like SE in its inventory, while French has the clitic but in passive and inchoative structures only.

There were three groups of participants in Bruhn de Garavito’s (1999) study; one group of six (6) near-native L2 Spanish learners (L1: English and French); one group of seven (7) advanced L2 Spanish learners (L1: English) and one control group of six (6) native speakers from different Spanish-speaking countries.

In justifying this selection of participants and the different proficiency groups, Bruhn de Garavito (1999) has mentioned how important it is to choose very advanced, or near-native learners who have reached a high level of proficiency in the second language for the study of a clitic of multi-functional nature, like SE.
The high proficiency level in the participants and their success in carrying out the experimental task at hand would indicate that these second language learners perform similarly to native speakers on a complex structure like $SE$. This could suggest that it is possible to acquire a grammar that closely resembles the one of a native speaker. In the Bruhn de Garavito (1999) study, the main idea was to reject Bley-Vroman’s (1996, 1997) claim that Universal Grammar (UG) is no longer available to learners in an L2.

According to the Bruhn de Garavito’s (1999) analysis presented in Figure 2.1, the passive construction retains the NP in the Agr0 position, while in inchoative and middle constructions, the clitic SE moves to head of inner aspect, leading to a different interpretation for these last 2 SE constructions.

![Figure 2.1. Position of the SE clitic in various syntactic constructions](image)

It is clear that SE is part of the syntax in Spanish, and it behaves differently according to the type of sentence. Bruhn de Garavito’s (1999) study was one of the first pieces of research in which different uses of SE with identical surface structure (SE NP V), but different syntactic roles were compared to research the level of grammatical competence attained in the L2. As seen in Figure 2.1 adapted from Bruhn de Garavito (1999), the author situates the impersonal construction with SE represented as [-Agr0] in the Spec of Agr0, while inchoatives and middles are related with Aspect.

The inchoative [+ perfective ] structure, on the other hand, would be situated in the Spec of Aspect, (Brunh de Garavito, 1999), as [+ perfective] aspect is used in the case of inchoatives to show a change of state or condition in the action portrayed in the sentence, usually the beginning of an intentional
action and/or its effects. Figure 2.1 points at different syntactic functions of SE in the passive, impersonal and inchoative constructions, which can lead to different interpretations.

Passive, impersonal and reflexive SE constructions were connected to agreement in Bruhn de Garavito (1999) research, while middle and inchoative sentences were seen as actions of an aspectual nature not signaling the influence of a human agent. The author examined passives and impersonals as related with verbal agreement, while inchoatives and middles may relate more to aspect, regardless of whether there is agreement or lack of it in the given sentence. Bruhn de Garavito’s (1999) proposal for impersonal passives and impersonals, as well as inchoative and middle SE constructions has been presented in Figure 1.2.

This dissertation is similar to Bruhn de Garavito’s (1999) in the sense that knowledge of agreement with SE structures is being tested with L2 Spanish learners. My dissertation, however, does not contemplate the analysis of aspect with inchoatives and middles. I have also adapted Mendikoetxea’s (2008) analysis of verbal features to reflexive constructions, and have not included grammatical judgments as the main task of the experiment.

In the experimental results, Bruhn de Garavito’s (1999) found no significant differences between the two groups of near native proficiency in Spanish, the advanced group of L1 English, and the control group of participants from different Spanish-speaking countries whose L1 was Spanish. All groups were able to correctly judge the grammaticality of the three SE constructions under experimentation. In addition, the performance of the two near-native groups (L1: English/ French) was indistinguishable from that of the Spanish L1 control group.

A two-factor analysis of variance with repeated measures between grammaticality and language groups yielded no significant difference by L1 group, \( p < .119 \). It did, however, showed a significant difference for grammaticality, \( p < .001 \), and for interaction between groups and grammaticality, \( p < .001 \). Participants were able to distinguish between grammatical and ungrammatical items, though the Advanced group was not as accurate as the near-native participants.

Bruhn de Garavito’s (1999) study thus refuted Bley-Vroman’s (1990) earlier proposal that L2 learning is different from L1 acquisition. The final state of the L2 grammar of the non-native speakers of
Spanish in Bruhn de Garavito’s (1999) study did not differ significantly from the grammar of the control group of native speakers.

In spite of the subtle properties of SE not inferable from the input itself, as all conditions presented exhibited identical surface structure, the researcher concluded that the second language learners performed similarly in the identification of grammatical and ungrammatical sentences when compared to the native speakers.

The main finding of the study was that the learnability of SE took place in the L2 in the same way as its acquisition in Spanish by native speakers. In other words, the acquisition of SE in L2 Spanish in terms of this experiment refuted Bley-Vroman’s (1996, 1997) claim that native acquisition differs from L2 learning. Bruhn de Garavito’s (1999) participants resembled the control group of native speakers of Spanish in their L2 acquisition of the particle SE.

This finding was reported in spite of the fact that the structures of interest were dissimilar as to meaning, but nevertheless exhibited identical strings that are inexistent. Bruhn de Garavito’s (1999) experimental study confirmed generative grammar proposal that UG is still available to learners when learning a second language. Her research also refuted Bley-Vroman’s (1996, 1997) proposal: L2 learners can acquire native competence of a clitic not existing in their L1.

A resulting element that results critical for L2 research on the acquisition of Spanish syntax is that certain lexical forms in the input of which SE is part of could be manipulated to facilitate its processing in the L2. A noun phrase (NP) attached to a passive structure, or a prepositional phrase (PP) accompanying an impersonal construction with SE could have an effect in the interpretation of this particle.

Tremblay (2006) undertook a partial replication of Bruhn de Garavito’s (1999) project with two properties of SE as the objects of interest: reflexive passives (known as passive SE structures), and reflexive impersonals (impersonal SE constructions). The author focused on case features as a way to distinguish both structures in the syntax; accusative –ACC- for passives and nominative –NOM- for the impersonals. These two structures; passives and impersonals, as to Tremblay’s (2006) study are represented in examples 2.12 and 2.13.
(2.12) Se contrataron los mejores profesores del país. (reflexive passive construction)
SE (accusative) hired-PL  the best teachers (nominative) of the country
‘The best teachers of the country were hired.’

(2.13) Se contrató a los mejores profesores del país. (reflexive impersonal construction)
Se (nominative) hired-SG  A  the best teachers (accusative)of the country
‘We/One hired the best teachers of the country’.

In justifying the selection of structures, Tremblay (2006) pointed again at a similar surface structure for both constructions, but a different syntactic analysis for both sentence types. Tremblay (2006) made a distinction as to case features for both structures; passives and impersonals.

In the case of a passive structure, the particle SE is part of the verb form and accusative case is to be checked (Tremblay, 2006). The clitic remains attached to the verb at all times. The clitic SE may appear with a plural verb form, as in example (2.12). In addition, the internal argument of the verb and the NP that is functioning as a direct object, ‘los mejores profesores’ (the best teachers) can appear before or after the verb, and it triggers verbal agreement in Spanish as seen in the reflexive passive construction.

By contrast, in an impersonal construction, SE is assigned nominative case and it represents ageneric-null pronoun, (Rivero, 2002). A reflexive impersonal construction appears in the third person singular, as in (2.13), in which the verb lacks person and number features, and appears in the default third person singular. Aside from this consideration, in a structure like 2.13 the particle SE is the only element of the sentence with nominal function, it is not part of a paradigm, and it results invariable in form, (Rivero, 2002).

It is noted that if the reflexive impersonal could appear with a direct object/complement in the case of animate objects (2.13); in these cases, the preposition a becomes obligatory (Hernanz & Brucart, 1987; Bruhn de Garavito, 1999). The obligatory use of the Spanish preposition ‘a’ can be observed in (2.13) one more time. The object introduced by ‘a’ would be considered a prepositional phrase (PP), not the agent of the sentence. The ungrammatical counterpart of 2.13 is presented next in 2.14:
(2.14.) * Se contrató los mejores profesores del país. (reflexive impersonal construction)

Se (nominative) hired-SG the best teachers (accusative) of the country

‘The best teachers of the country were hired’.

Omitting the preposition in the case of 2.14 would transform an original impersonal structure into a passive one, in which verbal agreement becomes obligatory. The verb form would need to be changed to ‘se contrataron’ (‘were hired’) for the sentence to be grammatically correct. This constitutes one of the main differences between passives and impersonals with SE, the fact that impersonal constructions lack agreement in the verb.

Just as Bruhn de Garavito’s earlier research (1999), Tremblay (2006) included a GJT with sixty-four (64) sentences. The main research question was whether the L2 participants were able to acquire the structural and thematic properties of SE and the internal differences in reflexive passive and impersonal constructions related to accusative and nominative case. Was their knowledge differently from the one exhibited by native speakers?

One more time the NP accompanying the verb in a SE construction resulted a vital element in the research of the clitic. Mendikoetxea (1999) has proposed as well that arguments and adjuncts could be elements of interest in a SE construction, because they help in the clarification of the semantic interpretation of the verb with which the particle appears. Sentence arguments tend thus to be manipulated when researching structures of a multi-functional nature.

It must also be stated that Tremblay’s (2006) partial replication was different from the Bruhn de Garavito’s (1999) analysis of SE for a number of reasons. First, Tremblay (2006) examined two constructions with 6 different sentence types in which agreement and the [+ animate] feature was manipulated. Second, there were less sentences than in the Bruhn de Garavito’s (1999) experimental study: 20 grammatical, 28 ungrammatical and 16 distractors. Third, the design of Tremblay’s (2006) research was also different, as the author only examined two SE structures: impersonal and passive SE constructions.
Proficiency level was also different in the Tremblay (2006) study: only 29 Advanced participants were asked to rate sentences in the GJT, (13 native speakers of English and 16 native speakers of French) One final difference points at the homogeneity of the control group in Tremblay (2006): all native speakers of Spanish originated from Spain, unlike the Bruhn de Garavito’s (1999) controls, who represented various Spanish-speaking nations.

Results also revealed major differences between Bruhn de Garavito’s (1999) and Tremblay’s (2006) research. None of the L2 participants in either experimental group in Tremblay (2006) provided the appropriate grammaticality contrasts in their ratings across sentence types. For the L2 learners, rating the ungrammatical items was more problematic than rating the grammatical ones. As expected, impersonals resulted the most problematic construction, though the L2 French participants performed more accurately here than their English counterparts, $p < .001$.

It is important to remark that although in French, SE is not used to denote a generic subject, the language has a similar structure in the generic ‘on’(‘we/one’), which also identifies an unknown subject, and a general human use connected with a large group of individuals, an agent with [+ human] features. The use of the French ‘on’ is shown in 2.15, in which the French generic marker also triggers agreement in the verb with the third person singular.

(2.15) On fait la biciclette tous les jours.

‘We go biking every day’.

It was observed that the French and English groups of L2 learners performed significantly different from the control group on grammatical items, $p = .002$ and ungrammatical ones, $p < .001$, but not from each other across all items. Going back to her research questions, Tremblay (2006) suggests that the L2 learners did not show a consistent end-of-state grammar knowledge of the examined structures, (passive & impersonal). Neither did they show a consistent knowledge of case (accusative/ nominative) for either structure. The L2 learners also had difficulties rating the thematic properties of SE, and in the recognition of the internal argument in either reflexive passives and impersonals.
However, it seems that they judged grammatical items differently from ungrammatical ones, $p < .001$. This suggests that they had acquired only the correct model in the L2. However, they were not at an end-of-state acquisition of the Spanish grammar. This was Tremblay’s (2006) main conclusion at the time of the investigation.

In examining the results of her study, Tremblay (2006) also concluded that the proficiency level of the L2 participants was perhaps not advanced enough for them to have acquired these two SE properties, specially when the structure input was limited solely to classroom time. L1 influence is also an important factor to weigh in these results, since the L1 French participants provided more accurate judgments with reflexive impersonals when compared with the L1 English participants.

Tremblay’s partial replication (2006) also raised the importance of participant adequate placing in proficiency group for tasks that demand the grammatical interpretation of particles as problematic as SE. In Tremblay’s (2006) study, the Spanish course level in which the learners were at the time the experiment took place was the sole basis to judge their proficiency level in the L2. For instance, if they were in their sixth semester, they were classified at an advanced level of proficiency.

This was one of the limitations of this study as reported by Tremblay (2006). The proficiency level of the participants was not assessed individually. In general, it may be that the participants were not advanced enough in L2 Spanish at the time the data was collected. The results for the two groups of L2 participants were better for grammatical sentences. The ungrammatical sentences confused the two groups, particularly in the case of the reflexive impersonal sentences containing SE with intransitive verbs. This finding could have been further explored with more rigorous placement.

In general, Tremblay (2006) reported that third year-L1 English and French advanced learners of Spanish evidenced limited knowledge of the grammatical particle SE in a GJT. This author concluded that the L2 participants were able to distinguish grammatical items from ungrammatical ones, but they were still exhibiting difficulties when rating ungrammatical items when compared to the control group. It also seems that the use of SE as an impersonal marker poses problems in L2 Spanish, and in particular for L1 English learners.
Not all studies that have employed GJTs or grammatical tasks lend support to FAFT. Other investigations have also examined other grammatical structures with different results from those obtained by Brunh de Garavito (1999) and Tremblay’s replication study, (2006) in terms of full access to new features of the L2. For example, Tsimipi and Dimitrakopoulou (2007) looked at wh-subject and object extraction by intermediate and advanced Greek learners of English by presenting them with grammatical judgments. These authors’ results supported FFFH, due to the inability of the Greek learners to reset a parameter in L2 English due to L1 Greek influence.

Tsimipi and Dimitrakopoulou (2007) looked at wh- interrogatives as a structure of interest with different feature values in Greek (L1) and English (L2). Greek and English are different as to the animacy feature on clitics and wh-pronouns. This distinction is grammaticalized in English (by means of the pronouns who/what; he/she/it, but not in Greek. On the other hand, Greek offers agreement between the wh-word and the noun, but such an agreement is not generally found in English.

Another important difference is that Greek is a Null-Subject Language (NSL), while English is not. Verbal agreement has thus strong features in Greek, while in English it has weak values. With these differences in mind, the authors gave paced grammatical judgments to one group of intermediate learners of English (n= 21) and one group of advanced learners, (n= 27). The learners were students at the Aristotle University of Thessaloniki, and shared Greek as their L1. Their answers were contrasted with the ones of a group of native speakers of English (n = 26), who were all students at the University of Cambridge.

Tsimipi and Dimitrakopoulou (2007) tested the degree of acceptability of resumptive pronouns in embedded interrogative questions by means of a paced grammaticality task, consisting of 51 sentences (30 of which were experimental items and 21 distractor, or filler sentences). Some examples of the experimental sentences appear next in 2.16-2.19.

(2.16). Which parcel did you say that Mary sent yesterday? (object extraction; grammatical)
(2.17). * Which book do you remember that Peter read it carefully? (object extraction; ungrammatical)
(2.18). Who should not resign? (subject extraction; grammatical)
(2.19). * Who do you think that he met Katerina? (subject extraction; ungrammatical)
Participants saw each sentence on the screen for 5 seconds while at the same time they heard it on tape. Then they indicated their judgment according to a 5-point scale, ranging from -2 (certainly ungrammatical) to +2 (certainly grammatical). The ‘0’ encoded the ‘not sure’ option. This point scale had been taken from White et al (1998). Choices made on -2 were considered as non-target performance, with 0 judgments excluded. For example, if a sentence was judged grammatical by native speakers, the learners’ responses of -1 and -2 were considered ‘non-target’.

The results of the study indicated that the intermediate group of learners differed significantly from the native group in terms of the ungrammatical sentences for subject and object extraction, \( p < .01 \). The intermediate group also differed from the native group in terms of their answers to grammatical sentences for subject interrogatives, \( p < .01 \). As to the advanced group, they also patterned with the intermediate group and were dissimilar to the native group as to their answers to the ungrammatical sentences for subject extraction, \( p < .01 \). In terms of the grammatical object extraction, they were similar to the native group, \( p < .01 \).

In the same way, the advanced group of learners exhibited higher target-like performance in ungrammatical object extraction, \( p < .01 \). However, overall, the acceptability rate of pronouns in the advanced group of learners was significantly lower in sentences involving object extraction when compared to subject extraction, \( p \leq .05 \).

The comparison between grammatical sentences for subject and object wh-interrogatives indicated that both learner groups did better on object than in subject sentences, \( p \leq .01 \). Contrasts between the grammatical and ungrammatical object conditions revealed that both groups of learners did better on the grammatical condition. For the intermediate group the results were significant; \( p \leq .01 \) and for the advanced group there were also significant results; \( p \leq .05 \). The contrast in performance between the grammatical and the ungrammatical condition for subject interrogatives did not show significant differences.

Tsimpli and Dimitrakopoulou (2007) have argued that these results showed the inability of the reset a parameter in L2 English, due to L1 Greek influence. The obligatory presence of subject-verb agreement in Greek, compared to the optional presence of resumptive object pronouns is consistent with subject-object differences found in the learners’s performance on the acceptability task. These authors have
concluded that L1 effects are stronger in subject interrogatives even at advanced stages of L2 development. These effects are present, but not as strong in object interrogatives. The abstract properties of the strong subject-verb agreement of Greek were transferred to L2 English.

Another empirical study that supported the idea that adult learners do not reset their syntactic parameters in the L2 was undertaken by Kong (2005). The author contrasted the Null-Subject nature of Chinese (L1) with the Non Null-Subject nature of English (L2). The study included an error detection task with three groups of learners at the higher elementary level, (n= 22), the intermediate level, (n= 21) and the advanced level of English proficiency, (n= 23). Are Chinese speakers aware that English does not allow null subjects? How do advanced learners compare to lower proficiency learners in this regard?

All L1 Chinese learners were studying English in China at the middle school and college level. The groups of learners were formed according to the scores obtained in the Oxford Placement Test (Allan, 1992). Their answers were compared to the ones provided by a group of 10 post-graduate students at Essex University with English as their L1.

The error detection task they undertook consisted of two parts. In Part 1, the participants had to detect subject-verb agreement errors. In Part 2 they encountered a connected narrative, in which some objects and subjects had been omitted. Null argument properties were tested in various contexts; in matrix and embedded clauses with overt topics, and in matrix and embedded clauses in wh-clauses. Both null subjects and null objects were tested. Detection of an error received a score of one (1). Failure to detect an error received a zero (0).

Mean scores for each participant on each structure was calculated as the dependant variable. The results indicated that Chinese learners of English performed significantly better on null matrix subjects than on null embedded subjects in the error detection task, both in Parts 1 and 2, \( p < 0.05 \). There was also a main effect for Group. The more proficient learners were better at detecting the ungrammaticality of null subjects in matrix clauses, \( p < 0.05 \).

However, they were not as good in the case of the ungrammatical subjects in embedded clauses with overt topics and in wh-clauses. There was simply no correspondence in detecting the ungrammatical nature of null subjects in matrix and embedded clauses. Moreover, results of the statistical tests between
groups did not show any significant differences between the three groups of learners in detecting S-V agreement errors in the error detection task.

Why were the learners better on null matrix subjects when compared to null embedded subjects? Moreover, why did they also perform better on null matrix subjects than on null matrix objects? One thing is clear: the learners treated the three structural positions (matrix subjects, embedded subjects, objects) differently. Their responses differed from the responses of the native group, $p < 0.05$.

To account for the results obtained, Kong (2005) argues that the Chinese learners had failed to acquire the non-null subject nature of English and had transferred the null subject nature of their L1 instead. In Chinese, one topic at the beginning of every sentence must be overt. The author concluded that the learners of this study had transferred parameter settings of Chinese into English, as they had performed better on null matrix subjects when compared to null embedded subjects and objects.

The advanced learners had nevertheless developed strategies to detect ungrammaticality in null matrix subjects, but not so much in null embedded subjects and objects. However, they had not exhibited sufficient knowledge of the functional properties of English agreement. Their knowledge of the L2 was not driven by changes in features from their L1 grammar. The study failed to support FAFT.

As already mentioned, the debate between FAFT and FFFH continues today. There is now ample evidence that for some structures of the L2 transfer from the L1 is selective, which means that FAFT may not be at play at all times and for all structures. What happens if the L1 exhibits similar feature values to a given structure of the L2? Are these learners in a more advantageous situation than those whose L1’s values are totally different? Bruhn de Garavito’s (2009) more recent research on Spanish passives with two groups of learners indicates that transfer may play no role for some multi-functional structures of L2 Spanish.

Bruhn de Garavito (2009) had two different groups of learners participate in this experiment. One group of L1 English ($n = 21$) and one group of L1 German ($n = 9$). The learners were deemed at advanced level in Spanish or higher by means of a placement test. Their answers were compared to the ones of a group of native Spanish speakers ($n = 10$). Passive constructions with SER (eventives) and ESTAR (statives) were targeted in this experiment by means of a grammatical judgement and a sentence selection task.
In English, the same difference exists as to the eventive and stative nature of passives, but the English language has no overt marker like SER or ESTAR to make the distinction. In German, however, there are two different structures to mark this contrast. Bruhn de Garavito (2009) argued that if transfer operated on the basis of an overt marker, then the German learners were supposed to outperform the group of L1 English.

The grammatical task included seventy (70) sentences where forty (40) were grammatical and thirty (30) ungrammatical. Judgments were made on a scale of one (1) to five (5), where 1 was a judgment of ‘totally unacceptable’ and 5 a judgment of ‘totally acceptable’. There were ten (10) sentences with SER, five (5) grammatical and five (5) ungrammatical. There were also ten (10) sentences with ESTAR, five (5) grammatical and five (5) ungrammatical. Examples of the sentences given in this task are given below, in 2.20-2.23. Some of the sentences contrasted the use of the verbs with an adjective (2.20) and (2.21), while some other sentences contrasted their use with and without agents, as in (2.22) and (2.23).

(2.20). * Los policías son disponibles.  
SER + adjective, ungrammatical
‘The policemen are available’.

(2.21). Los policías están disponibles.  
ESTAR + adjective, grammatical
‘The policemen are available.’

(2.22). En el consulado los documentos son entregados por la secretaria.  
SER + agent expressed
‘In the consulate the documents are handed in by the secretary’.

(2.23). * La cena ya está preparada por un cocinero profesional.  
ESTAR + agent expressed
‘The dinner is already prepared by a professional cook.’

Another contrast examined the use of the preterite and the imperfect with SER and ESTAR. There were ten (10) eventive passives with SER, five (5) in the preterite and five (5) in the imperfect. There were also ten (10) statives with ESTAR. Five (5) of them were in the preterite and five (5) in the imperfect. Some examples of the third contrast are presented next in examples 2.24-2.26.

(2.24). El libro fue escrito en Inglaterra.  
Eventive passive, preterite, preferred
the book was-preterite written in England
‘The book was written in England’.
Results of these grammatical judgments showed no significant differences by Group, $p = .46$. There was, however, a significant difference by Sentence Type, $p = .001$, and a significant interaction between Group and Sentence Type, $p = .001$. The English L1 participants patterned with the native speakers in distinguishing grammatical sentences. A relevant finding in this experiment is that both groups of learners accepted the ungrammaticality of ESTAR with an agent, as in 2.23. The German L1 group was no different than the L1 English group in this regard.

Bruhn de Garavito (2009) concluded that the German L1 group did not show evidence of transfer from their L1 into Spanish. This experiment did not support FAFT. It seems that transfer from the L1 may be selective, specially when the level of proficiency is sufficiently advanced for the learner to select the specific content to be transferred. Finally, this researcher pointed at the intersection of transfer and processing abilities in the L2. A learner of more advanced processing abilities will be in better position to select what content to transfer from the L1.

After reviewing some articles that support partial access to L2 features, it is important to say that most of the literature on Spanish SE does support FAFT. Review of important articles will now continue with the return to the main structure of interest in this dissertation. Some of the findings are related to production studies and results of semantic interpretation tasks will also be reported. This review of the literature will conclude with more recent studies that have examined Spanish SE with a processing perspective.

### 2.5 The Manipulation of SE in Grammatical Judgments and Production Tasks

Another study that expands the research on SE with GJTs, and that has documented its use in L2 production was carried out by Toth (1999). Toth (1999) examined the rates of acceptability of SE by L1 English speakers in a GJT. This author also included a written production task with SE in the L2 to
complement the grammatical judgments. His observations have contributed to the study of the documented morpho-syntactic development of SE and its acquisition in L1 English participants.

It is important to mention that Toth’s (1999) study assumed the generative grammar (UG) framework, and a processing perspective as part of its theoretical bases. Factors such as context and type of instruction were relevant in the interpretation and production of SE. This particle may appear associated with a great diversity of verbs in second language textbooks. This motivated Tooth’s (1999) research on the role of L2 input, first language (L1) transfer, and UG in the development of L2 morpho-syntactic knowledge of the particle of interest.

There were 4 different classes of verbs presented to the participants. These included unergative, unaccusative, alternator and accusative verbs that may appear with or without SE. Examples (2.27-2.30.) illustrate the possible combinations with these verbs.

(2.27) a. *María se nadó en el río. Unergative with SE (ungrammatical)
   María REFL-3 Pers.Sing. swim- 3 Pers.Sing/ PAST in the river.
   ‘*María swam herself in the river.’
   b. Se nadó mucho en la playa. Unergative with SE (gramatical)
   CLIT-3 Pers.Sing. swim- 3 Pers.Sing/ PAST a lot on the beach.
   ‘There was a lot of swimming on the beach’.

(2.28) a. *Juan se llega hoy. Unaccusative with SE (ungrammatical)
   Juan REFL-3 Pers.Sing. arrive- 3 Pers.Sing./PRES. today.
   ‘*Juan arrives himself today’.
   b. Se llega mejor al pueblo por tren. Unaccusative with SE (gramatical)
   CLIT-3 Pers.Sing. arrive- 3 Pers.Sing./PRES. better to town by train.
   ‘One gets better to town by train’.

(2.29) a. *María se abrió la puerta. Alternator with SE (ungrammatical)
   María REFL- 3 Pers.Sing. open-3 Pers.Sing/ PAST the door.
   ‘María open the door to herself’.
b. La puerta se abrió. Alternator with SE (grammatical)
The door CLIT - 3 Pers.Sing. open- 3 Pers.Sing./PAST.
‘The door opened on its own’.

(2.30). a. Juan se vio en el espejo. Accusative with SE (Reflexive, grammatical)
Juan REFL - 3 Pers.Sing. see -3 Pers.Sing/ PAST in the mirror.
‘Juan looked at himself in the mirror’.

b. Se vio el mar bello desde la terraza. Accusative with SE (Passive/Impersonal,Gram.)
CLIT -3 Pers. See-3 Pers.Sing/ PAST the sea beautiful from the terrace.
‘The sea looked wonderful from the terrace.’

The participants in Toth’s (1999) study included a group of beginner learners of Spanish (n = 20), a group of low-intermediate learners (n = 20), a high-intermediate group (n = 17), and a low advanced group of L2 learners (n = 16). In all cases, the L1 was English. Their responses were compared to the ones of a control group of 30 native speakers of Spanish.

As mentioned earlier, Toth (1999) was concerned about L1 influence across proficiency level in the acquisition of SE with various verb classes. Were the learners able to apply the L2 values of SE to different verb classes, even if those verbal feature values were different in their L1? There were 3 research questions in this study: Do the beginner learners prefer to overgeneralize the use of SE to any given verb class? Is the L1 zero morphology pattern of SE observed at moreadvanced levels of Spanish? How do learners perceive the use of SE with alternator and accusative verbs? (Toth, 1999).

The researcher included a GJT and a Production Task. On the GJT, the learners rated sentences from each verb class on a Likert scale from -3 (‘very bad’) through 0 (‘not sure’), to + 3 (‘very good’). This GJT was given after the production task to avoid the onset of priming effects. The production task included pictures that depicted actions with each of the 4 verb classes under experimentation. Learners were asked to write one sentence about each picture using a verb and a noun phrase. A total of 12 items were presented to each participant. There were 2 items from each verb class, and 4 distractors from other verb classes.
The author focused on the learnability of SE with different verb classes, and the use of syntactic structures easily transferable from the L1. Testing occurred at the end of the semester, and a post-test was also given to the participants after the instruction period. A delayed post-test was administered 3 weeks after instruction. The immediate post-test revealed that learners diverged the most from the native control group in the alternator class, and only in the production task, $p < .001$.

In the grammaticality judgments, the Scheffé post-hoc analysis showed that all significant differences were between the native speakers and all L2 groups, $p < .05$. The low advanced group had a tendency to overgeneralize SE. It seems that some uses of SE, particularly in alternating constructions, such as (2.27b) were still under acquisition in the L2.

Toth (1999) has argued that these generalizations errors could be traced back to UG constrained by L1 influence. Even if the clitic had been added to the L2 grammar, there were also many other forms without SE (possibly due to L1 influence). In fact in production, even some of the more advanced learners were still producing forms in the L2 without SE.

The results of this study as reported by Toth (1999) suggest that a higher level of proficiency in the L2 did not bring the low advanced group to native acceptance and production of SE. In those cases in which they produced like natives, it was possibly due to the use of syntactic structures easily transferable from the L1.

When re-examining Toth’s (1999) research questions, the L2 participants of his study did not make a clear distinction between unaccusative and unergative verbs, although there were higher ratings in the GJT for grammatical items versus ungrammatical ones, just as in Tremblay (2006). This was observed across all proficiency levels. In general, it seems that there was a lack of significant effect for verb class. All L2 participants treated SE constructions similarly despite the semantic differences that the clitic poses with verb classes, which suggests that SE is no doubt problematic in L2 Spanish due to its association with a diverse verb morphology.

A generative perspective can be used to examine grammatical items of the L2 (like Spanish SE) with a processing approach, analyzing how L2 Spanish learners process these items by operating under real-
time constraints, just as this project will propose. The manipulation of verbal arguments like direct objects, which tend to be present with SE in many sentences could further help in the understanding of how L2 learners differentiate the semantic implications of SE with various verb classes.

2.6 The Interpretation of SE in Semantic Tasks

In the last decade, more recent studies inserted within the generative framework have examined the semantic interpretation of SE by L2 speakers of Spanish, and how the processing differs from native speakers’ semantic judgments. The analysis of the semantics of the clitic SE in Truth Value Judgment Tasks by Montrul & Slabakova (2003) and Bayona (2005) have pointed at further similarities and differences in the interpretation of the clitic in the L1 and L2 Spanish.

Bayona (2005) tested the middle construction with SE in a grammaticality judgment task and a truth value judgment one to test knowledge of the construction in high intermediate and advanced learners of Spanish. The middle SE construction could be interpreted with a passive meaning, and not as a general truth, its correct use in Spanish. Examples of middle constructions with SE are seen in: ‘Este libro se lee fácilmente’ (This book reads easily), and ‘La ropa se seca mejor al sol’ (Clothes dry better in the sun). The particle could also be read in the previous examples as a generic marker, which could lead to an impersonal interpretation.

Bayona (2005) administered the two-above mentioned tasks to 15 adult students of Spanish with L1 English. After taking the classification test, 7 of the participants placed as high intermediate, while 8 were included as advanced L2 learners. Their responses were compared to the ones of a control group of 15 native Spanish speakers.

In the Grammaticality Judgment Task, the participants had to rate sentences that appeared with and without the clitic SE and with stative verbs, such as ‘tener’ (to have), ‘digerir’ (to digest), and ‘saber’ (to know). The use of middle SE was also manipulated with a specific NP. As part of the GJT, some of the sentences were grammatical, while others were not. The participants rated sentences based on a scale of -2 to 2, according to acceptability, as in examples 2.31-2.33:
(2.31) a. Yo compro blusas de seda porque se lavan fácilmente. (Middle SE, grammatical)


‘I buy blouses of silk, because CLIT wash easily’.

b. *En la casa de mi abuela, aprendí que el pan corta con la mano. (Ungrammatical)

In the house of my grandmother, I learn-1st Pers.Singl/PAST that the bread NO CLIT cut-3 Pers.Sing/PRES with the hand.

‘*In the house of my grandmother I learned that the bread cuts with the hand’.

(2.32) *La casa se tiene fácil. (Middle with Stative verb, ungrammatical)

The house CLIT- 3 Pers./Sing. have 3 Pers.Sing/PRES easily.

‘The house CLIT owns easily’.

(2.33) *Algún condimento se digiere bien. (SE with unspecific DP, Ungrammatical)

Some condiment CLIT- 3 Pers.Sing digest- 3 Pers.Sing. /PRES. well

‘Some condiment CLIT digests well’.

As to the Truth Value Judgment Task, grammaticality was determined by the semantics of a paragraph which either forced a middle interpretation with SE, or ruled it out. After reading the short paragraph, the students had to decide on one of two options, depending on the semantics dictated by the context. There were two conditions presented in the Truth Value Task. In Condition A the participants were presented with a background context. They immediately had to choose between a reflexive or a middle construction, as in (2.34):

-“Luisa y Ana están preparando un almuerzo rápido. Luisa le pregunta a Ana: ¿Qué le agrego a la pasta?...” (‘Luisa and Ana are fixing a fast lunch. Luisa asks Ana: What do I put in the spaghetti?’)

(2.34) a. La pasta se come con salsa. (Expected Answer/ Middle Construction)

The pasta CLIT 3 Pers/Sing eat 3 Pers/Sing/Pres with sauce

‘Pasta is eaten with sauce’.

(2.34 )b. Se come con salsa la pasta. (Unexpected Answer/ Reflexive Construction)

CLIT 3 Pers/Sing eat 3 Pers/Sing/Pres with sauce the pasta.

* ‘It is eaten with sauce the pasta’.
In Condition B the participants were presented with short situations that either forced a [+ perfective] or a [- perfective] interpretation, as in (2.35) and (2.36):

-“Luisa preparó un pastel de manzana, pero no lo pudo comer porque…”

(‘Luisa made an apple pie. However, she was unable to eat it because’):

(2.35) a. El pastel se quemó en el horno. (Expected answer) [+perfective, inchoative]

The pie CLIT 3 Pers/Sing burn 3 Pers/Sing/Past in the oven.

‘The pie got burned in the oven’.

b. El pastel se quema en el horno (Unexpected answer) [-perfective, middle]

The pie CLIT 3 Pers/Sing burn 3 Pers/Sing/Pres. in the oven.

‘The pie burns in the oven.’

- “Ana se dio cuenta de que su saco estaba mojado y lo colgó a la sombra porque…”

(‘Ana realized her jacket was wet, and she hung it up in the shade, because’):

(2.36) a. La lana se seca a la sombra. (Expected answer) [-perfective, middle interpretation]

Wool CLIT 3 Pers/Sing dry 3 Pers/Sing/Pres in the shade.

‘Wool dries in the shade.’

b. La lana se secó a la sombra. (Unexpected answer) [+ perfective, inchoative]

Wool CLIT 3 Pers/Sing dry 3 Pers/Sing/Past in the shade.

‘The wool was dried in the shade’.

We cannot fail to observe the importance of perfectiveness here. In the case of example 2.36 b, the use of the preterite, or [+ perfective ] aspect would make the statement an inchoative sentence, one in which the clothes dried over a period of time, a few hours. On the other hand, the [-perfective] aspect of 2.36a renders the statement general in nature, as most adults probably know that wool should not be dried directly on the sun to avoid spoiling the delicate fabric, and that this applies to all clothes made of wool.

In the GJT the three groups showed a preference for sentences exhibiting the clitic, regardless of their grammaticality or not. However, the advanced students patterned with the native control group as to the rejection of ungrammatical sentences not exhibiting SE, as in (2.31b). Nevertheless, there were significant differences between the advanced group and the control L1 Spanish group, \( p = .034 \), with the native speakers outperforming the learners.
The results of the Truth Value Task for Condition A indicated that it was easier for all participants across the three groups to recognize the contexts that implied a reflexive interpretation, whether the sentences were grammatical or not. No statistical differences were found among the three groups here. It seems that the learners and the native speakers mostly associated the clitic SE with reflexive structures.

Results of the Truth Value Judgment Task in Condition B point at the fact that middle constructions are harder to identify than primary reflexive structures with SE. In fact, middle constructions resulted problematic even for the native speakers. The existence of a [+ perfective] context or a finished action with SE were the preference of all groups, as a perfective context seems to be favored in the L1 and the L2, (Hodgson, 2009).

Bayona (2005) suggests that there is a difference in how L2 learners accept the particle SE. The higher the proficiency level, the higher the probability that the learners will pattern with native speakers in their interpretation of SE, although the [+ perfective] context tends to be the favored one. This is also so in L1 Spanish, in which perfective actions with verbs in the preterite can be identified early on as part of lexical, though not grammatical aspect, (Hodgson, 2009).

In short, although Bayona (2005) did not directly test the Full Access Full Transfer Hypothesis (Schwartz & Sprouse, 1994, 1996), responses from the grammatical judgments seem to support it, since the reactions of the advanced learners were close to those of the native speakers in both conditions. As to the responses to the truth value judgments, the results seem to indicate that the middle construction with SE may bring about a processing difficulty, even in one’s L1, and that lexically it is a very complex structure. In its surface form, it is similar to the passive construction in surface form, yet middle SE constructions are very different in meaning.

On the one hand, Bayona’s (2005) study supports the Full Access Hypothesis (Schwartz & Sprouse, 1994, 1996) for the grammaticality judgments, as the middle construction with SE has emerged in the L2 grammar of the L1 English participants. On the other hand, results of the Truth Value Judgment Task point at an emergent state of the grammar in the L2, especially when two uses of SE were contrasted: middle and reflexive.
It may take an extended period of exposure to the L2 to fully acquire grammatical and semantic knowledge of two or more uses of a multi-functional structure like SE. To expand the existing research on these structures, this author has suggested the inclusion of a larger number of L2 participants in future investigations, as well as a production task to account for participant preferences among different uses of SE.

Another study that used semantic interpretation tasks with Spanish SE was undertaken by Montrul & Slabakova (2003). This study supports the view that some features of the L2 may only be acquired with superior proficiency, and that some structures take longer than others to form part of the L2 given their syntactic complexity.

Montrul & Slabakova (2003) administered a *truth-value judgment task* to their participants. Their research tested the acquisition of the morphosyntactic different nature of the preterite and the imperfect in Spanish. There were 4 groups of participants in this study. There was a group of advanced Spanish learners, a group of ‘superior’ learners and another near-native group, as well as a control group of native speakers of Spanish. The L2 Spanish participants had English as their L1.

For the Truth Value judgments, all participants were presented with three conditions. Condition A tested the change of meaning preterits with Spanish stative and eventive verbs such as *poder* (*to be able to*), *pude/podía*, and *querer* (*to want*), *quiso/quería*. Condition B tested the participants’ knowledge of habitual, or imperfect versus one-time events or preterite, such as *jugar* (*to play*), *jugo/jugaba*.

Condition C –which will be described in this project- tested generic (universal) versus specific (arbitrary) subject interpretation with impersonal SE constructions followed by either the preterite or the imperfect, as illustrated in the verb *comer* (*to eat*), *comió/comía*, in (2.37 a, b):

(2.37) a. **Se comía bien en ese restaurante.** (Generic/ Specific use of the imperfect)

   CLIT 3 Pers.Sing eat-3 Pers.Sing/ IMPERF. well in that restaurant.

   ‘One used to eat well in that restaurant’.

   vs.
b. Se comió bien en ese restaurante. (Specific interpretation: preterite)
   CLIT 3 Pers.Sing. eat-3 Pers.Sing/ PRETERITE well in that restaurant.
   ‘One ate well in that restaurant’.

   The means of the four different participating groups (advanced, superior, near-native, native) were submitted to a factorial ANOVA with repeated measures. In Condition C, all groups performed similarly, \( p = .120 \), except for the advanced group, \( p < .002 \) in the imperfect sentences. The authors reported that the advanced group of participants had not yet acquired the nature of the imperfect in SE constructions, in which the imperfect could refer to a specific situation, as much as it could hold a generic interpretation in Spanish, as shown in 2.37a.

   Crucially, and in accordance with the predictions outlined by Generative Grammar, the near-native group performed very similarly to the native speakers in this condition indicating that native competence of a feature not existing in the L1 is possible after years of exposure to it. This feature refers to the attainment of the imperfect morphology in Spanish, or the distinctive morphemes to indicate the imperfect past in Spanish that do not exist in English. This distinctive morphology in Spanish is indicated by means of the morphemes -aba, -ía, as seen in the verb forms of example 2.37a.

   Montrul & Slabakova (2003) have argued that this distinctive morphology for the Spanish imperfect is attainable with the particle SE at near-native levels of language proficiency. At a very high level of second language proficiency, these learners had in place grammar in the L2 that closely resembled the grammar of the native speakers.

   Montrul & Slabakova’s (2003) findings suggest that out of the 3 groups of L2 participants, only the near native learners seemed to have acquired the two values of the Spanish imperfect (generic and specific). Less proficient learners exhibited difficulty in sentences that depended on an imperfective nature for their semantic interpretation. Within the generative framework perspective, Montrul & Slabakova (2003) give support for continuous access to UG in the L2 and for gradual structure building of a structure not existing in the L1 as complex as Spanish SE. It may simply take some time to reset a feature that exhibits different values in the L1.
However, as proficiency increases, L2 learners can acquire the semantic implications of a contrast not existing in their L1. In terms of the Montrul & Slabakova (2003) study, this contrast refers to the preterite/imperfect morphological and semantic differences in Spanish. Some studies that have examined the clitic SE within the UG framework and that have been reviewed here seem to support the Full Access Full Transfer Theory, FAFT, (Schwartz & Sprouse, 1994, 1996).

Other studies, however, lend support to the Failed Formal Features Hypothesis, FFFH, (Hawkins and Chan, 1997), which claims that there is indeed a critical period for the acquisition of parameters in the L2 with Universal Grammar still partially accessible to the learner. After such critical period, it will be impossible to reset parameters in the L2 and a subset of features that differ in value from the L1 will be absent from the L2.

Still, other researchers (Bruhn de Garavito, 2009; Montrul & Slabakova, 2003) present a position of continuous access to UG after the critical period. This suggests that years of exposure to complex structures of the second language will allow to reset parameters, even when these parameters have a different value in the L1. How can multi-functional structures like Spanish SE help expand the literature on feature resetting? Spanish SE has mostly been examined in grammatical judgments, but given its diverse uses, it could be explored more in processing tasks. Does the processing SE in online tasks support FFFH or FAFT? This is a question worth investigating.

In recent years, studies of a cognitive-processing nature have examined the processing difficulties that SE poses in real time, although these studies are not abundant in the literature of this Spanish particle. The section on the analysis of Spanish SE with recent studies of a processing perspective will be presented next.

2.7 The Analysis of Spanish SE from a Processing Perspective

Quite differently from grammatical and truth-value judgments, Meseguer, Acuña-Fariña and Carreiras (2009) provided native speakers of Spanish with experimental sentences containing SE, and analysed their interpretations by manipulating the number of arguments in the sentences. The researchers were able to document their preferences by employing the eye tracking technique. Their
research supports the idea that the more arguments the sentence may contain, the more the capability of the native speakers to analyze the clitic correctly. In the absence of a clarifying context the particle may results difficult to process, although it seems that native speakers of Spanish have a preference for processing SE using the least linguistic resources, or with minimal displacement in the L1.

Processing with minimal displacement in the L1 is translated as a preference to do less parsing in the sentence, to identify SE as primary reflexive morphology and passive marker, by noticing the verb-related arguments in the sentence. It is interesting to note that as a reflexive and a passive marker, SE is associated with aneighboring NP, which fulfills the functions of object or agent in the sentence according to SE use. In the Meseguer, Acuña-Fariña and Carreiras (2009) eye-tracking study, all participants were undergraduate students studying at a university in Spain, and were considered native speakers of Spanish.

The participants were presented with a sentence in four different conditions. In general, there was a preference for the reflexive ¹/passive versions of SE observed in Conditions 3 and 4, in which the number of verb arguments were manipulated, as in example 2.40. This contrasted with the reflexive/impersonal versions presented in Conditions 1 and 2, in which there were less disambiguating elements in the experimental sentences presented to the participants.

The different conditions included in the study are outlined in examples (2.38-2.41).

A reflexive structure containing a post-verbal subject

(2.38)  Se vendó apresuradamente el corredor. (2 arguments) Condition 1
REFL bandage 3 Pers/Sing/Past hurriedly the runner
‘The runner bandaged himself hurriedly’.

¹_________________________

From a corpus study data presented by Meseguer, Acuña-Fariña & Carreiras (2009), it is observed that reflexive instances of SE (14%) appear almost as often as passive and impersonal constructions combined. There are indeed 335 occurrences of reflexive SE versus 373 occurrences (15.4%) of impersonal and passive combined. The number of reflexive constructions suggests the primary use of SE as a reflexive pronoun in L1 Spanish. English lacks a multi-functional structure like SE with so many verbal and semantic combinations. Therefore, learning SE implies that English-L1 speakers must also learn the Spanish complex verbal agreement system.
An impersonal structure with SE as generic subject

(2.39)  **Se** vendó apresuradamente al corredor. (2 arguments)  Condition 2
(pro) CLIT bandage 3 Pers/Sing/Past hurriedly TO the runner

‘Someone bandaged the runner hurriedly.’

An extra argument with SE as reflexive

(2.40)  **Se** vendó el tobillo el corredor. (3 arguments)  Condition 3
REFL bandage 3 Pers/Sing/Past the ankle the runner

‘The runner bandaged his ankle’.

An extra argument with SE as passive

(2.41)  **Se** vendó el tobillo al corredor. (3 arguments)  Condition 4
(pro) CLIT bandage 3 Pers/Sing/Past the ankle TO the runner

‘The runner’s ankle was bandaged’.

(Meseguer, Acuña-Fariña, and Carreiras, 2009)

These authors reported that participants exhibited less eye regression movements in (2.40) and (2.41) due to the extra argument (el tobillo – ‘the ankle’) that contributed to less displacement in the sentential analysis of **se**. This particle was processed with minimal displacement, as the object ‘el corredor’ (‘the runner’) was directly associated with the verb of the sentence in 2.40 once the participants reached the end of the sentence.

The authors have commented on this finding by pointing to the relevance of Spanish as a Null-Subject and flexible word order language which allows null subjects and post-verbal ones. As to the arguments that were manipulated, el tobillo (‘the ankle’) resulted a clarifying element that served to clarify at the sentential context the roles played by the different parts of sentence.

The pro-drop nature of Spanish and the extra argument/ disambiguating factor led the native speakers to correctly identify el corredor (‘the runner’) as the only possible subject in 2.40. Similarly, el tobillo (‘the ankle’) was made to act as a clarifying element along with the prepositional **al** (‘to’) to point at the direct object as possible agent in 2.41.
(2.41). ‘Se vendó el tobillo al corredor’.

(pro) CLIT bandage 3 Pers/Sing/Past the ankle TO the runner

‘The runner’s ankle was bandaged’.

After reviewing the pertinent literature of second language studies that have analysed judgment, interpretation and production of the particle SE in L2 Spanish, it is important to note here some summarizing remarks:

SE is attainable at native –like competence level by learners who are at a near end-of-state acquisition of the L2 grammar (Bayona, 2005; Bruhn de Garavito, 1999; Montrul & Slabakova, 2003; Tremblay, 2006). These studies support the idea that Spanish SE can be acquired at near-native levels of linguistic proficiency after considerable exposure to the L2. More advanced L2 Spanish learners seem able to reset a parameter related to new values of person and number features of SE in Spanish. The more advanced learners in these studies displayed a grammar that is similar to the grammar of a native speaker in terms of how they interpreted the structure in grammatical judgments and interpretation tasks.

SE, however, could take longer to acquire for lower proficiency learners, due to its multi-faceted nature, its association with aspect and with the strong features of Spanish verb morphology, (Bayona, 2005; Bruhn de Garavito, 1999; Hodgson, 2009; Montrul & Slabakova, 2003; Tooth, 2000; Tremblay, 2006). For the purpose of this study, features of SE do not behave identically in the three constructions under experimentation here which could complicate acquisition of verbal features in Spanish.

In the case of reflexive SE constructions, Spanish learners with English as L1 go from a weak verb morphology to a strong verb morphology in Spanish. As to the case of passive structures, learners go from a weak morphology to a partially defective verb, as passive structures with SE lack a person feature, but have number. Finally, in impersonal constructions, learners have to proceed from a weak morphology to a defective verb in Spanish, in which there is no person or number feature.

Consequently, lower proficiency L2 learners need more time and exposure to the L2 before they can fully incorporate a multi-functional structure like SE to their second language grammar. The more the
exposure to these multi-functional structures, the more the learners will be able to reset a parameter of
the L2 with the corresponding L2 values for reflexive, passive and impersonal SE constructions.

Still, some of the reviewed studies fail to address the question of whether the more advanced learners
have indeed internalized the L2 grammar. Has SE really become part of their implicit knowledge in L2
Spanish? This is the reason why the present dissertation intends to expand the research existing between
the two competing theories on parameter restructuring in the L2: FAFT and FFFFH. Some of the
limitations related to the tasks employed in the past to analyze the processing of SE in the L1 and the L2
will be outlined next.

2.8 Some Limitations on the Analysis of Spanish SE in the SLA Literature

Most studies analyzing the L2 acquisition of SE have relied on grammaticality judgment tasks,
(Bruhn de Garavito, 1999; Tremblay, 2006) in which different uses of SE are contrasted. However, these
studies have not explored the processing of the particle beyond grammatical judgments. When
examining the limitations of GJT s as off-line tasks, Juffs (2001) has concluded that these judgments
claim there is a similar competence in first and second language speakers based solely on the responses
to the experimental judgments.

In fact, these claims could be based on inconclusive data, since traditionally, GJT s do not test how
the grammar is driving L2 processing in a real time comprehension span, as an online study would do. A
GJT does not target an automatic response on the part of the L2 learners, which would help determining
if in fact the structure of interest in the L2 has been internalized and formally acquired at the time of
testing. An online measurement can help in determining whether the structure of interest is part of the
L2 grammar at the time of an investigation, or not.

Jiang (2007) has also commented on the methodological limitations of traditional GJT s. Typically, the
results of these studies are offered precisely on that; judgments, and accuracy rates that could be claimed
to be at native-like levels. The learners, however, may very well be applying explicit knowledge,
following rules, or even relying on their background or metalinguistic knowledge to rate the given
sentences.
Given that participants have usually ample time to rate sentence grammaticality in a traditional GJT, it is inconclusive to claim with certainty whether they have internalized a given structure or not. Therefore, the research of complex and ambiguous structures like Spanish SE should not entirely disregard grammatical judgments, but incorporate an interpretation measurement as well that complement grammatical judgments. Complementing typical GJTs with semantic interpretation and processing tasks can aid SLA researchers in identifying specific interpretation strategies with the structure of interest, and how these interpretation strategies vary according to proficiency level in the L2.

Although some studies have employed semantic interpretation tasks to analyze Spanish SE, (Bayona, 2005; Montrul & Slabakova, 2003), have tested its production as well, (Hodgson, 2009; Toth, 2000), the lack of online studies that include either oral or written sample processing of SE under real time constraints is noticeable. In this regard, Jiang (2007) has further discussed some advantages of a ‘time pressure task’, an online tool.

Giving participants specific time limits to complete a task helps researchers understand L2 knowledge that has been internalized and that is already part of L2 automatic competence. This contrasts with the use of other non-pressure tasks or ‘off-line’ investigations, in which the learner response may not be that immediate, and in which participants may have more time to retrieve information. This could yield the given judgment native-like, when in fact the level of proficiency in the L2 may be at a different stage.

Online studies also allow to measure participant reaction times to different sentences that have priorly been divided into regions. The researcher can manipulate the sentential context to detect which regions result more difficult to process in real time. Learner sensitivity to sentence context is thus measured in real time. The researcher can obviously incorporate other tasks, like comprehension questions to verify the understanding of the structure being examined, but the main advantage of an online task is that it evaluates a learner’s automatic response, (Jiang, 2007).
Given that SE is a multi-functional particle of Romance conditioned by verb morphology, the inclusion of a contextual situation to research its actual processing in a production task is recommended. A short written situation or an incoming picture suggesting one of the uses of SE and followed by its elicitation in an oral or written production task can pinpoint which uses of SE are preferred by L2 learners at a given proficiency level.

Present research has failed to identify which uses of SE (reflexive, impersonal, or passive) are preferred over others by advanced and near-native learners of Spanish. This project will thus attempt to expand the existing body of research on the particle SE by pinpointing general identification patterns of some of the most common uses of SE in L2 Spanish. Moreover, it is important to document in sentence processing analyses how passive and impersonal SE constructions differ from the primary identification of SE in the L1 as a marker of reflexivity, (Meseguer, Acuña-Fariñas & Carreiras, 2009).

Based on the existing limitations on Spanish SE research, this project intends to contrast three well-extended uses of SE: a primary use in the L1 as a reflexive pronoun, as part of the passive voice, and as a marker of impersonality. In these three uses, SE has identical surface structure, but fulfills different syntactic roles, as the particle forces different person and number features on the verb.

Verbal agreement is thus different in the three SE uses given the different syntactic roles of the particle. In the case of the reflexive use, the particle is part of a paradigm. There are other reflexive pronouns in Spanish, but SE represents the third person singular and plural. The particle SE then forces person and number features on the verb of the sentence when functioning as a reflexive pronoun.

As part of the passive voice, however, the particle functions as a generic subject pronoun with a zero-person feature, and transfers these 0-person feature to the verb. There is a NP in the sentence functioning as a passive agent. The NP of a passive SE structure forces a number feature on the verb, which could appear in the singular or plural form. The verb agrees with the passive NP in number, (Mendikoetxea, 2008).
Quite differently, in an impersonal construction, SE behaves like a generic null subject pronoun with 0-person features, heading the verbal phrase, (Rivero, 2002). In the absence of a passive NP that can force nominative characteristics on the verb, impersonal SE constructions are characterized by no number and person features. The verb will turn *defective*. In practice, these constructions point at general activities carried out by people in general, or an activity carried out by a human entity that is not explicitly mentioned in the sentence.

These activities in impersonal constructions have a general, recurrent nature, not necessarily present in passive structures that look at the effect exerted on an entity. Impersonal SE constructions have a [+ human] quality attached to them, as in example 2.10 below, (Bruhn de Garavito, 1999).

**Impersonal, -Agreement, + Human NP, grammatical**

(2.10) **Se arrestó a los García para impedir nuevos crímenes.**

    CLIT arrest 3 Pers/Sing/Past a the Garcías in order to impede new crimes

    ‘The Garcías were arrested in order to impede new crimes.’

Summarizing these agreement characteristics in the three structures; when SE is a reflexive pronoun, it exhibits number and person features, just as other reflexive pronouns would. When it behaves like part of the passive voice, it has number features. If SE is functioning as an impersonal particle, it is connected to a lack of verbal agreement within the sentence, given that there are no person or number features associated with a defective verb form in Spanish. Therefore, in an impersonal SE construction T is *defective*.

Given that surface structure in these three constructions may be identical in Spanish, (SE + V + NP), verbal agreement could be manipulated to detect sensitivity to the given semantic use of SE, and how this sensitivity varies according to proficiency level in the L2. Given the limitations of the tasks employed in previous SE L2 studies, this processing task with the clitic SE should take place in real time, as the experiment will involve a self-paced reading task followed by comprehension questions.
Based on a review of relevant SLA research studies involving SE, and the various functions this particle forces in the syntax, the following research questions are proposed:

2.9 Research Questions

1. Does type of SE structure affect L1 and L2 Spanish reading times?
   Is there one structure; reflexive, passive, impersonal, that is processed more quickly than others? Is there one structure that results more problematic in the L2 when compared to native speaker reaction times?

2. Does verbal agreement within various SE structures affect L1 and L2 Spanish reading times?
   As a reflexive pronoun, SE has number and person features. As a part of the passive voice, SE is devoid of a person feature, but the verb agrees in number with the adjoining NP. Passives with SE have therefore a number feature. On the other hand, in an impersonal construction, the particle SE represents a null generic pronoun and renders the verb defective, (Rivero, 2002; Mendikoetxea, 2008. This means that there are no person or number features in impersonal sentences with SE. The verb is always in the third person singular form. Are L2 learners sensitive to various agreement forms in the three different SE constructions when undertaking an online self-paced reading task?

2.10 Research Hypotheses

1. In terms of research question no 1, I propose the following ranking for comprehension.
   Accuracy rates for reflexives should be higher in the comprehension questions, as SE appears with a reflexive function more often in the Spanish language. Accuracy rates for passives and impersonals should be lower than reflexives, as these are more complex structures in terms of comprehension and are acquired later than reflexives with SE in the L1.
   As part of research question 1, I propose the following ranking for processing:

   Reflexive structures will be processed faster than passives and impersonals, as they are less ambiguous constructions due to the presence of person and number features, Passive structures will be processed faster than impersonals, as they contain a number feature, and impersonals contain no number
or person features. Impersonal structures will be the most difficult to process, as they contain no features at all rendering the main verb defective. They may be confusing and processing time could be higher.

In terms of real-time processing, I predict that reflexives will be the easiest to read as they contain verbal features that distinguish them from the other two constructions. Thus participants will be faster in reading reflexive constructions when contrasted with the passives and impersonals. Impersonals should take the longest to read due to their absence of features and their common confusion with passives.

I also predict that passive structures should be not as easy for processing as reflexives, but they should be processed faster than impersonals, as they are partially defective and also acquired in L1 Spanish in later years. Again, I predict that reflexive structures should be the least problematic to process, as they are the most common use structures with SE and they surface first in L1 Spanish.

In impersonal structures the particle SE is related to a generic null subject pronoun that causes the verb to be defective in the absence of a noun phrase that could force number features in the verb. The lack of number and person features in all impersonal SE sentences can represent a processing problem, even for the more advanced L2 learners. Impersonal structures should be the most problematic to process of the three structures.

2. In terms of research question 2, I propose that:

- Given that advanced learners are at a higher stage of language proficiency in Spanish, they should show more knowledge of verbal agreement with SE structures overall in the self-paced reading task when compared to intermediate learners.

- Advanced learners should show more knowledge of reflexive SE when compared to passives and impersonals, as passives and impersonals are more complex structures and are late-acquired in the L1 when compared to reflexive structures.

In particular, for advanced learners it should be easier to process the SE structures that contain features; reflexives and passives, in that order. Reflexive structures with SE which carry two features, person and number features in Spanish. The fact that reflexive structures carry features should aid in their general comprehension at an advanced stage of Spanish proficiency. The second structure which should be easier for L2 learners to process should be passives with SE. Although passives with SE lack a
person feature, they exhibit a number feature in Spanish, and that should aid in the general comprehension of passive sentences.

According to FAFT, both groups of participants should demonstrate a capacity to reset a parameter connected to verbal morphology values in L2 Spanish. In particular, they should be sensitive to the new structures in Spanish when proceeding from a weak morphology in English to a strong verb morphology in Spanish in the case of the reflexive SE structure containing person and number features.

If FAFT is at play, the L2 learners should equally acquire the partially defective verb morphology in the case of passives with only number features. It is interesting to see if the learners are able to proceed from the weak English morphology to the Spanish defective one in the case of the impersonal sentences. Although impersonal structures are basic in terms of their absence of verbal features, they may result problematic due to their similarities with the passive structures in meaning.

If, on the other hand, FFFFH is at play, I hypothesize that learners would not show knowledge of person and number features in the three sentence types. I hypothesize that the L2 learners would then show different processing patterns when compared to the native participants. Under FFFFH, the second language participants will be unable to show sensitivity to the strong verbal morphology in the case of the reflexive structure, and they won’t be able to comprehend them as well.

They may very well ignore the partially defective morphology of passives with the SE, and the defective nature of the verb in all impersonal SE constructions. I hypothesize that if FFFFH is at play, the L2 learners may ignore verbal features of the reflexive and passive construction, and process all three SE construction in the same fashion. The dissertation intends to add to the existing debate between the two competing theories; FAFT and FFFFH by examining the processing in real time of the three SE structures.

According to the literature reviewed in this chapter which supports FAFT theory, advanced learners should be in the process of acquiring a grammar that resembles the grammar of a native speaker. It is expected then that the more advanced group of L2 learners perform similarly to the native speakers of Spanish in processing SE structures. As the degree of proficiency in the L2 increases, so do the
possibilities for full feature acquisition of verbal agreement in sentences that contain reflexive, passive and impersonal constructions with the Spanish particle SE, which are so different in terms of verbal features in Spanish.

I argue that if participants are sensitive to verbal agreement violations, longer reaction times will be expected at post-verbal regions; in the words that appeared right after the verb forms across all types of structures. Longer reaction times are expected in the ungrammatical experimental sentences. This should indicate that participants are slowing down in how they read these sentences due to violations in verbal agreement.

In general, the Generative Framework predicts that in the acquisition of Spanish SE, the L2 inter-language may be incomplete in low-proficiency L1 English learners as to their end-of-state grammar, (Bruhn de Garavito, 1999; Tremblay, 2006). This is particularly so in early stages of Spanish L2 learning, and given the absence of a particle like SE in English. Thus, difficulties in processing impersonal SE constructions should be more noticeable in the intermediate learners, the group with the lower proficiency level of the study.

If the *FFFH* is at play, I assume that the two groups of L2 learners should exhibit very similar patterns in the processing of the three structures under examination. It is also assumed under *FFFH* that there would be no difference in how the learners process these SE structures in an online self-paced reading task when compared to native processing, as agreement features of SE are unattainable in L2 Spanish according to *FFFH*. Learners cannot reset parameters of a different value in the L2.

### 2.11 Summary

This chapter has reviewed the relevant L1 and L2 literature on the processing of the particle SE in L1 and L2 acquisition studies with a generative and processing perspective. The generative framework has provided the theoretical foundation to examine how the acquisition of a structure in L2 Spanish like SE proceeds at the intermediate and advanced level.

Reviewing literature with a processing perspective in this chapter has helped to gain insight on how learner interpretation of a L2 multi-functional structure in real time may proceed. An online task may
help to expand the research on whether the acquisition of Spanish SE is indeed part of the learners L2 grammar. Both perspectives, generative and processing can be compatible to test the acquisition of Spanish SE in different proficiency levels.

This chapter has also reviewed how Spanish SE first surfaces in the L1. When acquiring their L1, Spanish-speaking children tend to use it as part of reflexive morphology with perfective actions in the singular form, even before the age of two, (López Ornat, 1994). At such an early age, they make a link between SE and a completed action, but have trouble associating SE with various kinds of verbs, which suggests their syntactic knowledge of this structure is obviously immature before the age of 6.

In the L2, although the structure has been examined mostly in grammaticality judgment tasks, (Bruhn de Garavito, 1999; Tremblay, 2006). Other authors have analyzed the particle ’s semantic interpretation in the L2, and how it could change according to proficiency level (Bayona, 2005; Montrul & Slabakova, 2003).

Spanish SE is a confusing structure in the L2, since it may have a variety of functions in a sentence while exhibiting the same underlying form. Syntactically, SE would fulfill different roles, according to the verb and the arguments present in the sentence (Bruhn de Garavito, 1999; Meseguer, Acuña-Fariñas, & Carreiras, 2009; Tremblay, 2006). The fact that this multifunctional structure often appears with various verbs classes and arguments, (Toth, 2000), and that is related to verbal agreement features leading to different lexical-grammatical meanings, (Bruhn de Garavito, 1999; Montrul and Slabakova, 2003) certainly adds to its possible misinterpretations in use and structure in L2 Spanish.

Still, it is important to investigate which uses of SE are more problematic in the L2, and how the particle’s processing and production change according to proficiency level after various semesters of study. If FAFT is operating here (Schwartz and Sprouse, 1994, 1996 ), it is expected that advanced L2 learners should be able to have fully acquired the number and person features of the verb in reflexive structures, the number feature of the verb in passives, as well as its defective nature in impersonal sentences.
In the presence of *FFFH* (Hawkins & Chan, 1997), there should be no major differences in how intermediate and advanced learners of Spanish process SE in the uses under experimentation here. The L2 learners would also differ completely in their processing of SE structures when compared to the native speakers, since the idea of parameter resetting in the L2 is impossible according to *FFFH*, and a new subset of features with a different value in the L1 will be permanently absent from the L2.

It is so that this project intends to add to the existing research related to agreement recognition patterns of an ambiguous structure not existing in the L1. Such contributions should emerge as the result of an online self-paced reading task in which participants yield responses in real time and analyze sentences word by word.

The analysis of participant reaction times could pinpoint which sentence patterns with SE result more problematic during semantic processing. Off-line comprehension studies with SE and GJT's were seen in this chapter as a limitation to measure the impact between acquired implicit knowledge of verbal agreement and real-time comprehension in a sentence that contains a multi-functional element like Spanish SE.

An online task examining this multi-functional element and some of its uses could widen our understanding of how it is processed in the L2. Knowledge of participant preference for any of its use/s of SE in L2 Spanish can be further enhanced with the results of this investigation.
CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

As seen in Chapters 1 and 2, Spanish SE is a multi-functional structure that forces different agreement features on verb forms in reflexive, passive, and impersonal Spanish SE constructions. By manipulating the internal verb arguments of the sentence and the verbal features of SE in different sentences, an experiment was designed to examine the acquisition of SE in L2 Spanish when the learners share English as an L1, a language in which verb morphology is weak, quite differently from the strong values of Spanish. The acquisition of SE was investigated through participant processing of three different structures.

By following the Generative Grammar Framework, it was further investigated how SE acquisition changes according to proficiency level in the L2, and at what level of second language proficiency the L2 end-state grammar can be attained. As all SE constructions are very much used in oral and written form in Spanish, this project set out to investigate if any of its uses resulted more difficult or problematic than others in the L2 in real time processing.

This chapter describes the experiment that was undertaken to answer the Research Questions and test the Research Hypotheses of Chapter 2. It presents its different components, the research design, as well as a description of the participants, the materials, and the experimental steps that were followed to complete this project.

3.2 Research Design

Independent Variables

The purpose of the experiment was two-fold. First, it investigated whether learners of Spanish with L1 English showed sensitivity to variation in features of verbal agreement with three types of SE structures: reflexive, passive, and impersonal constructions. These different features of verbal agreement refer to a number/person feature in reflexive constructions, a 0- person feature and a number feature in passives and the absence of person and number features in impersonal constructions.
The experiment also intended to analyze which of the three SE structures was more difficult to process in L2 Spanish when compared to native processing. This was operationalized by means of a self-paced reading task. The study included one (1) between subjects independent variable with three levels: proficiency level in Spanish (intermediate, advanced, native). There were two (2) different groups of L2 participants at the intermediate and the advanced level of Spanish. Their answers and reaction times were compared with the ones of a control group of native Spanish speakers.

There were two (2) other independent variables which were tested within subjects: type of SE Structure with three levels (reflexive, passive, impersonal), and verb agreement with only two levels (agreement, no agreement sentences). There were three kinds of SE structures that were submitted to experimentation: reflexive, passive, and impersonal SE constructions.

These three structures were manipulated across sentences that exhibited agreement between the verb and the NP. These were the sentences with agreement (+ agreement sentences), and there were also sentences that lacked agreement between the verb and the NP, or sentences without agreement (-agreement sentences).

All experimental sentences represented transitive structures with inanimate objects which appeared after the particle SE and the verb region. All [-agreement] sentences resulted ungrammatical in Spanish as well across SE structure type. To illustrate experimental sentence design, three versions of the (+ agreement) sentences are presented next in examples 3.1-3.3.

(3.1).\En el baño la niña se seca las manos todas las mañanas. ** Reflexive SE [+ agreement]
In the bathroom the girl REFL dry 3rd PERS SING the hands all the mornings.
‘The girl dries her hands in the bathroom every morning’.

(3.2).\En la oficina los papeles se pierden todo el tiempo. **Passive SE [+ agreement]
In the office CLIT lose 3rd PERS/PLURAL the papers.
‘Papers get often lost in the office’.
In the offices CLIT lose 3rd PERS /SING the documents always.

‘People always lose important documents in offices’.

The independent variables of the project are shown below in Table 3.1.

Table 3.1
Independent Variables

<table>
<thead>
<tr>
<th>Type of SE structure</th>
<th>Verbal Agreement</th>
<th>Sentences Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflexive</td>
<td>+ Agreement (8 sentences)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>- Agreement (8 sentences)</td>
<td></td>
</tr>
<tr>
<td>Passive</td>
<td>+ Agreement (8 sentences)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>- Agreement (8 sentences)</td>
<td></td>
</tr>
<tr>
<td>Impersonal</td>
<td>+ Agreement (8 sentences)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>- Agreement (8 sentences)</td>
<td></td>
</tr>
</tbody>
</table>

This project included a total of 48 experimental sentences containing the particle SE, and one hundred and sixty (160) ‘filler’ sentences without SE, described later in the chapter (non-experimental sentences appear in Appendix F). Each type of SE structure; reflexive, passive and impersonal was represented with 16 sentences. Eight (8) sentences exhibited agreement in each structure type, and eight (8) others did not have exhibit agreement between the verb and the NP, and were therefore ungrammatical across SE structure.
In the case of the reflexive grammatical sentences, or the [+ agreement] experimental sentences, agreement was defined as person and number agreement between the subject and the verb in the third person (singular and plural form). The given agreement varied according to the overt subject of the [+ agreement] reflexive sentences, as seen in example 3.1 above.

All passive grammatical sentences [+ agreement] exhibited number agreement in the plural form in the third person between the verb and the plural post-verbal NP, its internal argument. From a syntactic point of view, passive SE structures carry a number feature in Spanish but no person feature. According to Mendikoetxea, 2008, passive SE structures agree with an adjoining NP in the singular or plural form.

Regarding the impersonal SE grammatical structures, or the impersonal [+ agreement] experimental sentences, all sentences exhibited a default third person singular form in the verb, or unmarked agreement, even if the post-verbal NP was in the plural form. Syntactically, impersonal SE sentences are characterized by no person or number feature in the verb form, (Mendikoetxea, 2008). Consequently, these sentences lack verbal agreement. The verb appears in the singular third person in Spanish, as a defective verb form. As there is no specific other form in Spanish to signal the lack of verbal agreement, the third person singular is used by default.

Summing up, in passive experimental sentences, verb number agreement was always plural for grammatical sentences exhibiting agreement. Verb number agreement was singular for the grammatical versions of the impersonal structures, since impersonal SE sentences always appear in Spanish with a verb in the singular form or defective verb form, due to the lack of verbal agreement features.

As for the ungrammatical experimental sentences, person and number agreement was manipulated in the case of the reflexive structures to render the sentences ungrammatical. These were the [- agreement] versions of the experimental sentences, as portrayed in example 3.4 below. In the case of passive and impersonal SE constructions, person and not number agreement was manipulated in the verb to render the sentences ungrammatical.

Person and not number agreement was manipulated in the case of the [- agreement] experimental sentences for passives and impersonals given that when the verb form is in singular in these two
constructions, it is impossible to distinguish between the passive and the impersonal meaning of SE in Spanish, (Bruhn de Garavito, 1999). The similarities in meaning between passives and impersonal SE constructions with a verb in the singular form have already been discussed in Chapter 1 in the semantic and syntactic analyses of SE in Spanish.

The ungrammatical versions of (3.1), (3.2), and (3.3) are presented below in (3.4), (3.5), and (3.6). These examples illustrate the manipulation of person and number agreement across sentence type in the experiment. Only person agreement has been manipulated in 3.5 and 3.6, the passive and impersonal constructions.

Quite differently, person and number agreement was manipulated in 3.4 in the case of the reflexive/reciprocal structure. It was like this for the rest of the experimental reflexive sentences. Sentence structure appears represented in Table 3.2, which contains the general design of the experimental SE sentences.

(3.4). *En el baño la niña se secan las manos todas las mañanas.* Reflexive SE [- agreement]
   
   In the bathroom the girl REFL dry 3rd PERS PLURAL the hands all the mornings.
   ‘The girl dries her hands in the bathroom every morning’.

(3.5). *En la oficina se pierdes los papeles todo el tiempo.* Passive SE [- agreement]
   
   In the office CLIT lose 2nd PERS SINGULAR the papers.
   ‘Papers get often lost in the office’.

(3.6). *En las oficinas se pierdes los documentos todo el tiempo.* Impersonal SE [- agreement]
   
   In the offices CLIT lose 2nd PERS/SINGULAR the documents always.
   ‘People always lose important documents in offices’.

Table 3.2 will illustrate next sentence structure in the three types of SE constructions. This structure was a way to ensure consistency in the experimental sentences.
Table 3.2  
Experimental Sentence Structure

<table>
<thead>
<tr>
<th>Type of SE use</th>
<th>Sentence Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflexive</td>
<td>prepositional phrase + subject+ SE + verb + 5 regions (words)</td>
</tr>
<tr>
<td>Passive</td>
<td>prepositional phrase + SE + verb+ NPpl (2 regions) + 3 regions</td>
</tr>
<tr>
<td>Impersonal</td>
<td>prepositional phrase + SE + verb + NPpl (2 regions) + 3 regions</td>
</tr>
</tbody>
</table>

**Dependent Variable**

The dependent variable of this project was *reaction times*. The reaction times were measured in milliseconds, as participants read sentences word by word for the self-paced reading experiment. Experimental reading time was operationalized as the time (in milliseconds) between subsequent button presses for the five (5) sentence regions that appeared starting with the particle SE, followed by the main verb of the sentence, and then the immediate three post-verbal regions.

To test whether participants were indeed paying attention to the self-paced task, they were presented with comprehension questions that provided a translation in English of the content of the sentences they had just read. Comprehension questions were in this case the *distractor task*, (Jegerski, 2013). Comprehension questions were functional in ensuring the participants were paying attention to the stimuli presented in the self-paced reading.

These questions were presented to all the participants after they had read the experimental sentences word by word. The answers provided information about whether the participants were processing the three types of SE structures correctly as to their meaning in Spanish. Again, the distractor task was not part of the self-paced reading, the main task of the experiment. It was a measure to make sure participants were mentally engaged during the reading of the experimental sentences. Examples of the comprehension questions that participants read after the experimental sentences are shown in examples 3.4, 3.5 and 3.6 below.
Each word in the experimental sentences represents a pressing of a button in the self-paced reading task. Example 3.4, a Reflexive Construction, V, NP - agreement, example 3.5, a Passive Construction, V, NP – agreement, and sentence 3.6 an Impersonal Construction, V, NP– agreement illustrate how sentences were divided into regions for participant reading during the self-paced reading task.

It is important to mention that for the ungrammatical passive and impersonal experimental sentences of the experiment, sentences result not only ungrammatical but also incoherent in Spanish, as examples 3.5 and 3.6 clearly show. As the particle SE is being used with a verb in the second person singular, violating the primary reflexive paradigm of the third person with the SE form, the message that comes across in Spanish results incoherent. The answers demanded from the participants, though, tested whether they were paying attention to the meaning of the sentence and not to form.

(3.4).

In the bathroom the girl REF dry 3rd PERS PLURAL the hands all the mornings.

Is the following more or less what you read? (according to meaning and not form)

The girl dries her hands at night. A. YES  B. NO

(3.5).

In the office CLIT lose 2nd PERS SINGULAR the papers.

Is the following more or less what you read? (according to meaning and not form)

The papers are misplaced in the office. A. YES  B. NO

(3.6).

In the offices CLIT lose 2nd PERS SINGULAR the documents always.

Is the following more or less what you read? (according to meaning and not form)

People misplaced documents in the classrooms. A. YES  B. NO
If participants were sensitive to verbal agreement violations, longer reaction times when reading the experimental input were expected at post-verbal regions; in the words that appeared right after the verb forms across all types of structures. Due to the basic nature of self-paced reading in which the reading of a word represents the amount of time it takes to process it, it is assumed that higher reading times after the verb signals persistent or delayed processing difficulties in comprehending grammatical information, (Jegerski, 2013).

On the other hand, I will assume that longer reaction times in the ungrammatical experimental sentences (as in in 3.4, 3.5 and 3.6) indicate that processing features connected with SE requires re-analysis on the part of participants. This could translate into a higher processing cost in Spanish, as learners must analyze verbal features contained in the verb in reflexive and passive sentences.

Longer reading times in the ungrammatical sentences indicate that participants are slowing down in how they read these sentences, and this due to the lack of verbal agreement. Longer reading times could also indicate a processing cost when the verb lacks person agreement in the passive and impersonal ungrammatical versions, and person and number agreement in reflexive ungrammatical constructions.

As seen in the research hypotheses of Chapter Two, it was also predicted that in the case of impersonal experimental sentences exhibiting agreement as in 3.3, the default third person singular verb form of the + agreement sentences could confuse participants, since impersonal SE constructions are late-acquired structures in the L2, (Portilla, 2007). Historically, impersonal SE structures also emerge late in the L1, after reflexives and passives are in place, (Luján, 1990). Impersonal sentences could represent acquisition difficulties for less-advanced L2 participants, in particular for those regions located after the particle SE and the main verb of the sentence, as impersonal sentences are devoid of features.

Thus, the first three (3) post-verbal regions in all experimental sentences accounted in statistical analyses for ‘spill-over effects’. This means that the time that it takes for participants to process the verb and the following words may spill over the subsequent regions of the sentences. Longer reading times were consequently expected post-verbally across SE structure type if learners were indeed sensitive to SE verbal features.
These longer reaction times should be taken as an indication that participants were being sensitive to agreement features; in particular, person and number features in reflexive constructions and person features in passive sentences. Statistical analyses then centered on how this sensitivity related to type of SE structure and proficiency level in the L2.

It is important to mention again that in the cases of the ungrammatical passive and impersonal sentences, or the [-agreement] passive and impersonal sentences, a longer processing span was anticipated when contrasted with their grammatical counterparts, due to their confusing nature in the manipulation of person feature to render them ungrammatical.

(3.5). *En la oficina se pierden los papeles todo el tiempo.* **Passive SE [-agreement]**

In the office CLIT lose 2nd PERS SINGULAR the papers.

‘Papers get often lost in the office’.

(3.6). *En las oficinas se pierden los documentos todo el tiempo.* **Impersonal SE [-agreement]**

In the offices CLIT lose 2nd PERS SINGULAR the documents always.

‘People always lose important documents in offices.’

Non-experimental Sentences (‘Fillers’)
A total of one-hundred and sixty (160) ‘filler’, or non-experimental sentences, were included in the self-paced reading task. The non-experimental sentences did not include the particle SE. Ninety-six (96) of these experimental sentences were ‘context effect sentences’ similar to the ones employed by VanPatten & Houston (1998). These non-experimental sentences exhibited SOV and OVS (object-verb-subject) word order. Forty-eight (48) of these ‘filler’ sentences included contextual information preceding the OVS phrase, as in example 3.7. These were the + context sentences. The remaining context sentences lacked contextual information before the OVS phrase, as shown in example 3.8. These were the – context sentences.

(3.7). Juan está pálido porque lo asustó Yolanda en el pasillo. **OVS**

Juan is pale because ACC. 3rd PERS/ SING scare-past Yolanda in the hall.

‘Juan is pale because Yolanda scared him in the hall’.
As noted in examples 3.7 and 3.8, the non-experimental sentences were also followed by comprehension questions that provided a translation in English of the content of them. These questions were presented to all the participants after they had read the non-experimental sentences word by word in the self-paced reading task. The answers informed whether the participants were processing for meaning in Spanish.

There were also sixty-four (64) non-experimental sentences of the verb inflection type, as used by VanPatten, Keating, and Leeser (2012). These non-experimental sentences included twelve (12) quadruplets which manipulated person and number agreement between subjects and verbs. Subjects and verbs appeared next to each other. VanPatten, Keating and Leeser’s (2012) SV sentences were included as part of the non-experimental pool given that they also manipulated person and number features.

In the VanPatten, Keating and Leeser’s (2012) study, only native speakers had consistently demonstrated sensitivity to person and number feature violations in experimental verbs. The learners had not shown solid knowledge of morphological verb inflections at the time of the experiment.

As mentioned above, all verbs in the VanPatten, Keating and Leeser (2012) experiment belonged to the present tense –AR class. Half of their quadruplets had first and third person singular subjects matched with first and third person singular verbs, as illustrated in 3.9-3.12 next.

(3.9). Ahora Pedro **toma** el refresco en el salón.

Now Pedro (**3rd** Pers. Sing.) drinks (**3rd** Pers. Sing.) the soft drink in the living room.

(3.10). *Ahora Pedro **tomo** el refresco en el salón.

Now Pedro (**3rd** Pers. Sing.) drink (**1st** Pers. Sing.) the soft drink in the living room.
(3.11). Ahora yo tomo el refresco en el salón.
   Now I (1st Pers. Sing.) drink (1st Pers. Sing.) the soft drink in the living room.
(3.12). *Ahora yo toma el refresco en el salón.
   Now I (1st Pers. Sing.) drink (3rd Pers. Sing.) the soft drink in the living room.
   VanPatten, Keating & Leeser (2012)

The other half of the quadruplets had second person singular and third person plural subjects crossed with verb forms in the second person singular and the second person plural, as in examples 3.13-3.16 next. All non-experimental sentences are listed in Appendix F.

(3.13). Ahora tú tocas el piano para muchas personas.
   Now you (2nd Pers. Sing.) play (2nd Pers. Sing.) the piano for several people.
(3.14). *Ahora tú tocan el piano para muchas personas.
   Now you (2nd Pers. Sing.) play (3rd Pers. Pl.) the piano for several people.
(3.15). Ahora ellos tocan el piano para muchas personas.
   Now they (3rd Pers. Pl.) play (3rd Pers. Pl) the piano for several people.
(3.16). *Ahora ellos tocas el piano para muchas personas.
   Now they (3rd Pers. Pl.) play (2nd Pers. Sing.) the piano for several people.
   VanPatten, Keating & Leeser (2012)

3.3 Participants

The final participant sample of the study included a total of one hundred and one (101) participants. They were recruited from the Florida State University main campus in Tallahassee, Florida. There were thirty-two (32) L2 participants of intermediate proficiency in the L2, and twenty-four (24) advanced participants, who represented the advanced proficiency level in the L2. In addition, twenty-four (24) native L2 Spanish speakers represented the control group of the investigation. The answers of the L2 learners participating groups were compared with the answers provided by the native speakers of Spanish. The characteristics of all groups are outlined below.

**Intermediate L2 learners.** The intermediate learners were recruited from upper undergraduate courses offered in the Department of Modern Languages and Linguistics in the Spanish Division. Some
courses that represent this level are *Advanced Grammar and Composition*, and *Advanced Reading and Conversation*.

Besides the current course of study, the intermediate group of participants completed a language history questionnaire (as shown in Appendix B) and a grammar portion of a proficiency exam, the DELE Exam (Appendix E), in which they had to score 11-24 out of a total of 50 points to be able to place at the intermediate level. These proficiency measures assisted in the adequate placement of this group of participants. They were native speakers of English and did not speak a language other than English at home. It was expected that they had had previous exposure to Spanish either in high school or in college courses within the Spanish language program in the Department of Modern Languages at FSU.

**Advanced L2 learners.** The advanced learners were recruited from upper undergraduate courses offered in the Department of Modern Languages and Linguistics in the Spanish Division. Some courses that represent the advanced level are *Introduction to Hispanic Linguistics* and *Spanish Phonetics*.

Besides the current course of study, the participants completed a language history questionnaire (see Appendix B) and a grammar portion of a proficiency exam, the DELE Exam (Appendix E), in which they had to score 25-44 out of a total of 50 points to be placed at the advanced level. They were native speakers of English and did not speak a language other than English at home. It was expected that they had had previous exposure to Spanish either in high school or in college courses. It is important to mention that out of the final sample of advanced learners, seven participants scored at near-native levels in the DELE placement exam.

**Native speakers of Spanish.** The native speaker participants were recruited from upper level undergraduate and graduate courses offered in the Department of Modern Languages and Linguistics in the Spanish Division. The control group of native speakers was also recruited from the pool of graduate teaching assistants (TAs) from the Spanish Division of the Department of Modern Languages and Linguistics and from the Association of Hispanic and Latino students from the FSU.
For participants to be placed in this group, they had to score 45 points or more in the DELE grammar proficiency exam, out of a total of 50 points. Aside from the course of study, the native speakers had to report native Spanish competence in the Language History Questionnaire (as shown in Appendix B) and in the score of the grammar proficiency exam (see Appendix E).

The group of native participants represented a variety of countries in which Spanish is the official language; namely, Colombia, Cuba, Ecuador, Honduras, Panamá, Perú, Spain, and Venezuela. There was also a group of twenty-one (21) heritage language learners who participated in the experiment, and whose experimental results are not reported in the dissertation. These statistical results will be of interest in a future study.

All participants were unfamiliar with the purpose of the study at the time the data collection began. As already mentioned, as a measurement of control for proper placement and grammar knowledge, participants completed a grammar portion of a proficiency exam adapted from the Diploma de Español como Lengua Extranjera,(DELE). This exam is issued and re-organized by the Ministry of Education, Culture and Sports of Spain, www.dele.org, and permission was sought for its administration prior to conducting the experiment.

In addition, all participants completed a language history questionnaire (Appendix B) in which they self-rated on different areas such as reading, writing, speaking and listening comprehension. Scores from the portion of the DELE exam (Appendix E) and the self-ratings of the language history questionnaire were submitted to separate One-Way ANOVAs with level of proficiency as a between-subjects variable. This was a way to ensure the proper division into proficiency level for the analyses of the experimental results. Learner means as to responses to the Language History Questionnaire and DELE proficiency exams are presented in Table 3.3.
Table 3.3  
Participant Mean Scores in Spanish Language Skills and DELE Exam

<table>
<thead>
<tr>
<th>Prof. Level</th>
<th>n</th>
<th>Reading</th>
<th>Speaking</th>
<th>Writing</th>
<th>Comprehension</th>
<th>DELE Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate</td>
<td>32</td>
<td>6.8</td>
<td>5.2</td>
<td>6.2</td>
<td>7</td>
<td>21.1</td>
</tr>
<tr>
<td>Advanced</td>
<td>24</td>
<td>8.1</td>
<td>7.1</td>
<td>7.6</td>
<td>8</td>
<td>33.6</td>
</tr>
<tr>
<td>Native</td>
<td>24</td>
<td>9.5</td>
<td>9.7</td>
<td>9</td>
<td>10</td>
<td>46.6</td>
</tr>
</tbody>
</table>

3.4 Materials

The materials included a consent form in English and Spanish (Appendix C) and a language history questionnaire also in English and Spanish (Appendix B), as well as a vocabulary study sheet (Appendix D). The vocabulary list was prepared by the investigator and contained words that appeared in the self-paced reading task, in both the experimental and the non-experimental sentences. The materials also consisted of the experimental and the non-experimental sentences of the main task, and a proficiency exam containing grammar portions of the DELE test, which appears in Appendix E.

Pre experimental materials

Participants received some of these materials prior to their completion of the self-paced reading task. These pre experimental materials included a Consent Form in English for the L2 Spanish participants, a Consent Form in Spanish for the native speaker participants (the control group of the experiment), a language history questionnaire (Appendix B), and a vocabulary study sheet containing twenty (20) words from the experimental task, (Appendix D).

The vocabulary study sheet contained words found in the experimental and in the ‘filler’sentences as well, so as not to disclose the particle of interest in the study. Participants were also encouraged to ask questions prior to commencing the experiment, which took no more than one hour to complete.
Consent Form

The consent form informed participants that they would be participating in a study investigating sentence comprehension in Spanish. No details of the study were given at the beginning of the experiment of the task in order not to influence participant response. The participants were told the experimental task would involve reading sentences in Spanish followed by comprehension questions in English. They were asked to sign the form if they agreed to be participants in the study. They were also assured that all information written on the consent form, the language history questionnaire and the grammar tests would be kept confidential. The consent form can be found in Appendix C in its English and Spanish versions.

Language History Questionnaire

This questionnaire was used to obtain information about the participants’ first and second languages. Also, it was used to identify any participant whose native language was not English, as well as those participants who reported any difficulties with vision or hearing. The language history questionnaire in English, and its equivalent Spanish version can be found in Appendix B.

The Vocabulary Sheet

The vocabulary study sheet was handed out to the participants before they began the self-paced reading task. The study sheet contained twenty (20) words in Spanish with their English equivalents. The words from this vocabulary list appeared in the experimental and in the ‘filler’ sentences. They represented a mix of various functional categories: nouns, adverbs, verbs, adjectives, and prepositional phrases. This was done so as not to reveal the main structure of interest in the experiment.

3.5 The Self-Paced Reading Task

For this task, target sentences were created representing different uses of Spanish SE: reflexive, passive, and impersonal use. The verbal agreement of the sentences in the 3 constructions was manipulated in such a way that the verb appeared in the third person singular or in the third person plural with the particle SE in the grammatical or [+ agreement] sentences.
As mentioned earlier on in this chapter, person and not number agreement was manipulated in the case of the [- agreement] experimental sentences in the passive and impersonal constructions. In the syntax, these two structures lack a person feature, and it would be impossible to differentiate them with a NP in the singular form, (Bruhn de Garavito, 1999).

Manipulating person and not number agreement was a way to test the L2 acquisition in real time of these structures in Spanish. All constructions that lacked agreement were also ungrammatical and they resulted incoherent in Spanish for the case of the passive and impersonal SE constructions. Every sentence created was being represented in the experiment with 2 versions. There were two (2) versions of the same sentence, one grammatical and one ungrammatical, and this was so for all experimental sentences.

The grammatical versions of the experimental sentences exhibited agreement features according to structure type. The other versions were ungrammatical and lacked agreement. The total number of experimental sentences was 48. There were also one-hundred and sixty (160) ‘filler’ sentences which have already been outlined, and which did not include the particle SE. These ‘filler’ sentences, or non-experimental items, were not related to the research questions of the dissertation, as they included different linguistic items. Filler items also helped in the masking of the main structure of interest in this project; Spanish SE while participants completed the self-paced reading.

Completion of the language history questionnaire, and the self-paced reading task with comprehension questions took about 40 minutes to complete. The participants then completed the grammar section of the DELE exam, which took them another 20 minutes to complete. In all, the experiment took one hour of the participants’ time.

As the reading was self-paced, the input was divided into linear word-by-word segments. Participants saw the sentences word by word, one word at a time. The number of manipulated regions including the particle SE and the main verb was five (5) regions in all SE constructions, including three (3) post-verbal regions to test for ‘spillover ‘ effects. Sentence regions were very close in length and type. This sentence structure allowed for consistency to facilitate the processing of SE across all structures in the self-paced reading task.
After the experimental and ‘filler’ sentences were presented, a comprehension question followed in English as part of the distractor task (Jegerski, 2013). Participants had to select one of the alternative answers; ‘yes’ or ‘no’ by pressing the corresponding button on the response pad. Samples of the experimental sentences and the corresponding comprehension questions are presented next in examples 3.17- 3.22. The correct answers to the comprehension questions have been bolded.

Reflexive Construction (+ agreement)
(3.17). *En la semana el chico se levanta temprano de lunes a viernes.*
Is the following more or less what you just read?
He gets up late on weekdays.  A. YES  B. NO

Reflexive Construction (- agreement)
(3.18). *En la semana el chico se levantan temprano de lunes a viernes.*
Is the following more or less what you just read?
He gets up early on weekdays.  A. YES  B. NO

Passive Construction (+ agreement)
(3.19). *En el garaje se secan los carros con mucho cuidado.*
Is the following more or less what you just read?
The dishes are dried in the garage.  A. YES  B. NO

Passive Construction (- agreement)
(3.20). *En el garaje se secas los carros con mucho cuidado.*
Is the following more or less what you just read?
The cars are washed in the garage.  A. YES  B. NO

Impersonal Construction (+ agreement)
(3.21). *En las universidades se escribe las tareas para los profesores.*
Is the following more or less what you just read?
People write assignments for professors.  A. YES  B. NO
Impersonal Construction (- agreement)

(3.22). *En las universidades se escriben las tareas para los profesores.*

Is the following more or less what you just read?

People write assignment for classmates. A. YES    B. NO

As seen in examples 3.18, 3.20, 3.22, participants had to select answers for sentences that resulted ungrammatical. Again, the main purpose of the comprehension questions that appeared right after each self-paced read sentence was to ensure that participants were indeed paying attention to the incoming input. They were a comprehension measure to verify that they were actually engaged while reading, and to distract them from the main structure of interest, Spanish SE.

The contrast between the processing of passive and impersonal SE constructions was of interest in the self-paced reading task, as the impersonal construction with SE is often confused with the passive use. The use of impersonal SE is also a subject of dialectal variation in Spain and Latin America alike, (Bruhn de Garavito, 1999; Mendikoetxea, 1999, 2008). According to the features they exhibit in the syntax, impersonal structures are always used by native speakers of Spanish with a verb in the third person singular, (Mendikoetxea, 2008).

Let’s recall that the verb of an impersonal SE sentence is defective. It lacks a person and a number feature due to the prominence of the generic null pronoun, the G-pro, (Mendikoetxea, 2008), and the absence of a Noun Phrase (NP) that could impose verbal features on the main verb. However, native speakers sometimes turn this structure into an agreement construction as well. In such cases, they turn it into a passive structure in which the verb can appear in singular or plural form, due to the number feature SE passive structures have.

This agreement alternation in the impersonal structure with SE could have affected the self-paced reading results in the case of the native speakers. Higher reaction times were anticipated for the impersonal SE construction in the self-paced reading in the native group. It was interesting in terms of the experiment to see whether participants treated these two structures differently when processing them both word by word. These results are presented in Chapter 4.
The alternation between passive and impersonal SE constructions has been taken into account to formulate the comprehension questions in the case of the impersonal construction, as seen in the questions displayed in examples 3.21 and example 3.22. If learners were indeed paying attention to the meaning of the impersonal sentences in the self-paced reading task, they should have been able to notice the general/universal use of ‘people’ in the English translation. It was expected that learners of a higher proficiency level (the advanced level) should have noticed the generic meaning of these constructions, given that impersonal sentences usually point at general actions of a regular nature carried out by large groups of individuals in different contexts and places.

Counterbalancing

Target sentences were created taking into consideration the independent variables of the study: type of SE structure with three levels, (reflexive, passive, impersonal) and verbal agreement with two levels (+ agreement). As already mentioned, each resulting target sentence represented a different use of SE exhibiting verbal agreement, or lacking it.

Person and number features are represented for the case of the [+ agreement] reflexive sentences. Number and 0-Person features are represented in the passive sentences which exhibit agreement in number. Finally, 0-Number and 0-Person features or defective verb forms are characteristic of all the [+ agreement] impersonal sentences of the experiment.

In the target sentences lacking verbal agreement, experimental sentences were ungrammatical in all cases across the three SE uses. Number agreement was manipulated in the case of reflexive structures, rendering them ungrammatical. Non-agreeing reflexive constructions are thus sentences without a number feature. Person and not number agreement was manipulated in the case of passive and impersonal constructions, given that these two types of SE structures are impossible to differentiate in everyday Spanish with a verb in the singular form.

Eight (8) grammatical sentences per type of SE structure and their ungrammatical versions were used in constructing two (2) counterbalanced blocks: Block A and Block B. Counter-balancing the sentences allowed to place the grammatical and ungrammatical versions of the same target sentence in different
blocks. Example 3.23 shows the grammatical version of a reflexive SE target sentence in Block A, while example 3.24 illustrates its ungrammatical counterpart as it appears in Block B.

Reflexive Construction (+ agreement):
(3.23). *En la semana el chico se levanta temprano de lunes a viernes.*

Is the following more or less what you just read?

He gets up late on weekdays.   A. YES   B. NO

Reflexive Construction (- agreement)
(3.24). *En la semana el chico se levanta n temprano de lunes a viernes.*

Is the following more or less what you just read?

He gets up early on weekdays.   A. YES   B. NO

Each block thus contained 24 target sentences with the particle SE. Eight (8) sentences illustrated the reflexive use of SE, eight (8) sentences contained the particle as a marker of the passive voice, and eight (8) others contained the versions of impersonal SE structures. If the grammatical version of an experimental sentence appeared in Block B, its ungrammatical counterpart was included in Block A, and vice versa as shown in Table 3.4. Four lists were then prepared containing two (2) Blocks A and two (2) Blocks B with the experimental sentences.

A total of sixty-four (64) sentences were also included in each list. These four (4) lists included the experimental and the non-experimental sentences. There were twenty-four (24) sentences with SE and forty (40) non-experimental sentences of the SV agreement and context-type included in each list. These forty (40) filler sentences did not include the particle SE. Target or experimental sentences appear listed in Appendix A, while ‘filler’ sentences are listed in Appendix F. Table 3.4 next shows the counterbalancing of the pseudo-randomized input. There were a total of 4 list in the final version of the experiment.
Table 3.4
Counterbalancing of Blocks A and B

<table>
<thead>
<tr>
<th></th>
<th>Block A</th>
<th>Block B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflexive SE</td>
<td>grammatical(4)</td>
<td>grammatical(4)</td>
</tr>
<tr>
<td>16 sentences</td>
<td>ungrammatical(4)</td>
<td>ungrammatical(4)</td>
</tr>
<tr>
<td>Passive SE</td>
<td>grammatical(4)</td>
<td>grammatical</td>
</tr>
<tr>
<td>16 sentences</td>
<td>ungrammatical(4)</td>
<td>ungrammatical</td>
</tr>
<tr>
<td>Impersonal SE</td>
<td>grammatical(4)</td>
<td>grammatical</td>
</tr>
<tr>
<td>16 sentences</td>
<td>ungrammatical(4)</td>
<td>ungrammatical</td>
</tr>
</tbody>
</table>

3.6 Sentence Plausibility

To make sure that the experimental sentences were plausible; i.e., that they allowed participants to recover information in the subsequent comprehension questions after they had read them word by word in the self-paced reading, twenty (20) native Spanish speakers undertook an off-line plausibility rating task of the grammatical experimental sentences, (Roberts & Felser, 2011).

The plausibility measure helped balance the experimental sentences in terms of comprehensibility. Plausibility analysis was done two (2) months prior to conducting the experiment. The grammatical versions of the experimental sentences were mixed as to SE use, and they were presented to the twenty (20) native speakers, who were then asked to rate their plausibility on a scale from 1 (makes no sense at all) to 5 (makes sense). Figure 3.1 shows how the native speakers were presented the experimental sentences in the off-line plausibility test.

After the native speakers rated the grammatical versions of the experimental sentences, any target sentence with less than 3.75 on the plausibility scale was re-written. A total of eleven (11) experimental sentences had to be rewritten. Seven (7) of these were impersonal constructions, two (2) were passive sentences, and the remaining two (2) represented the reflexive use.
Figure 3.1. Native Plausibility Test

A new plausibility test containing the re-written sentences and the rest of the grammatical targets was subsequently undertaken with five (5) other native Spanish speakers in another off-line plausibility rating task. A total of three (3) sentences, one passive and two impersonals were also changed after the second plausibility rating task. In the final assessment, all grammatical experimental sentences were rated at 3.75 or higher in the scale and were maintained as experimental SE sentences. The list of all experimental sentences is shown in Appendix A.

**Detailed Procedure for the Self-Paced Reading Task:**

In the self-paced reading, all sentences were presented one word at a time. Upon the pressing of a button, the first word of the sentence appeared. Subsequent button pressings revealed the remaining words contained in the sentence, one at a time. In a non-cumulative presentation, each button press presented the next word, while the previous one disappeared.
The non-cumulative reading, word-by-word presentation allowed the computer to record the reading times of each of the regions or words (in milliseconds). It prevented participants from going back and re-read previous sections of the experimental sentences. The procedure resulted an excellent experimental tool to examine syntactic processing of Spanish SE in real time.

To examine the semantic processing of the experimental sentences, a comprehension question in English appeared on a separate screen after the final word of each experimental sentence had been read by the participants. These subsequent comprehension questions were not presented word by word.

Participants were able to see the full comprehension question on the screen (Is the following more or less what you read?). Participants then responded to the comprehension question based on what they had understood from the sentence presented in the self-paced reading, and by pressing either ‘yes’ or ‘no’ on the button box of the corresponding response pad. Example 3.25 below illustrates a sentence:

(3.25). **En el baño la niña se seca las manos todas las mañanas.**

Is the following more or less what you read?

The girl dries her hands in the morning. A. YES B. NO

The corresponding comprehension question is: ‘The girl dries her hands in the morning’. Participants then had to press either ‘yes’ or ‘no’ on the button box. The correct answer was ‘yes’. This sentence illustrated a reflexive sentence, one in which the subject ‘la niña’ (the girl) performs the action of drying her hands. By pressing the button ‘yes’, it is understood that participants were able to recognize the reflexive nature of the verb construction of which SE is a part of, as well as the fact that there is only one entity affected by the verb action; la niña (‘the girl’). Figure 3.2 illustrates how participants saw sentences word by word.

Participants saw the experimental sentences during the self-paced reading task, word by word. The prepositional phrase ‘en el baño’ appeared first, word by word. It was followed by the subject ‘la niña’, then the particle SE and the verb. These were the first two regions of interest in the experiment. The verb was followed by the direct object ‘las manos’ and then the rest of the sentence, ‘todas las mañanas’. Participants saw everything word by word.
Prior to completion of the self-paced reading task, participants answered a grammar portion of the DELE exam. The main purpose of the grammar test was to assist with the proper placement of the participants in the three proficiency groups that participated in the investigation (intermediate, advanced, native). Since the grammar portion of the DELE exam includes questions that test knowledge of verbal and aspectual morphology, this test was an accurate tool to ensure that the language capabilities of each group truly represented their proficiency level.

The intermediate L2 learners of Spanish had to score 11-24 out of a total of 50 points in the DELE exam to be able to place at the intermediate level of Spanish proficiency. To be included in the group of L2 advanced Spanish learners, participants had to score 25-44 out of a total of 50 points in the grammar test. Finally, native speaker, participants obtained 45 to 50 out of a total of 50 points in the DELE test. The native participants also had to report Spanish as the home language in the Language History Questionnaire (in Appendix B).
Experimental procedures

This experiment was conducted at the Florida State University main campus in Tallahassee during the Summer 2012 semester. Participants were recruited from different courses that are offered in the Department of Modern Languages and Linguistics of the Florida State University. They were also recruited from the pool of Teaching Assistants (TAs) of the Spanish division, and from the Association of Latino-Hispanic students of the FSU.

Participants were tested individually in a computer lab in the Diffenbaugh building in the main campus of the University. SuperLab experimental software from Cedrus was used to prepare the self-paced reading task of the experiment. After agreeing to participate, participants read and signed a Consent Form in English or Spanish, depending on their native language. They also completed a Language History Questionnaire.

Next, participants completed the self-paced reading task. The last step was to answer questions corresponding to the grammar section of the DELE test. The experiment took one hour of the participants’ time. Participants were provided with a list of 20 vocabulary words contained in the experimental and in the ‘filler’ sentences of the self-paced reading task. There were also instructions about how to complete the self-paced reading on the computer screen. A total of five (5) practice items were presented prior to the experiment itself. Participants then began the self-paced reading.

They were instructed to read the sentences as quickly as possible, and to answer the corresponding comprehension questions as accurately as possible. As already mentioned, completion of the pre-experimental materials, the self-paced reading task and the grammar test took about sixty (60) minutes to complete of all participants.

Debriefing Script

Once the participants had signed the consent form, completed the language history questionnaire, the self-paced reading task, and the grammar test they were explained in more detail the purpose of the experiment by means of a previously prepared debriefing script. They were asked not to share the nature of the study with other prospective participants so as not to affect the validity of the research results.
Statistical Analyses

Mean reading times for each proficiency level (intermediate, advanced, native), and reading regions (words) were submitted to 3 x 2 ANOVAS with repeated measures and the factors Type of SE structure (Reflexive, Passive, Impersonal), and Agreement (+ and _ agreement ) as within-subject variables. The alpha level was set at .05. Post-Hoc analyses with a Bonferroni adjustment were conducted after that to explore all significant Proficiency Level by Type of SE Structure by Agreement interactions. Results are presented next in the Data Analyses and the results section of the Dissertation, in Chapter 4.

3.7 Summary

This experiment investigated whether intermediate and advanced learners of Spanish with L1 English showed sensitivity to verbal agreement with three types of Spanish SE structures: reflexive, passive, and impersonal constructions. It was also intended to analyze if any of the three structures was more difficult to acquire and process in the L2 when compared with the other two SE structures. The answers of the L2 learners were compared to the answers provided by native speakers of Spanish, the control group.

Participants completed a self-paced reading task, which was presented word by word, and was followed by comprehension questions. There was one (1) between-subjects independent variable: proficiency level in L2 Spanish (intermediate, advanced, native level), and two (2) within-subjects variables: type of SE structure (reflexive, passive, impersonal) and verbal agreement (agreement, or no agreement).

The reaction times of the two groups of learners were compared with the ones of the native Spanish speakers. This contrast aided in the analysis of how the acquisition and processing of SE varies across proficiency level, and if any use of SE resulted more problematic to process when compared with the other SE structures.

Forty-eight (48) experimental sentences and one-hundred and sixty (160) ‘filler’ sentences were included in the experiment. The dependent variable of the study was reaction times, measured in
milliseconds for the five (5) regions of interest in the experiment, and compared across proficiency groups.

One hundred and one (101) participants took part in the project, with thirty-two (32) participants representing the intermediate proficiency level in the L2, twenty-four (24) participants at the advanced level, and twenty-four (24) participants representing the native level of Spanish proficiency. The answers of the L2 learners in the self-paced reading task and their reaction times were compared to the answers of the native speakers of Spanish, the control group of the experiment. To assist with adequate group placement into proficiency level, all participants completed a language history questionnaire and a grammar portion of a proficiency exam.

Mean reading times per proficiency level and region of interest in the self-paced reading task were submitted to 3 x 2 factorial ANOVAS. Post Hoc tests were conducted to explore relevant interactions. The alpha level of .05 was set for all statistical analyses. The discussion of the results now follows in Chapter 4.
CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter reports the statistical results obtained after all analyses were conducted in accordance to the variables of the study; level of proficiency in Spanish (intermediate, advanced, native), type of SE structure (reflexive, passive, impersonal) and verbal agreement (agreement, no agreement). At the end of the chapter, I analyze the statistical results in terms of the research questions and the hypotheses of Chapter 2. Results of the comprehension questions that followed the self-paced reading are presented first.

4.2 Comprehension

In this experiment, participants scored at 91% accuracy or greater on the comprehension questions in English presented after the word-by-word input. Table 4.1 presents the descriptive statistics for structure type and proficiency level for the comprehension questions in English that followed the self-paced Spanish sentences.

Table 4.1
Comprehension Descriptive Statistics

<table>
<thead>
<tr>
<th>Proficiency Level</th>
<th>Structure Type</th>
<th>Reflexive</th>
<th>Passive</th>
<th>Impersonal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Intermediate</td>
<td>32</td>
<td>93.3</td>
<td>8.3</td>
<td>91.4</td>
</tr>
<tr>
<td>Advanced</td>
<td>24</td>
<td>95.8</td>
<td>7.9</td>
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<tr>
<td>Native</td>
<td>24</td>
<td>95.8</td>
<td>7.0</td>
<td>94.7</td>
</tr>
</tbody>
</table>
The tests of between-subjects effects revealed no significant differences in comprehension for the three different SE structures between the participating groups. Table 4.2 presents the ANOVA results for comprehension of all SE sentences. As Table 4.2 indicates, there were no main effects for Level and neither for Structure in comprehension. The interaction between Level and Structure was not significant either.

Table 4.2
ANOVA Comprehension Table

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2_p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (L)</td>
<td>2</td>
<td>213.43</td>
<td>2.66</td>
<td>.072</td>
<td>.023</td>
</tr>
<tr>
<td>Structure (S)</td>
<td>2</td>
<td>172.27</td>
<td>2.14</td>
<td>.119</td>
<td>.018</td>
</tr>
<tr>
<td>L x S</td>
<td>4</td>
<td>2.07</td>
<td>.025</td>
<td>.999</td>
<td>.001</td>
</tr>
<tr>
<td>Error</td>
<td>231</td>
<td>80.22</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 4.1, it is understood that participants were more accurate in the answers to comprehension questions that followed the word-by-word reading of the reflexive experimental sentences, but these results were not significant. Impersonal SE constructions were the lowest in comprehension percentages across all three experimental structures and also across proficiency level, though the results were not significant.

To explore the online processing of the experimental SE constructions in the self-paced reading task, mean reading times per proficiency level and region of interest in the self-paced reading task were submitted to 3 x 2 factorial ANOVA. Post Hoc tests with a Bonferroni adjustment were conducted to explore relevant interactions. The alpha level of .05 was set for all statistical analyses. Reports of these results by level and region of interest follow next.
4.3 Intermediate Learners

Table 4.3
Reaction Times Mean Scores and Standard Deviations for Intermediate Learners

<table>
<thead>
<tr>
<th>SE region</th>
<th>Verb Region</th>
<th>Verb + 1</th>
<th>Verb + 2</th>
<th>Verb + 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflexive (+)</td>
<td>555</td>
<td>552</td>
<td>468</td>
<td>607</td>
</tr>
<tr>
<td>Reflexive (-)</td>
<td>626</td>
<td>552</td>
<td>456</td>
<td>686</td>
</tr>
<tr>
<td>Passive (+)</td>
<td>567</td>
<td>461</td>
<td>635</td>
<td>419</td>
</tr>
<tr>
<td>Passive (-)</td>
<td>506</td>
<td>441</td>
<td>527</td>
<td>421</td>
</tr>
<tr>
<td>Impersonal (+)</td>
<td>539</td>
<td>436</td>
<td>500</td>
<td>410</td>
</tr>
<tr>
<td>Impersonal (-)</td>
<td>501</td>
<td>409</td>
<td>513</td>
<td>415</td>
</tr>
</tbody>
</table>

Results are now being reported by region of interest, type of structure (reflexive, passive, impersonal) and agreement (agreement, no agreement).

SE Region

Table 4.4 presents the ANOVA results for the intermediate learners at the SE region. As the table indicates, there was a main effect for Structure, but not for Agreement. The interaction between Structure and Agreement approached significance. The intermediate learners were slower in processing reflexive and passive sentences when compared to impersonal experimental constructions.
Table 4.4
ANOVA for Intermediate Learners at the SE Region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>13.42</td>
<td>10.17</td>
<td>&lt;.001</td>
<td>.247</td>
<td></td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>14.68</td>
<td>1.89</td>
<td>.178</td>
<td>.058</td>
<td></td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>32.77</td>
<td>2.59</td>
<td>.083</td>
<td>.077</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>30</td>
<td>38.57</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed that it took intermediate learners longer to read reflexive structures than it took to read impersonal structures, $p < .001$. Significant findings were also found in terms of Structure for passive structures in relation to impersonal at the SE region, $p = .009$. Intermediate participants took longer to read reflexives and passives than impersonal constructions. This is presented next in Figure 4.1.

![Structure and Agreement at the SE region (intermediate learners)](image)

Figure 4.1. Structure and Agreement at the SE region (intermediate learners)
Verb Region

Table 4.5 presents the ANOVA results for the intermediate learners at the Verb region. As the table indicates, there was a main effect for Structure, but not for Agreement. The interaction between Structure and Agreement was significant. In general, at this region, intermediate learners were also slower when reading reflexive constructions.

Table 4.5
ANOVA for Intermediate Learners at the Verb Region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>86.93</td>
<td>4.36</td>
<td>.017</td>
<td>.124</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>43.68</td>
<td>.324</td>
<td>.573</td>
<td>.010</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>78.44</td>
<td>3.73</td>
<td>.029</td>
<td>.108</td>
</tr>
<tr>
<td>Error</td>
<td>30</td>
<td>77.95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To further explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed the following differences: it took intermediate learners longer to process reflexive structures when compared to passive structures, $p = .013$. It also took intermediate learners longer to process reflexive structures when compared to impersonal structures, $p = .003$ at the verb region.

The Bonferroni adjustment to explore the interaction between Structure and Agreement also revealed that intermediate learners were slower reading passive structures with agreement when compared with the passive versions lacking agreement, $p = .028$. The Agreement condition for reflexive structures approached significance, $p = .084$, with intermediate learners taking longer to read reflexives lacking agreement. However, there was no difference between agreement conditions for impersonal structures.

In sum, at the Verb region for intermediate learners, sentences exhibiting agreement took longer to read for passive structures. The interaction between Structure and Agreement at the verb region for intermediate learners for passive constructions is displayed in Figure 4.2.
Verb + 1 Region

Table 4.6 presents the ANOVA results for the intermediate learners at the Verb + 1 region. As the table indicates, there was a main effect for Structure, but not for Agreement. The interaction between Structure and Agreement was not significant.

Table 4.6
ANOVA for Intermediate Learners at the Verb + 1 Region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
<th>$p$</th>
<th>$\eta^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>29.72</td>
<td>30.18</td>
<td>&lt;.001</td>
<td>.493</td>
<td></td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>11.95</td>
<td>1.026</td>
<td>.319</td>
<td>.032</td>
<td></td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>31.69</td>
<td>.203</td>
<td>.817</td>
<td>.007</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>30</td>
<td>37.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed that it took intermediate learners longer to read reflexive structures than to read passives, $p < .001$. Reflexives took also longer to read when compared to impersonal sentences, $p < .001$. In general,
at the verb +1 region, intermediate learners were slower when reading reflexive constructions when compared to passives and impersonals. This finding is represented in Figure 4.3.

![Verb +1 region reaction times](image)

Figure 4.3. Structure and Agreement at the Verb + 1 region (intermediate learners)

**Verb + 2 Region**

Table 4.7 presents the ANOVA results for the intermediate learners at the Verb + 2 region. There was a main effect for Structure, but no effect for Agreement. The interaction between Structure and Agreement was significant.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>(\eta^2_p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>23.23</td>
<td>14.20</td>
<td>&lt;.001</td>
<td>.314</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>61.91</td>
<td>3.82</td>
<td>.060</td>
<td>.110</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>65.67</td>
<td>8.07</td>
<td>.001</td>
<td>.207</td>
</tr>
<tr>
<td>Error</td>
<td>30</td>
<td>90.48</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed the following differences: at the Verb + 2 region, the intermediate learners were sensitive to passive structures only. Intermediate participants were slower when reading passives when compared to reflexives, $p < .001$, and they were also slower reading passives when compared with impersonal sentences, $p = .001$.

The significant interaction found between Structure and Agreement at this region revealed a difference in Agreement for passive sentences. Passives with + agreement took the longest to read compared to passives lacking agreement, $p = .002$. In all, intermediate learners were the slowest in passive SE sentences at the Verb + 2 region. Passive sentences with + agreement took the longest to process. The sensitivity to passive structures at the Verb + 2 region in intermediate learners is presented in Figure 4.4.

![Figure 4.4. Structure and Agreement at the Verb + 2 region (intermediate learners)](image)

**Verb + 3 Region**

Table 4.8 presents the ANOVA results for the intermediate learners at the Verb + 3 region. As the table indicates, there was a main effect for Structure, and the main effect for Agreement approached significance. The interaction between Structure and Agreement was not significant.
Table 4.8
ANOVA for Intermediate Learners at the Verb + 3 Region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>10.95</td>
<td>62.87</td>
<td>&lt;.001</td>
<td>.677</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>38.57</td>
<td>3.57</td>
<td>.068</td>
<td>.106</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>29.93</td>
<td>2.09</td>
<td>.132</td>
<td>.065</td>
</tr>
<tr>
<td>Error</td>
<td>30</td>
<td>42.98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed these differences: reflexive structures took longer to read than passives, \( p < .001 \). Reflexives also took longer to read when compared to impersonals, \( p < .001 \). The sensitivity of the intermediate learners to reflexive constructions at the verb + 3 region is displayed in Figure 4.5.

Figure 4.5. Structure and Agreement at the Verb + 3 region (intermediate learners)

In short, intermediate learners were slow reading – agreement reflexive sentences at the SE, the Verb and the Verb + 3 regions. Intermediate participants were also slower reading + agreement passive SE structures in the Verb + 2 region, but they showed no sensitivity to impersonal structures. The results for advanced learners across all regions of interest are presented next.
4.4 Advanced Learners

Table 4.9
Reaction Times Mean Scores and Standard Deviations for Advanced Learners

<table>
<thead>
<tr>
<th></th>
<th>SE region</th>
<th>Verb Region</th>
<th>Verb + 1</th>
<th>Verb + 2</th>
<th>Verb + 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflexive (+)</td>
<td>24</td>
<td>543</td>
<td>166</td>
<td>645</td>
<td>239</td>
</tr>
<tr>
<td>Reflexive (-)</td>
<td>24</td>
<td>516</td>
<td>143</td>
<td>643</td>
<td>194</td>
</tr>
<tr>
<td>Passive (+)</td>
<td>24</td>
<td>446</td>
<td>132</td>
<td>554</td>
<td>170</td>
</tr>
<tr>
<td>Passive (-)</td>
<td>24</td>
<td>449</td>
<td>104</td>
<td>490</td>
<td>141</td>
</tr>
<tr>
<td>Impersonal (+)</td>
<td>24</td>
<td>376</td>
<td>98</td>
<td>473</td>
<td>180</td>
</tr>
<tr>
<td>Impersonal (-)</td>
<td>24</td>
<td>406</td>
<td>99</td>
<td>499</td>
<td>146</td>
</tr>
</tbody>
</table>

Results are now being reported by region of interest, type of structure (reflexive, passive, impersonal) and agreement (agreement, no agreement) for the advanced learners.

SE Region

Table 4.10 presents the ANOVA results for the advanced learners at the SE region. As the table indicates, there was a main effect for Structure, but not for Agreement. The interaction between Structure and Agreement was not significant.
Table 4.10
ANOVA for advanced learners at the SE region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>(\eta^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>23.29</td>
<td>37.36</td>
<td>&lt;.001</td>
<td>.619</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>95.87</td>
<td>.012</td>
<td>.912</td>
<td>.001</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>98.60</td>
<td>.972</td>
<td>.386</td>
<td>.041</td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>55.22</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed these differences: it took advanced learners longer to read reflexive structures than it took to read passive and impersonal structures, \(p < .001\). The adjustment also revealed that it took advanced learners longer to process passive structures when compared to impersonal structures, \(p < .001\).

No significant findings were found at this region that could indicate an interaction between Structure and Agreement. It is important to point out that + agreement reflexive constructions took longer to read than + agreement passives, and the same was true for both - agreement constructions; non-agreeing reflexives took longer to process than - agreement passives. Reflexive constructions with agreement also took longer to read when compared to the impersonal ones with agreement. Non agreeing reflexives took longer to read when compared to – agreement impersonals.

At the SE region for advanced learners, the more the features a structure exhibited, the longer it took to read that structure, starting with reflexives and descending in order to passives up to the impersonal constructions, in which advanced participants were faster. Structure effects at the SE region for advanced learners are shown next in Figure 4.6.
Figure 4.6. Structure and Agreement at the SE region (advanced learners)

Verb Region

Table 4.11 presents the ANOVA results for the advanced learners at the Verb region. As the table indicates, there was a main effect for Structure, but no effect for Agreement. However, the interaction between Structure and Agreement was significant.

Table 4.11
ANOVA for advanced learners at the Verb region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>32.82</td>
<td>19.45</td>
<td>&lt;.001</td>
<td>.458</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>62.00</td>
<td>.296</td>
<td>.592</td>
<td>.013</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>24.80</td>
<td>2.50</td>
<td>.007</td>
<td>.098</td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>12.31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed that it took advanced learners longer to read reflexive structures than it took to read passive structures, $p < .002$. It also took longer for advanced learners at this region to read reflexive structures
when compared to impersonal sentences, $p < .001$. The same pattern observed for advanced learners at the SE region was repeated at the Verb region. It took the advanced participants longer to read reflexive sentences than to read passives and impersonals at both regions.

As to the interaction observed between Structure and Agreement, there was a difference in how the advanced participants were processing passive sentences. Passive agreeing constructions took longer to read than the non-agreeing passives, $p = .007$. No other significant interactions between Structure and Agreement were found for reflexive and impersonal structures at the verb region for the advanced learners.

In sum, advanced learners were sensitive to agreement in passive structures at the Verb region. Sentences exhibiting agreement took longer to read for the case of passive structures. This interaction between Structure and Agreement at the verb region for passive structures in advanced learners is presented in Figure 4.7.

![Figure 4.7. Structure and Agreement at the Verb region (advanced learners)](image)

Figure 4.7. Structure and Agreement at the Verb region (advanced learners)
Verb + 1 Region

Table 4.12 presents the ANOVA results for the advanced learners at the Verb + 1 region. As the table indicates, there was a main effect for Structure, and the main effect for Agreement approached significance. However, the interaction between Structure and Agreement was not significant.

Table 4.12
ANOVA for advanced learners at the Verb + 1 region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>59.37</td>
<td>4.79</td>
<td>.013</td>
<td>.173</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>37.91</td>
<td>4.05</td>
<td>.036</td>
<td>.150</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>11.58</td>
<td>1.32</td>
<td>.276</td>
<td>.054</td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>74.73</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed that it took advanced learners longer to read reflexive structures than it took to read passive structures, $p = .032$. No other differences were found for Structure.

Reflexive structures with agreement took longer to read than the reflexive constructions lacking agreement, though no significant interactions were found between Structure and Agreement, as mentioned earlier. Results at this region indicate that advanced learners are beginning to acquire the person, as well as the number feature that reflexive structures with SE exhibit in the Spanish language.

Structure mean scores in terms of reading times are presented in Figure 4.8 next, where differences between reflexive and passive structures at the verb +1 region are visible. Reflexive structures containing agreement took the longest to read when compared to the other two constructions.
Table 4.13 presents the ANOVA results for the advanced learners at the Verb + 2 region. As the table indicates, there was a main effect for Structure, and also a main effect for Agreement. However, the interaction between Structure and Agreement was not significant.

Table 4.13
ANOVA for advanced learners at the Verb + 2 region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>90.28</td>
<td>5.87</td>
<td>.005</td>
<td>.204</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>14.27</td>
<td>14.37</td>
<td>.001</td>
<td>.385</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>27.12</td>
<td>1.74</td>
<td>.186</td>
<td>.071</td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>10.31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed that it took advanced learners longer to read passive structures than it took to read reflexives at the verb + 1 region, \( p = .017 \). To explore the effect for Agreement an analysis of simple main effects
with a Bonferroni adjustment revealed that + agreement passive structures took longer to read than -agreement passives, \( p = .016 \).

There was also an Agreement effect for impersonal constructions: agreeing impersonals took longer to read when compared to impersonal structures without agreement, \( p = .028 \). Passive structures with agreement took the longest to read across all structures. These results are represented in Figure 4.9.

![Figure 4.9. Structure and Agreement at the Verb + 2 region (advanced learners)](image)

The results suggest that advanced learners were slowing down by the number feature of the main noun of the NP when reading passive structures at the verb + 2 region. Again, passive structures with agreement took the longest to read of all structures at this region. This could signal that advanced learners are beginning to acquire the number feature of passive SE constructions.

**Verb + 3 Region**

Table 4.14 presents the ANOVA results for the advanced learners at the Verb + 3 region. As the table indicates, there was a main effect for Structure, but not a main effect for Agreement. The interaction between Structure and Agreement was not significant.
Table 4.14
ANOVA for advanced learners at the Verb + 3 region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>61.92</td>
<td>32.50</td>
<td>&lt;.001</td>
<td>.586</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>18.64</td>
<td>1.56</td>
<td>.224</td>
<td>.064</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>37.53</td>
<td>2.65</td>
<td>.081</td>
<td>.103</td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>83.32</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed that it took advanced learners longer to read reflexive structures than it took to read passive and impersonal structures, $p < .001$. In this region representing the third spillover section, advanced learners were more slower reading reflexive constructions when compared to passive constructions, $p < .001$. Reflexive sentences took also longer to read when compared to impersonal structures at this region of interest, $p < .001$. This is represented in Figure 4.10.

![Figure 4.10. Structure and Agreement at the Verb + 3 region (advanced learners)](image-url)
Although no significant interaction was found at this particular region between Structure and Agreement, -agreement reflexive structures took longer than reflexive sentences with agreement. Taking longer to read – agreement reflexive sentences was something with which the advanced patterned with the intermediate learners at the same region.

The fact that advanced learners were slower in processing non-agreeing reflexive structures at the verb +3 region signals a processing difficulty with person and number features in the reflexive SE constructions. Another pattern observed with advanced learners is that they were slowed down by +agreement constructions, as observed in the mean differences at the verb + 1 and the verb + 2 regions for reflexive and passive constructions. These regions represent spillover regions of the experiment.

Native speakers’ results for all structures and regions of interest are presented next.

### 4.5 Native Speakers

Table 4.15  
Reaction Times Mean Scores and Standard Deviations for Native Speakers

<table>
<thead>
<tr>
<th>SE region</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflexive (+)</td>
<td>24</td>
<td>493</td>
<td>107</td>
<td>522</td>
<td>126</td>
<td>493</td>
<td>111</td>
<td>465</td>
<td>109</td>
<td>597</td>
<td>167</td>
</tr>
<tr>
<td>Reflexive (-)</td>
<td>24</td>
<td>483</td>
<td>103</td>
<td>510</td>
<td>169</td>
<td>511</td>
<td>134</td>
<td>448</td>
<td>87</td>
<td>520</td>
<td>130</td>
</tr>
<tr>
<td>Passive (+)</td>
<td>24</td>
<td>419</td>
<td>89</td>
<td>538</td>
<td>161</td>
<td>460</td>
<td>107</td>
<td>463</td>
<td>108</td>
<td>414</td>
<td>78</td>
</tr>
<tr>
<td>Passive (-)</td>
<td>24</td>
<td>388</td>
<td>64</td>
<td>453</td>
<td>124</td>
<td>450</td>
<td>84</td>
<td>451</td>
<td>90</td>
<td>384</td>
<td>62</td>
</tr>
<tr>
<td>Impersonal (+)</td>
<td>24</td>
<td>381</td>
<td>64</td>
<td>468</td>
<td>169</td>
<td>426</td>
<td>83</td>
<td>440</td>
<td>85</td>
<td>404</td>
<td>68</td>
</tr>
<tr>
<td>Impersonal (-)</td>
<td>24</td>
<td>396</td>
<td>77</td>
<td>405</td>
<td>85</td>
<td>424</td>
<td>118</td>
<td>429</td>
<td>106</td>
<td>370</td>
<td>63</td>
</tr>
</tbody>
</table>
Table 4.16 presents the ANOVA results for the native speakers at the SE region. As the table indicates, there was a main effect for Structure, but not a main effect for Agreement. The interaction between Structure and Agreement was not significant.

Table 4.16
ANOVA for Native Speakers at the SE Region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$ p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>13.76</td>
<td>39.08</td>
<td>&lt;.001</td>
<td>.630</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>25.39</td>
<td>.576</td>
<td>.455</td>
<td>.024</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>63.36</td>
<td>.957</td>
<td>.391</td>
<td>.040</td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>19.36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed the following differences: it took native participants longer to read reflexive structures than it took to read passive structures, $p < .001$. Reflexive sentences also took longer to read when compared to impersonal structures, $p < .001$. No other significant interactions were found at the SE region for the native group.
Figure 4.11. Structure and Agreement at the SE Region (native speakers).

**Verb Region**

Table 4.17 presents the ANOVA results for the native speakers at the Verb region. As the table indicates, there was a main effect for Structure, and also a main effect for Agreement. However, the interaction between Structure and Agreement was not significant. These statistical results for native speakers at the Verb region are presented next.

Table 4.17
ANOVA for Native Speakers at the Verb Region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>82.12</td>
<td>8.96</td>
<td>.001</td>
<td>.280</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>10.27</td>
<td>18.89</td>
<td>&lt;.001</td>
<td>.451</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>17.35</td>
<td>1.14</td>
<td>.327</td>
<td>.047</td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>63.37</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed that it took native participants longer to read reflexives than it took to read impersonal structures, $p = .001$. To explore the effect for Agreement, the adjustment revealed that native speakers were slower reading $+$ agreement passives when compared to $-$ agreement passives, $p = .006$. No other significant differences between agreement conditions were found.

Figure 4.12. Structure and Agreement at the Verb Region (native speakers).

Verb + 1 Region

Table 4.18 presents the ANOVA results for the native speakers at the Verb + 1 region. As the table indicates, there was a main effect for Structure, but not a main effect for Agreement. The interaction between Structure and Agreement was not significant.
Table 4.18
ANOVA for Native Speakers at the Verb +1 Region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>72.94</td>
<td>10.37</td>
<td>&lt;.001</td>
<td>.311</td>
<td></td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>97.51</td>
<td>.008</td>
<td>.928</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>25.15</td>
<td>.233</td>
<td>.793</td>
<td>.010</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>22.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed that it took native participants longer to read reflexive structures than it took to read impersonal structures, p < .001. At this region, native speakers were the slowest reading non-agreeing reflexive sentences, though no significant results were found.

Figure 4.13. Structure and Agreement at the Verb + 1 Region (native speakers).

Verb + 2 Region

Table 4.19 presents the results for the native speakers at the Verb + 2 region. There was not a main effect for Structure, and neither for Agreement. The interaction was not significant.
Table 4.19
ANOVA for Native Speakers at the Verb +2 Region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>79.17</td>
<td>1.26</td>
<td>.293</td>
<td>.052</td>
<td></td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>65.95</td>
<td>.996</td>
<td>.329</td>
<td>.042</td>
<td></td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>79.70</td>
<td>.016</td>
<td>.984</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>28.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No significant findings are reported for the native speakers at this region. Figure 4.14 illustrates the mean differences at the Verb + 2 region.

![Figure 4.14. Structure and Agreement at the Verb + 2 Region (native speakers).](image)

Figure 4.14. Structure and Agreement at the Verb + 2 Region (native speakers).

**Verb + 3 Region**

Table 4.20 presents the ANOVA results for the native speakers at the Verb + 3 region. As the table indicates, there was a main effect for Structure, and also a main effect for Agreement. However, the interaction between Structure and Agreement was not significant.
Table 4.20
ANOVA for Native Speakers at the Verb + 3 Region

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2_p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>2</td>
<td>43.83</td>
<td>45.46</td>
<td>&lt;.001</td>
<td>.664</td>
</tr>
<tr>
<td>Agreement</td>
<td>1</td>
<td>79.95</td>
<td>10.55</td>
<td>.004</td>
<td>.315</td>
</tr>
<tr>
<td>S x A</td>
<td>2</td>
<td>79.22</td>
<td>1.40</td>
<td>.256</td>
<td>.058</td>
</tr>
<tr>
<td>Error</td>
<td>23</td>
<td>25.36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To explore the effect for Structure, an analysis of simple main effects with a Bonferroni adjustment revealed that it took native participants longer to read reflexive structures than it took to read impersonal structures, $p < .001$. The same adjustment revealed that it also took the native speakers longer to read reflexive structures than it took to read passive structures, $p < .001$.

To explore the effect for Agreement, an analysis of simple main effects with a Bonferroni adjustment revealed that native speakers were the slower reading + reflexive agreeing structures when compared to reflexive structures without agreement, $p = .036$. No other significant differences were found at this region.

Figure 4.15. Structure and Agreement at the Verb + 3 Region (native speakers).
4.6 Further Analyses: SV Sentences

After these statistical results were obtained with reflexives, passives and impersonals in which native participants showed increased sensitivity to the reflexive SE structures, further tests were conducted with part of the ‘filler’ sentences, the SV (verb inflection type) sentences. It was important to investigate if the native participants had also shown sensitivity to agreement in the + grammatical SV sentences.

Let’s recall that there were sixty-four (64) non-experimental sentences of the verb inflection type included in this experiment, as used by VanPatten, Keating, and Leeser (2012). These nonexperimental sentences included twelve (12) quadruplets which manipulated person and number agreement between subjects and verbs. Subjects and verbs appeared next to each other. All verbs belonged to the present tense –AR class. Half of the quadruplets had first and third person singular subjects matched with first and third person singular verbs, as illustrated below in examples 4.1- 4.4.

(4.1). Ahora Pedro toma el refresco en el salón.
Now Pedro (3rd Pers. Sing.) drinks (3rd Pers. Sing.) the soft drink in the living room.
(4.2). *Ahora Pedro tomo el refresco en el salón.
Now Pedro (3rd Pers. Sing.) drink (1st Pers. Sing.) the soft drink in the living room.
(4.3). Ahora yo tomo el refresco en el salón.
Now I (1st Pers. Sing.) drink (1st Pers. Sing.) the soft drink in the living room.
(4.4). *Ahora yo toma el refresco en el salón.
Now I (1st Pers. Sing.) drink (3rd Pers. Sing.) the soft drink in the living room.

VanPatten, Keating & Leeser (2012)

The other half of the quadruplets had second person singular and third person plural subjects crossed with verb forms in the second person singular and the second person plural, as in examples 4.5 - 4.8 next.

(4.5). Ahora tú tocas el piano para muchas personas.
Now you (2nd Pers. Sing.) play (2nd Pers. Sing.) the piano for several people.
Results of the matched t-tests with SV sentences are reported next by proficiency group.

4.6.1. Intermediate Learners

Table 4.21 displays means for the reading times of intermediate learners for SV grammatical and ungrammatical sentences. Results of paired samples of the t-test revealed no significant results for intermediate learners at the Verb region, $t (31) = .801, p = .429$, two-tailed. There was no difference in how intermediate learners read either grammatical or ungrammatical SV sentences at the Verb region.

At the Verb +1 region, however, results of the paired samples of the t-test revealed that it took intermediate learners longer to read SV sentences containing agreement when compared to SV sentences without agreement, $t (31) = 2.83, p = .008$, two-tailed. At this region, intermediate participants were significantly slower in grammatical sentences, $p = .008$, which indicates a lack of sensitivity to person number agreement violations in SV sentences after reading the main verb.

At the Verb + 2 region, results of paired samples of the t-test revealed no significant results for intermediate learners, $t (31) = .158, p = .876$, two-tailed. There was no difference in how they processed either grammatical or ungrammatical SV sentences at the Verb + 2 region. In the same way, at the Verb + 3 region, paired samples of the t-test revealed no significant results for intermediate learners, $t (31) = .196, p = .846$, two-tailed. In all, intermediate participants did not show sensitivity to violations of person and number features in the SV sentences.
Table 4.21
Reaction Times Mean Scores and Standard Deviations for Intermediate Learners (SV Sentences)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Verb</th>
<th>Verb +1</th>
<th>Verb +2</th>
<th>Verb +3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Grammatical</td>
<td>560</td>
<td>137</td>
<td>522</td>
<td>118</td>
</tr>
<tr>
<td>Ungrammatical</td>
<td>541</td>
<td>106</td>
<td>469</td>
<td>72</td>
</tr>
</tbody>
</table>

A summary of the processing of SV sentences for the intermediate learners follows in Figure 4.16.

Figure 4.16. Intermediate SV Sentence Mean Reading Times (in milliseconds)

4.6.2. Advanced Learners

Results of paired samples of the t-test revealed no significant results for advanced learners at the Verb region, \( t(23) = 1.28, p = .212 \), two-tailed. There was no difference in how advanced learners read either grammatical or ungrammatical SV sentences at the Verb region. Results of paired samples at the Verb + 1 region approached significance, \( t(23) = 1.97, p = .060 \), two-tailed.
At the Verb + 1 region, as shown in Table 4.22, it took advanced participants longer to read grammatical SV sentences, and they were faster on the ungrammatical condition. Again, these results indicate that they were not sensitive to person-number agreement violations in the ungrammatical versions right after the main verb of the sentence.

At the Verb + 2 region, paired samples of the t-test showed no significant results. Advanced participants were not sensitive to either grammatical or ungrammatical SV sentences, $t(23) = -2.88$, $p = .776$, two-tailed. At the Verb + 3 region, advanced learners took longer to read ungrammatical SV sentences, and significant findings were observed in the paired samples of the t-test, $t(23) = -2.13$, $p = .043$, two-tailed.

It seems that the advanced learners of the experiment were in the process of acquiring person and number features in Spanish, as they showed a delayed sensitive to ungrammatical SV sentences but only at the Verb + 3 region, and not before. At the Verb, and Verb + 1, the advanced participants took longer to read grammatical SV sentences which indicates a lack of sensitivity to person-number agreement violations on the sentence main verb.

However, at the Verb + 2 and Verb + 3 regions, it took advanced learners longer to process ungrammatical sentences, which suggests that they are starting to acquire person and number features in Spanish. This contrasts with the results of the intermediate participants, who were consistently slower only on the grammatical condition, and were not sensitive to violations of person and number features on the verbs. Mean reading times (in milliseconds) and standard deviations for morphological inflections by region and condition for advanced learners is presented in Table 4.22.
### Table 4.22
Reaction Times Mean Scores and Standard Deviations for Advanced Learners (SV Sentences)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Verb</th>
<th>SD</th>
<th>Verb + 1</th>
<th>SD</th>
<th>Verb +2</th>
<th>SD</th>
<th>Verb +3</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammatical</td>
<td>556</td>
<td>113</td>
<td>512</td>
<td>90</td>
<td>606</td>
<td>144</td>
<td>466</td>
<td>93</td>
</tr>
<tr>
<td>Ungrammatical</td>
<td>529</td>
<td>111</td>
<td>480</td>
<td>71</td>
<td>614</td>
<td>143</td>
<td>507</td>
<td>100</td>
</tr>
</tbody>
</table>

Advanced learners’ processing of SV sentences is presented next in Figure 4.17.

![Figure 4.17. Advanced SV Sentence Mean Reading Times (in milliseconds)](image)

#### 4.6.3. Native Speakers

Results of paired samples of the t-test revealed no significant results for the native speakers at the Verb region, $t (23) = -1.10, p = .281$, two-tailed. There were no significant differences in how the native speakers read either grammatical or ungrammatical SV sentences at the Verb region, though they were slower in the ungrammatical condition. As to the Verb + 1 region for the natives, results of paired samples of the t-test did not show any significance, $t (23) = 1.31, p = .200$, two-tailed.
At the Verb + 1 region, the native speakers took slightly longer to process SV sentences in the grammatical condition with no significant findings, $p = .200$. By contrast, results of the paired samples of the t-test for the native speakers at the Verb + 2 region did show significance, $t (23) = -3.64, p = .001$, two-tailed. It took the natives longer to read ungrammatical SV sentences at the Verb +2 region. This indicates a delayed sensitivity to violations of person and number features after reading the main verb of the sentence.

At the Verb + 3 region, it also took native speakers longer to read ungrammatical SV sentences, though no significant differences were observed in the paired samples of the t-test, $t (23) = -1.62, p = .117$, two-tailed. Mean reading times (in milliseconds) and standard deviations for morphological inflections by region and condition for the native speakers follows next in Table 4.23.

Table 4.23
Reaction Times Mean Scores and Standard Deviations for Native Speakers (SV Sentences)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Verb</th>
<th>Verb + 1</th>
<th>Verb + 2</th>
<th>Verb + 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Grammatical</td>
<td>461</td>
<td>104</td>
<td>456</td>
<td>84</td>
</tr>
<tr>
<td>Ungrammatical</td>
<td>488</td>
<td>97</td>
<td>433</td>
<td>71</td>
</tr>
</tbody>
</table>
A summary of the findings for the native speakers when processing SV sentences is in Figure 4.18.

In short, native speakers were sensitive to person and number feature violations at the Verb + 2 region, while intermediate learners did not show sensitivity to violations of person and number agreement violations in the ungrammatical condition. Advanced learners, on the other hand, did show a delayed sensitivity to violations but only at the Verb + 3 region, which indicates that they are at a higher stage than the intermediate learners in their acquisition of Spanish features.

It is in this sense that the results of the analysis of the ‘filler’ SV sentences support the results of the experimental SE constructions. Intermediate and advanced learners are at different stages in their acquisition of Spanish verbal features, as the advanced learners are starting to pattern with the native speakers by showing sensitivity to violations of person and number inflections in ungrammatical sentences that the intermediate learners do not show in their processing.

As to the intermediate group, results for SV sentences support the idea that this group of L2 learners’ representation with regards to morphological inflections was insufficient at their stage of language proficiency. Intermediate participants did not show sensitivity to person number agreement violations in SV sentences after reading the main verb.

Results of the analysis of the SV sentences, on the other hand, indicates that processing SE sentences may be different, as there is an extra element in the sentence preceeding the main verb of the
construction; that is the particle SE. In the case of the reflexive construction, the parser expects the main verb after the subject of the sentence and not SE. This may bring about a processing delay when reading reflexive structures with the particle. A summary of the results of the findings in the experimental sentences follows next.

4.7 Summary of Results

4.7.1. Native Speakers

1. They were slower when processing reflexives at the SE, the Verb, the Verb + 1 and the Verb+ 3 regions. It took native speakers them more time to read reflexive sentences in general when compared to passives and impersonals.
2. Native speakers were slower when processing + agreement passives at the Verb region.
3. Native speakers were slower when processing + agreement reflexives at the Verb+ 3 region.

4.7.2. Advanced Learners

1. They were slower when reading reflexive sentences at the SE, the Verb, the Verb + 1 and the Verb + 3 region. It took them more time to read reflexive sentences in general when compared to passives and impersonals.
2. Advanced learners also were slower when reading + agreement passive sentences at the Verb and Verb + 2 regions.
3. Advanced learners were also slower when reading + agreement reflexive sentences at the Verb + 1 region.

4.7.3. Intermediate Learners

1. In terms of structure, they were slower reading reflexives at the SE, the Verb, the Verb +1 and Verb + 3 regions when compared to passive and impersonal structures.
2. Intermediate learners were slower when processing + agreement passives at the Verb and Verb + 2 regions.
According to the analyses up to this point, native speakers are the only group of participants who was consistently slower reading SE structures with verbal features at the SE, the Verb, Verb +1 and Verb + 3 regions. Advanced participants slowed down reading reflexive structures at the Verb + 1 region, and they were also slower reading passive sentences at the Verb + 2 region.

Intermediate learners were slower reading reflexive structures lacking agreement at the SE region, the Verb region and Verb + 3 regions. Reading times for the critical regions were significantly faster for impersonal SE sentences than for reflexives or passives, and this for all three participating groups.

After reporting results per proficiency level and region of interest, I will proceed to analyze these results in the light of the research questions proposed in Chapter 2. The research questions tested if type of SE structure affected L1 and L2 Spanish reading times in an online self-paced reading task. The research questions also investigated if verbal agreement within various SE structures affected L1 and L2 Spanish reading times.

The results of the experiment suggest that intermediate learners did exhibit some knowledge of verbal agreement with passives, as they were slower reading passive sentences at the Verb +2 region compared to reflexives and impersonals. However, intermediate learners were the slowest processing reflexive structures without agreement at the SE, the Verb region and the Verb +3 region. In general intermediate learners were the slowest reading reflexives, then passives, and they processed impersonal sentences the fastest.

It also took the intermediate learners longer to process reflexive structures lacking agreement when compared to the reflexive structures exhibiting agreement. The fact that reflexive SE structures carry a number and a person feature suggests this was the most difficult structure to be processed by learners of Spanish at the intermediate level.

Turning to the advanced learners, they were also the slowest reading reflexive structures, followed by passives and ending with impersonal structures. Comparing across the three structures of interest, advanced learners were the fastest reading impersonal sentences when compared to reflexives and passives.
In terms of agreement, advanced learners spent more time reading reflexive structures with agreement, more consistently than the intermediate learners, at the SE region and the Verb regions. I argue that FAFT is operating here for the advanced learners, as advanced learners pattern with the native speakers in exhibiting longer reaction times for grammatical reflexives and passives than for their ungrammatical counterparts. This is not what was expected, but the findings still show differential processing between the + and – agreement conditions.

When comparing across the three participating groups, reading times for critical regions were significantly faster for impersonal SE sentences than for reflexives or passives. This finding corroborates that impersonal structures are the most basic structures of the three in terms of features, and are therefore processed faster in L2 Spanish. Longer reaction times when reading reflexives and passives suggest that feature emergence may take time in L2 Spanish.

When comparing the responses of both groups of learners with the responses of the native speakers, it must be said that the advanced learners patterned with the natives in the sense that they were more sensitive to reflexive and passive structures with agreement than the intermediate group was. As they processed similarly in this regard, the study supports FAFT (Schwartz and Sprouse, 1994, 1996).

Impersonal structures with SE took the least amount of time to process by all participants when compared to reflexives. I suggest that reflexive structures containing SE take more time to process in Spanish due to the presence of verbal features, person and number features. I now expand this finding in examining native processing for this experiment in more detail.

In the case of the native participants, reflexives with agreement took longer to read when compared to impersonal sentences at the SE, the verb region, the verb + 1 and the Verb + 3 regions. Native speakers took longer to read reflexive structures containing agreement when compared to the other two structures, though they were also sensitive to the number-featured passive sentences at the Verb region in the + agreement condition. This finding for the native participants corroborates that feature checking in Spanish takes time, and much more for sentences with person and number inflections than for defective structures such as impersonal sentences.
In conclusion, intermediate learners showed some sensitivity to passives exhibiting agreement at the Verb + 2 region, but they did not show sensitivity to feature checking in Spanish, as the advanced learners did across all regions of interest. Intermediate learners were also slow reading reflexive structures lacking agreement at all regions, except for the Verb +2 region.

Structures with agreement; reflexives and passives took longer to read than their non-agreeing matches in the case of the advanced participants. Therefore, Hypothesis 1 concerning the processing of reflexives, passives and impersonals was only partially confirmed. Overall, participants spent more time reading reflexives when compared to passives and impersonals. In this study, the more the features the structure exhibited, the more the processing time the participants spent on that structure.

The three participating groups were faster when reading impersonal constructions with SE, a structure that lacks verbal features in Spanish, and which was processed more quickly than the other two, even if it is the most semantically complex. The results of the study support Hypothesis 2, as advanced learners patterned with the native group in spending a longer time reading reflexive and passive sentences in the grammatical condition.

4.8 Summary

According to the statistical results reported in this chapter, advanced learners are on the process of acquiring a grammar that resembles the grammar of a native speaker. As the degree of proficiency in the L2 increases, so do the possibilities for full feature acquisition of verbal agreement in sentences containing reflexive, passive and impersonal SE.

In general, feature checking in Spanish is time-consuming as the level of proficiency increases in the L2. As learners become more aware of syntactic structures and verbal features in Spanish, they spend more time processing those structures for feature checking. Lower proficiency learners, who are not as familiar with syntactic features may still struggle with ungrammaticality when agreement conditions with SE are not met.

Chapter 5 will now turn to a broader discussion of these findings. The results of the experiment will be more expanded in light of the research hypotheses presented in Chapter 2. The limitations of the
study within SLA theory, as well as possibilities to undertake future investigations with the structure of interest, Spanish SE, are offered next.
CHAPTER FIVE
DISCUSSION AND CONCLUSIONS

This chapter will link the results of the experiment to theoretical considerations within the framework of generativism and to processing perspectives. First, I will explain findings in light of the hypotheses proposed in Chapter 2. I will discuss how the findings fit and expand previous research in the interpretation and processing of Spanish SE. Broader implications for SLA theory at large will follow, along with the limitations of this project. Finally, the conclusions and some possibilities for future investigations will give closure to this dissertation.

5.1 Linking the Experimental Results to Generative Theory

This project intended to contribute to the existing debate between two competing theories of generativism and language acquisition with regards to the idea of parameter resetting in the L2: FFFH (Hawkins and Chan, 1997) and FAFT (Schwartz and Sprouse, 1994, 1996). The results of the experiment support FAFT. Similar patterns are observed in how the native speakers and the advanced learners processed SE structures. The intermediate participants exhibited different language processing patterns. First, let’s review the main hypotheses of the study and if the results lend support to these main hypotheses or not.

There were two major hypotheses proposed in Chapter 2.

Hypothesis 1 – Reflexives were expected to be the easiest to process, because they are not ambiguous structures in Spanish and carry a person and number feature in the syntax. They were also expected to be the easiest to comprehend, since they contain a subject, which acts as a clarifying element, against which the verb checks person and number feature at all times. In L1 Spanish, reflexives are also acquired before passives and impersonals.

Passives were expected to be easier to process than impersonals due to the number feature they exhibit in the syntax, and in which the verb agrees with the affected entity, or noun phrase. Impersonal
SE sentences were expected to be the most problematic to process and to comprehend, as they are structures devoid of verbal features, and the verb has no nominal element against which it can check features. The verb of an impersonal construction is defective, and remains so at all times. Lastly, impersonals have a confusing nature and are often mistaken for passive SE constructions.

**Hypothesis 2** – If FAFT theory was at play, learners (intermediate and advanced) should have demonstrated knowledge of verbal agreement with the particle SE in the three structures manipulated in the experiment: reflexive, passive and impersonal structures. They should be able to reset a parameter in L2 Spanish: the different verbal features that SE forces on Spanish verbs. If FFFH would be operating, another trend would be observed. The two groups of learners of Spanish would be processing SE constructions in a very similar fashion, with native SE processing completely apart from learner processing.

As to Hypothesis 1, the results indicate that participants were slower reading reflexive constructions when compared to passives and impersonals. Passives also took longer to process when compared with impersonals, in which participants were faster. Type of SE structure had an effect on L1 and L2 Spanish reading times, as participants took more time to read reflexives.

The results of the study support FAFT theory in terms of hypothesis 2 of the study, as advanced learners patterned with the native speakers in taking longer to read reflexive and passive sentences with verbal agreement. This was not an expected finding, but it is important because it shows a differential processing between the + Agreement and the – Agreement conditions with regards to SE structures, and that advanced processing resembles native processing in the + agreement condition. It took more time to process the constructions that exhibit features; in this case the reflexive sentences.

The particle SE is difficult to process. It forces different features on Spanish verbs, depending on its function. Assuming that agreement is checked in a Spec/ Head relationship, the results support the idea that it takes more to process a structure with verbal features in Spanish than to process a structure lacking verbal features. The feature hierarchy also proposes that person features take longer to process than number, (Carmenati, 2005). Therefore, reflexives took longer to process than passives. Passives took longer to process than impersonals.
It took the native speakers of this study longer to process reflexive structures with agreement in which the verb exhibits person and number features, than it took to process reflexive structures without agreement, in which both person and number features were manipulated, rendering these sentences ungrammatical. As a whole, native speakers took more time to read the sentences containing agreement, in particular in the reflexive constructions. Processing difficulty in this study is seen linked to the structure verbal features. The more the features to be checked, the longer the processing.

Native speakers of Spanish seem to be relying on agreement to process. We see FAFT at play since the advanced learners are also starting to rely on agreement when processing SE constructions in real time. The lower proficiency level learners, the intermediate participants, also took longer to read reflexive sentences, more than passives and impersonals. However, they were slower in the non-agreeing condition.

Reflexive structures without agreement took longer to read in the intermediate group, except for one region of interest. This was not observed in the higher proficiency group, the advanced learners and neither was it observed in native processing. It could be that the intermediate learners -who are not yet at an end-state grammar, as expected- are resorting to other strategies for processing. As intermediate learners have not completely acquired verbal features with SE structures, they are slowing down in the sentences where agreement conditions are not met. They are taking more time to process the ungrammatical sentences.

Turning to reaction times, or the processing in real time of these SE structures, the advanced group exhibited similar reaction times to the native participants when processing SE structures containing features, specially the passive constructions which contain a number feature in the syntax. The advanced learners patterned more with the native participants at the Verb region when compared to the intermediate group, as advanced participants were sensitive to agreeing reflexives and passives, and intermediates were not. As mentioned before, intermediate participants slowed down in the ungrammatical sentences.
In terms of the ranking for level of difficulty of the three structures under examination, made predictions were not confirmed. Impersonal SE constructions did not slow down the participants when processing in Spanish. I had predicted that impersonal structures would be the most problematic across all participants due to their defective nature, and therefore their lack of verbal features, which makes this structure semantically complex. The opposite trend is observed in the experimental results, as reading times for critical regions were significantly faster for impersonal sentences than for reflexives and passives.

My original prediction that impersonal structures with SE represented a processing problem in L2 Spanish across all participating groups when compared to reflexive and passive constructions is not corroborated by the statistical analyses. The impersonal structure is devoid of features, and it seems that as there are no features to be checked, these sentences are read more quickly in the L2, or pose less of a processing problem than reflexives in which there are a person and number feature, or passives in which there is a number feature.

Reflexives and then passives—in that order— took longer to process than impersonals did, as evidenced by the reaction times of the native speakers. When going back to the existing literature to see if similar findings exist with previous studies examining feature processing in Spanish with SE, I found that self-paced reading literature on processing of Spanish structures with features is scarce. Most self-paced reading experiments have focused on wh-movement (Juffs, 2005; Marinis, Roberts, Felser & Clahsen, 2005).

More recently, other studies have incorporated interesting structures from the psycholinguistic perspective, such as imbedded clauses, (Dussias, 2003; Felser, Roberts, Gross & Marinis, 2003; Papadopoulou and Clahsen, 2003). However, only a few studies have examined verbal ambiguities as the focus of experimentation, (Juffs, 1998; Jiang, 2004). In particular, Juffs and Harrington (1998) found in their separate analyses of accurate and inaccurate judgments that accurate judgments were more likely on the part of parsers if they had spent longer on a critical region when reading the sentence.

In this study, it is interesting to see a pattern that consistently differentiates processing in the Agreement and the Non-Agreement Conditions. In addition, the most basic structure in terms of verbal features, impersonal SE, was processed faster than the structures with features. It seems that the
difficulty in processing SE in real time is related to the number of features a given SE sentence has in the syntax. Consequently, more verbal feature checking may be associated with more processing in L1 and L2 Spanish, at least with what concerns SE structures.

The findings also converge and diverge from previous studies which have analyzed the same structure of interest in GJTs. The study supports Bruhn de Garavito’s (1999), who recognized that passive structures are [+ Agr0] structures while impersonal ones are [- Agr0], or structures lacking a Noun Phrase (NP) against which the verb could check verbal features. Experimental findings confirm the results of Bruhn de Garavito (1999) in the sense that only the more advanced learners resemble the native speakers in terms of how they process verbal features in the language.

The near-native participants of Bruhn de Garavito’s (1999) study and the advanced participants of this study were able to distinguish between grammatical and ungrammatical items. This confirms that SE structures in Spanish differ as to meaning and verbal features. On the other hand, this dissertation also gives support to the idea that passives and impersonals are very different constructions in terms of features, (Bruhn de Garavito, 1999; Mendikoetxea, 2008; Tremblay, 2006), and thus they are processed differently in Spanish. Passives and Impersonals represent two distinct structures.

However, this dissertation results differ from Bruhn de Garavito’s (1999) in the sense that there are differences in how advanced learners and native participants are processing verbal features. As advanced learners have not yet reached an end-state native grammar, they took more time to read partially defective structures such as passive SE constructions which contain a number feature when compared to strong structures in terms of verbal features, such as reflexive SE sentences, which have a person and a number feature.

Differently from Bruhn de Garavito (1999) who found no differences between the learners and the native participants as to their responses to the grammatical judgments, this study supports the view that the advanced grammar was distinguishable from the native grammar. There may be different stages for the acquisition of verbal features in Spanish, (Montrul & Slabakova, 2003). Based on the processing evidenced in this experiment, learners will acquire the number feature first in SE constructions. Person
feature may come after number feature, due to its complexity. In this case, reflexives which contain number and person features, and were the ones that took longer to process.

In addition, in terms of SE constructions, verbal features are variable and complex. It may take time in the second language to completely reset a parameter of a different value to one’s L1. As the participants in the experiment all shared English as their L1, they had to proceed from a weak English verbal morphology to a strong one in Spanish in the case of reflexive structures, and these different values slowed down the intermediate group of the study.

This experiment supports the views of Brunh de Garavito (2009) and Montrul & Slabakova (2003). There is continuing access to distinct parameters of the L2. As features vary in their complexity, more exposure to the L2 should make possible the acquisition of features that have a different value in the L1. Hence, advanced processing was different from intermediate processing in this experiment.

This dissertation is also in line with Mendikoetxea’s (2008) syntactic description of passive and impersonal SE constructions for a task that measures real-time processing. For native speakers, passive sentences containing agreement took more time to read at the Verb region when compared to the impersonal sentences in the + agreement condition. These results were also observed at the Verb +1 and Verb + 2 regions.

The higher the proficiency level in Spanish, the longer it took to read structures with more verbal features. When comparing the results of the advanced participants with the native speakers, the former were particularly sensitive to passive structures exhibiting agreement at the Verb region. Advanced learners were also sensitive to reflexive structures exhibiting agreement at the Verb +1 region and once again to passive structures with agreement at the Verb +2 region.

In all, advanced participants took longer to read passive structures containing agreement, and they were slower when reading reflexive structures with agreement at the Verb +1 region, but not as marked as the native participants. I argue that the advanced group is not at an end-of-state grammar in Spanish, and this is expected at their level of L2 proficiency.
As mentioned before, a finding across all participating groups is that not only were they faster in processing impersonal defective structures when compared to reflexives and passives, it was also clear that the three groups treated impersonal SE structure quite differently from the passive one. The fact that participants read both structures differently in a real-time processing task validates the position of Mendikoetxea (2008) that both structures are quite dissimilar syntactically. The passive structure exhibits a number feature, while the impersonal structure renders the verb totally defective in the absence of verbal features; no person and no number features in the syntax.

The native participants spent more time reading the grammatical reflexive and passive sentence due to the checking of features of these structures. It seems that the more the features that have be checked during online processing, the more the processing cost. Native participants slowed down as a whole when processing constructions with features given that constructions with SE are more difficult to process since the SE is an extra element in the sentence, besides the main verb.

As to the intermediate participants, they were slower in reading reflexive SE structures lacking agreement at the SE, the Verb and the Verb +3 regions. I argue that since intermediate learners are in the process of acquiring verbal features in Spanish, they are slowing down when processing sentences in which agreement conditions are not met.

Advanced learners, on the other hand, are in between the native speakers and the intermediate learners. They were slower when reading passive structures containing agreement at the Verb and Verb +2 regions, and only slowed down when reading reflexive structures containing agreement at the Verb +1 region. Only native speakers had longer reaction times with reflexive structures containing agreement at most regions (except the Verb +2 region), and they were also slower when reading passive structures with agreement at the Verb region.

Asuming that processing is the rapid incremental satisfaction of grammatical constraints (Weinberg, 2000), this experiment satisfies a minimalist theory of human sentence processing. The least proficient learners are slower when processing the ungrammatical sentences, as they are still acquiring verbal features of the Spanish language. Processing verbal features comes at a higher processing cost for them. Their feature-checking process is understandably still incomplete in Spanish.
The advanced learners—though not at an end-of-state grammar—partially pattern with the native speakers in reanalyzing verbal features of the SE sentences with verbal features. This refers in particular to passive SE constructions which carry a number feature. The same principles that govern language learning seem to be operating in sentence processing simulating real-time conditions. It is also in this sense that the experiment supports generative theory.

By taking more time to read + agreement sentences with SE that exhibit features in Spanish, the advanced participants of this study have demonstrated knowledge of feature checking in Spanish. The intermediate learners, on the other hand, are still acquiring features in Spanish. They are taking more time to read—agreeing reflexive constructions overall. This dissertation will now expand its findings more in the light of processing perspectives.

**5.2 Linking the Experimental Results to Processing Perspectives**

Up to now, I have tried to link the results obtained in the project to generativist theory. The advanced group of participants demonstrated sensitivity to passive structures, much more consistently than the intermediate learners. Native processing evidences the cost of processing verbal features in Spanish; in this case for reflexive and passive SE sentences. The more feature checking in real time processing, the longer it takes to process the structure. It is hard in practice, however, to separate representation from processing, (Jiang, 2007). In the end, representation; the mental grammar guides both, comprehension and production.

Research on real-time processing (Traxler, Pickering and McElree, 2002) suggests that there are interactions that take place in the sentence between the verb and subsequent elements while processing under real-time constraints. These connections force parsers to assign specific roles to the given parts of the sentence. For example, a certain type of verb would force a different interpretation on a noun phrase (NP). There are therefore, different processing times depending on the type of verbs a parser is presented in an online comprehension task.
This could explain why the intermediate group spent so much time on the SE region in the case of the non-agreeing reflexive structure. They were expecting the main verb of the sentence and not the particle SE, as in English there is a rigid Subject-Verb-Object word order. The same thing could have possibly slowed down the native participants, who also spent considerable time at the SE region in the case of reflexive structures. After the subject of the sentence, the parser usually expects the main verb, and not finding it may cause a processing difficulty when reading word by word.

Traxler, Pickering and McElree (2002) have also pointed various sources that could motivate an increase in processing cost in an online task. The first source is the detection of an anomalous relationship between the verb and its corresponding complement/s. In this experiment, this refers to the sentences in the non-agreeing condition which result not only ungrammatical but also incoherent in Spanish. These were the sentences that slowed down the intermediate group of participants, as this was the group that was more sensitive to the non-agreeing experimental constructions of the experiment.

The second source is connected with the time to shift the complement from one semantic type to another. In this experiment it relates to the presence of verb features that different SE constructions exhibit in Spanish, and which may cause different processing costs as they are not processed in the same manner. While reflexive sentences with SE carry person and number features, and have a pre-verbal subject, passive constructions exhibit a number feature and the verb agrees in number with the affected object. Last, impersonal sentences have no features at all, rendering the verb of the sentence defective, (Mendikoetxea, 2008). Thus, there are different semantic and syntactic complements in the three experimental structures of the project.

The third and more complex source for an increase in processing cost in an online task refers to the time required to anticipate the additional structure that is needed to check the verbal features. Looking for an element that allows feature checking to occur in a sentence may delay a parser in an online processing task. This is the real online processing, as more competent second language parsers may not simply be reading but anticipating what follows next to be able to parse correctly.

This last source for an increase in processing cost is associated with syntactic processing abilities in the L2 (Traxler, Pickering and McElree, 2002). As it is necessary to check person and number features
in SE structures; in particular with reflexives and passives which carry features in the syntax, the feature checking with those two structures translates into a higher processing cost when the sentences exhibit agreement in the verb. As SE is a difficult structure with various uses, and it forces different features on the verb, with increased syntactic abilities in the L2, parsers may take longer to process complex structures even if agreement conditions are met.

Drawing upon the processing literature, different mechanisms may be at play which make Spanish SE sentences distinct from sentences in which parsers rely on regular subject-verb agreement to check features. First of all, SE is part of the reflexive paradigm. In the case of reflexive SE constructions, the SE relates and acquires features from a definite antecedent (the subject of the sentence). Second of all, in all three SE constructions analyzed here, the particle mediates between a noun and a the main verb of the construction. This makes SE constructions different in their processing when compared to regular SV agreement sentences in which an extra particle does not mediate between subject and verb.

Pearlmutter, Garnsey and Bock (1999) offer a minimalist account of sentence processing, in which person/number features of the subject of reflexive constructions are already processed by the time the parser gets to the main verb of the construction. This is relevant to the English language, in which SE does not mediate between subject and verb. In Spanish, the particle SE intervenes as an extra element the parser needs to process. This could help explain longer reaction times observed by the part of the native speakers on reflexive constructions.

Another approach offered by Pearlmutter, Garnsey and Bock (1999) in word-by-word real time processing differs from minimalist accounts in the sense that a ‘backtracking’ mechanism may be applied to check features in the sentence. Number features, for example, may be checked after initial parsing and only when it is possible. It is in this sense that post-verbal regions may be critical to be able to understand how feature checking takes place in real time.

Pearlmutter, Garnsey and Bock (1999) found that relative clause processing was slower at the Verb +1 region with a plural attractor, but not before that region. I propose that SE structures may involve a combination of the two approaches described before. SE sentences are problematic constructions when processed in real time. The particle SE is an extra element that appears before the main verb of the
construction, and it needs to be processed before the verb when reading word by word. Features may be re-checked after an initial parsing is conducted, and not before. As reflexive sentences contain more features, and more needs to be checked, they take longer to process when compared to passives and impersonal SE sentences.

As the level of proficiency increases in L2 Spanish if agreement conditions are not satisfied, SE sentences are processed faster than when agreement conditions are met, as more advanced speakers of Spanish will automatically recognize ungrammatical SE sentences as anomalous. Quite contrary, when agreement conditions are met with SE structures, readers take longer to process, as they need to check different features with SE as they are encountered in the sentence, rather than only when an ungrammatical verb is present. It is possible that re-checking takes place with reflexive and passive sentences.

As native speakers have acquired these features in Spanish, they are faster when processing anomalous sentences. In this experiment, a syntactic processing ability with SE was related to an increase in processing time; overall, native speakers were slower processing reflexive constructions with agreement than any other structures.

This idea is supported by existing research on English reflexive sentences. Dillon et al (2013) conducted two eye-tracking experiments and proposed that reflexive structures were being processed differently, because the reflexive pronoun brings about an anaphor that connects to the subject of the sentence. It takes the parser much more time in the case of reflexive sentences to compute that the subject in question has the correct morphological features the main verb of the sentence exhibits.

Dillon et al (2013) reported in Experiment 1 that faster reading times were observed for ungrammatical subject-verb agreement dependencies when a distractor NP matched the features of the ungrammatical verb form. In this experiment, the reflexive pronoun and NP appeared after the main verb and not before. The native speakers of English did not stop to recheck features in the ungrammatical sentences.
An important finding in Experiment 2 was that plural reflexives exhibited more eye regressions than singular reflexives in the first noun in the second experiment, $p < .001$. This corroborates the fact that not all reflexive constructions are processed the same way, and that the subject of the sentence is an important cue for feature retrieval. To the terms of this dissertation, passive sentences are very similar to impersonal sentences, but they contain a number feature, and took longer to process than the defective impersonal structures. Again, this dissertation proposes that the longer the features of a structure, the longer the time spent on its processing.

There could be other factors at play when processing reflexives, like working memory. Dillon et al (2013) argue that morphological cue retrieval for feature checking in reflexives is different than from other dependencies. In line with this proposal, it seems that processing SE in Spanish brings about a different processing than other SV sentences, in which the SE particle does not intervene.

Word by word self-paced reading time takes to be considerably longer than reading time under less pressing conditions. Parsers may select a given interpretation of the sentence when reading is slowed. The advanced participants in this experiment were slowed by checking person and number features in the reflexive and passive SE constructions, and even more so when checking the number features of the passive SE sentences.

The least proficient participants, the intermediate participants, on the other hand, chose to spend more time on anomalous sentences, as their acquisition of the strong verbal features of the Spanish language is still incomplete. Sentences without verbal agreement represented a processing difficulty for the least proficient participants, possibly due to their lesser syntactic abilities in the L2.

Alternatively, it may seem that these intermediate participants may delay analysis in the case of anomalous sentences. The lack of verbal features may be the main source of their slow reading in the case of the non-agreeing reflexives at the SE, the Verb and, Verb +3 regions. As these learners acquisition of verbal features seem to be immature, they seem to be only sensitive to anomalies in the experimental sentences. They cannot process beyond the intermediate state of language proficiency.
The results support the syntax for the acquisition of verbal features in Spanish; namely, person and number features for reflexives and a number feature for passives. Structures without verbal features, such as impersonals with SE may be the most basic or simple structures to process, as none of the three participating groups were sensitive to impersonal structures in both conditions, the agreement and the non-agreement condition. Impersonal SE structures took less time to parse in Spanish in this self-paced reading task. Not all grammatical forms are processed in the same way when undertaking an online comprehension task, specially when they exhibit different verbal features.

Assuming that person as a feature is higher in the feature hierarchy than number (Carminati, 2005), it would take longer to process a reflexive construction in real time than it would to process a passive construction that only exhibits number feature. Reflexives would also take longer to process than impersonal SE constructions, because the latter have no features, and the verb is defective, devoid of features. Comparing between passives and impersonals, passives would take longer because they have a number feature, while impersonals do not.

Parsing is incremental, and learners read sentences word by word. By doing so, they attempt to create a mental representation of the sentence read. The more the verbal features to be processed, the more the mental effort on the part of the parser, and the cognitive load in processing. Consequently, there would be more time that will be spent on sentence analysis for feature-complex structures.

In terms of this study, the difficulty in processing is related to the number of features a Spanish structure has. As English and Spanish differ in the value of their verbal features, these results suggest that feature acquisition in Spanish when the learners share English as their L1 is lengthy. Learners have to proceed from a weak value in the English verbal morphology to a strong value in the Spanish verbal system in the case of reflexive structures, which were the most costly of the three structures under experimentation in terms of processing.

Without a doubt the three groups of participants processed very differently in this experiment, which indicates that they are at different stages in the language acquisition process. Verbal features need to be comprehended during online reading and that may force the parser to re-analyse the grammar in
sentences which exhibit features. The intermediate learners were not as sensitive to reflexives and passive SE constructions with features and in that order, as the native participants were.

They processed quite differently from the natives, who relied on verbal agreement to process the three different SE structures. As intermediate learners were not necessarily relying on verbal agreement cues, they may have resorted to other processing strategies, such as relying on lexical-semantic information to comprehend the three different structures of interest, (Clahsen and Felser, 2006). This could explain the longer reaction times of the intermediate participants in reflexive sentences without agreement.

The intermediate learners are different in their on-line processing. Just as proposed by Clahsen and Felser (2006) in *Shallow Structure Hypothesis*, these learners are different from native speakers in how they approach syntactic structures. While native speakers have spent more time on agreeing reflexives, intermediates have dwelled more on non-agreeing reflexives.

Knowing that reflexive structures contain number and person features, it can be argued that the intermediate learners are having trouble recognizing these features, as they spent more time on the processing of ungrammatical sentences. The opposite trend is observed in the advanced participants, who showed sensitivity to the number feature of the passive agreeing sentences.

In general, native speakers showed consistent sensitivity to reflexive and passive structures with agreement, in which they were slower reading when compared with the learners. This experiment supports the view that the more features that need to be checked during online processing, the more the effort required from the reader. This will translate into higher reaction times.

If a structure is devoid of verbal features, as it is the case of impersonal SE structures in Spanish, they will pose less processing difficulties particularly for a multi-functional structure like SE. The fact that the three proficiency groups of participants processed impersonal structures faster regardless of agreement in the sentence seems to support this claim.
The inability of the intermediate learners to process reflexive structures with agreement could be a representational problem. These learners’s system is not ready to process the person and number features of reflexive structures, though results seem to indicate that they are in the process of acquiring the number feature of the passive construction. They may be processing the reflexive structures for meaning, or simply relying on other strategies rather than syntactic knowledge. This translates into more processing time in reading reflexive constructions.

In short, the lower proficiency learners; in this case, the intermediate group, seemed to be lacking the necessary representational knowledge to process the verbal features of reflexive SE sentences. They are not in a position to comprehend and analyze a structure they have not yet acquired in the L2. This finding supports VanPatten, Keating and Leeser (2012) in the sense that verbal features are missing from the intermediate grammar.

Native speakers of Spanish seem to rely on agreement to process SE constructions, while the learners, specially the intermediate ones could have resorted to lexical strategies to process SE structures, as evidenced in their higher reaction times for the reflexives lacking agreement. This is particularly important given the fact that this was an on-line experiment. The participants read sentences word by word. Reading in real time means word by word access to syntactic information within the limits of human working memory, (Pickering, 1999). This access depends on the parser’s mental grammar.

Assuming that learner parsing in this experiment was automatic and not conscious. Assuming that learners were not relying on explicit knowledge, they must have only processed according to their current developmental stage in the L2. The intermediate learners showed a reduced sensitivity to syntactic information when compared to native parsing. The most interesting finding of the experiment may well be that more feature checking, translates into more processing time. Processing SE constructions differs from SV sentences. It also varies according to proficiency level.

Online tasks- self-paced reading included- point at very specific interpretations imposed by the verb and other elements related to it. There are additional computations that are required online that are not required while doing off-line grammatical judgments. This could explain similar results obtained across different proficiency groups in past grammatical tasks with Spanish SE.
5.3 Limitations

The participation of a group of near-native learners of Spanish could have provided more insight on online processing of verbal features at a near-native grammar. It could have further contributed to the debate between the two major competing generative theories; FFFH and FAFT. The issue of ultimate attainment in the L2 is of great importance to the generative grammar framework (Birdsong, 1999; Johnson and Newport, 1991; Valenzuela, 2007; White, 2003). Further comparing near-native and native processing of grammatical structures could expand the research on how a near-native grammar in the L2 does in fact resemble grammatical native processing in the second language.

This is particularly important in the case of online tasks in which participants are not relying on other sources of knowledge, and in which they are indeed parsing under real-time constraints. How much does a near-native processing resemble native processing in these three uses of SE? Researching this question would further contribute to the research on generative theory. This dissertation could not focus on the processing at a near-native stage due to the absence of a near-native group of participants in the study.

Although there was a small group of participants who scored at near-native levels in the placement measures, the sample was too small to be included in separate statistical analyses as a group. This group of participants was then aggregated into the advanced level. In the future, separate analyses for near-native participants could offer more insight into how their processing diverges from advanced and intermediate SE processing.

Given that research with Spanish SE clearly shows that learners of Spanish must reset a parameter by proceeding from a weak verbal morphology in the L1 to a strong verbal morphology in the L2 at least for reflexive structures, it is also interesting to see if at the near-native level of attainment of verbal morphology, near-native learners process in a similar fashion to a control group of native participants.

Many near-native speakers of Spanish may be at an end-state grammar acquisition, and their processing may be similar to native speakers of Spanish in checking verbal features while processing under real time constraints, or this may not necessarily be so. The importance of researching this group
of participants (Montrul and Slabakova, 2003) specially when they represent different linguistic backgrounds is important in future investigations if research on the issue of ultimate attainment in the L2 is to be expanded.

The second limitation of the study resides in the fact that this was solely an interpretation task, and did not involve any production on the part of the participants. VanPatten, Keating and Leeser (2012) support the view that non-native like performance of L2 learners with regards to morphological inflections may be connected to representational and not performance issues. This study has confirmed that native and non-native processing of Spanish SE verbal features differ due to a representational problem in the L2. However, the dissertation is limited to claims only within the area of L2 online comprehension and interpretation, and not production, as participants did not undertake any production measure.

It remains to be seen if intermediate and advanced learners behave similarly to the control group when undertaking a production task. Including a production measure in the future, as a sentence verification task, and using the same structure of interest could provide more definite results in terms of the knowledge in L2 Spanish of reflexive, passive and impersonal SE in real time.

A translation task as a verification measure in a future study would force participants to re-analyse the input presented in the self-paced reading. Re-analysis strategies would also expand present views on the processing of verbal features in Spanish at different proficiency levels. A translation verification task would also make possible to focus on the role of feedback while completing online tasks.

If participants are able to connect meaning and form in a verification task in which they themselves have to supply answers, they could inform us more about the process by means of which verbal features are checked in L2 Spanish. These processes may well vary according to learner implicit knowledge, and feedback studies can expand research on the nature of those differences. Sample size is seen as the third limitation of this study, as participant groups should be larger to be more representative of the population of L2 Spanish learners.
The final comment here is a positive one. This dissertation has tried to combine two frameworks of second language acquisition and I believe it has been successful in doing so. Different SLA frameworks may have different explanations as to how we acquire a second language, but they all agree in the fact that mastering a second language requires the synchronization of semantic, syntactic and pragmatic information.

This experiment supports generative theory in the sense that acquisition of verbal features in the L2 are possible, even if those features exhibit a different value in the L1, as seen in the reaction times of the advanced group. It is my wish that this investigation would motivate more SLA researchers and practitioners to widen our knowledge of Spanish SE.

5.4 Pedagogical Implications

I wish to turn now to the pedagogical implications that this project brings to the teaching of Spanish as a second language. The structure that resulted more problematic in terms of processing across the three groups of participants was reflexive SE, even though it was the easiest to comprehend. Comprehension and processing in this study did not go hand in hand.

Reflexive SE constructions carry person and number features in the syntax, and take time to analyze in an on-line measure. The structure that resulted less problematic in terms of processing was impersonal SE. This, in spite of the fact that it was the structure with the lowest comprehension rates with regards to passives and impersonals.

Impersonals are devoid of verbal features in Spanish, and they are the simplest of the three structures in terms of verbal features. In the Spanish classroom, however, reflexive SE constructions are always taught first; before passives and impersonals. We assume that reflexives may be easier to learn, and they are presented first in Spanish courses, as the comparison of SE input presentation of popular beginning Spanish textbooks shows in Table 5.1 next.

As the results of this dissertation show, out of the three structures under experimentation, reflexives are the ones exhibiting the most syntactic complexity. They are also the most abundant of the three in the Spanish language, and the easiest to comprehend. This does not mean that they are necessarily the
easiest structures to process, though they are expected to be, based on the order in which they are presented to students in the Spanish classroom.

Table 5.1
Presentation of Reflexives, Passives and Impersonals with SE in Spanish textbooks

<table>
<thead>
<tr>
<th>Textbook</th>
<th>Reflexives</th>
<th>Passives</th>
<th>Impersonals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dos Mundos</td>
<td>Chapter 4, 9, 14</td>
<td>Chapter 12</td>
<td>Chapter 8</td>
</tr>
<tr>
<td>Mosaicos</td>
<td>Lesson 4, 7, 13</td>
<td>Lesson 9, 15</td>
<td>Lesson 9</td>
</tr>
<tr>
<td>Puntos de Partida</td>
<td>Chapter 4,10</td>
<td>Chapter 11</td>
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</tr>
<tr>
<td>Knorre, Dorwick, Pérez-Gironés, Glass &amp; Villarreal, (2012)</td>
<td></td>
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<tr>
<td>Sabías qué..?</td>
<td>Lesson 5, 10, 13, 16</td>
<td>Lesson 8, 9, 13</td>
<td>Lesson 9, 13</td>
</tr>
<tr>
<td>VanPatten, Lee &amp; Ballman, (2009)</td>
<td></td>
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<tr>
<td>Sol y Viento</td>
<td>Lesson 4B, 7A, 7B</td>
<td>Lesson 9A</td>
<td>Lesson 9A</td>
</tr>
<tr>
<td>VanPatten, Leeser &amp; Keating, (2012)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

From Table 5.1 we can notice that instructional material pertaining to the use of reflexive SE appears at least twice and much earlier in relation to passive and impersonal SE. Reflexives and reciprocals with SE are expected to be understood and produced with more ease than passives and impersonals due to their frequent use in the Spanish language.

It is simply expected that students will learn reflexive SE faster than all of the other SE forms. After all, this is the most regular use of SE and the one that appears first in L1 Spanish. Native processing in this experiment has hinted that reflexives are by no means simple structures to process in real time, due to their syntactic complexity. Not because reflexives are the most frequent in Spanish and not because
they are introduced early on in classrooms, they will be the easiest of all SE structures to learn in L2 Spanish.

The order in which Spanish SE structures are introduced and taught in the Spanish classroom does not represent and neither matches processing in real time in terms of their syntactic features as to the results of this experiment. In the order of acquisition I propose here, impersonal SE constructions will be acquired first, because they are less complex in terms of verbal features. They will be followed by passive sentences, which only carry a number feature. I propose that reflexive SE sentences will be acquired at a later stage than impersonal and passives, not in terms of their comprehension, but in terms of the verbal features they contain, carrying a person and a number feature.

In terms of classroom instruction, students cannot be expected to produce reflexives with SE earlier than passives or impersonals, because reflexives are more complex and they contain a subject to which students have to relate the SE particle in person and number. In the case of passives, students cannot be expected to produce them earlier than impersonals, because passives contain a number feature that forces learners to think of the relation between the affected object (passive subject) and the verb. Impersonal constructions do not contain features, and may be the easiest of them to produce in class, even if they are to be introduced later in the course.

It is my hope that this dissertation will encourage others to pursue more on-line research with Spanish SE constructions. It is also my hope that the dissertation would have expanded the notion that not only are passives and impersonal structures different as to meaning, they are also different in terms of their syntactic nature in Spanish, and different in terms of their processing in real time.

Instructors need to be aware of the fact that the order in which a structure is presented in class does not necessarily equate with the order in which it is acquired in the L2. This is the case of reflexive SE structures, as the results of the project indicate. Sometimes, the order of presentation does not match either the ease with which the structure in question can be processed in the second language.
5.5 Conclusions

This dissertation investigated the processing of reflexive, passive and impersonal SE constructions in a self-paced reading task. Based on the results of this study, I can conclude that: (a) intermediate learners lack morpho-syntactic representations to process verbal features of reflexives and passives (b) advanced learners are sensitive to the number feature of passive constructions, (c) reflexives took the longest to process, as seen in the reaction times of the control group of native Spanish speakers.

The study supports FAFT theory, and suggest that feature resetting takes time in L2 Spanish, specially when feature values differ from the L1. The study has expanded present views on how we parse verbal information under real-time constraints, though further research is necessary to affirm that reflexives are in fact costly structures in terms of their processing due to verbal features.

The study also suggests that the order in which Spanish SE structures are introduced and taught in the Spanish classroom does not represent and neither matches their processing in real time in terms of syntactic features. Future studies will certainly contribute to expand the general knowledge that we hold of these complex and fascinating structures of Spanish.
APPENDIX A

EXPERIMENTAL SENTENCES

Experimental Sentences \ Reflexives and Reciprocals \ (with agreement)

Prepositional Phrase + Subject + SE+ verb + 5 regions (words)

Yes – 2,5,6,7  No- 1,3,4,8

1. *En la\semana\el\chico\se\levanta\temprano\de\lunes\a\viernes.**
   Is the following more or less what you just read?
   He gets up late on weekdays.  A. YES  B. NO

2. *En el\baño\la\niña\se\seca\las\manos\todas\las\mañanas.**
   Is the following more or less what you just read?
   The girl dries her hands in the morning. A. YES  B. NO

3. *En la\casa\el\niño\se\lava\los\dientes\con\mucha\calma.**
   Is the following more or less what you just read?
   He brushes his teeth at school.  A. YES  B. NO

4. *En el\verano\las\chicas\se\cortan\el\cabello\en\la\casa.**
   Is the following more or less what you just read?
   The girls cut their nails. A. YES  B. NO

5. *En la\noche\los\niños\se\pierden\en\el\parque\muy\oscuro.**
   Is the following more or less what you just read?
   The children get lost in the park.  A. YES  B. NO

6. *En el\parque\el\perro\se\moja\con\la\lluvia\del\invierno.**
   Is the following more or less what you just read?
   The dog gets wet in the rain.  A. YES  B. NO

7. *En la\noche\los\novios\se\escriben\unas\largas\cartas\de\amor.**
   Is the following more or less what you just read?
   They write each other letters at night. A. YES  B. NO

8. *En la\cafetería\los\amigos\se\ven\todos\los\fines\de\semana.**
   Is the following more or less what you just read?
   They meet in the movie theater.  A. YES  B. NO

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Experimental Sentences\ Reflexives and Reciprocals (without agreement)
Prepositional Phrase + Subject + SE+ verb + 5 regions (words)

Yes – 1,3,4,8
No – 2,5,6,7

1. *En la semana el chico se levanta temprano de lunes a viernes.*
Is the following more or less what you just read?
He gets up early on weekdays. A. YES B. NO

2. *En el baño la niña se secan las manos todas las mañanas.*
Is the following more or less what you just read?
The girl dries her hands at night. A. YES B. NO

3. *En la casa el niño se lavan los dientes con mucha calma.*
Is the following more or less what you just read?
He brushes his teeth at home. A. YES B. NO

4. *En el verano las chicas se cortan el cabello en la casa.*
Is the following more or less what you just read?
The girls cut their hair. A. YES B. NO

5. *En la noche los niños se pierden en el parque muy oscuro.*
Is the following more or less what you just read?
The children get lost in the mall. A. YES B. NO

6. *En el parque el perro se moja con la lluvia del invierno.*
Is the following more or less what you just read?
The cats get wet in the rain. A. YES B. NO

7. *En la noche los novios se escriben unas largas cartas de amor.*
Is the following more or less what you just read?
They write each other letters in the afternoon. A. YES B. NO

8. *En la cafetería los amigos se ven todos los fines de semana.*
Is the following more or less what you just read?
They meet in the coffee shop. A. YES B. NO
Experimental Sentences \ Passive Structures \ (with agreement)

Prepositional Phrase + SE + verb + 5 regions (words)

Yes- 1,3,4,8  No – 2,5,6,7

1. *En la mudanza se levantan los muebles con mucho ruido.**
   Is the following more or less what you just read?
   The furniture is moved with noise.  A. YES  B. NO

2. *En el garaje se secan los carros con mucho cuidado.**
   Is the following more or less what you just read?
   The dishes are dried in the garage.  A. YES  B. NO

3. *En la lavandería se lavan las medias con detergente bueno.**
   Is the following more or less what you just read?
   The socks are washed with detergent.  A. YES  B. NO

4. *En el restaurante se cortan las verduras para las ensaladas.**
   Is the following more or less what you just read?
   The vegetables are cut in the restaurant.  A. YES  B. NO

5. *En la oficina se pierden los papeles todo el tiempo.**
   Is the following more or less what you just read?
   The papers are misplaced in the zoo.  A. YES  B. NO

6. *En el jardín se mojan las plantas con mucha agua.**
   Is the following more or less what you just read?
   The students are sprayed in the garden.  A. YES  B. NO

7. *En la biblioteca se escriben las tareas para las clases.**
   Is the following less what you just read?
   The orders are written in the library.  A. YES  B. NO

8. *En la exposición se ven los cuadros bonitos de España.**
   Is the following more or less what you just read?
   The frames are seen at the exhibit.  A. YES  B. NO
Experimental Sentences \ Passive Structures \ (without agreement)
Prepositional Phrase + SE + verb + 5 regions (words)

Yes – 2,5,6,7
No- 1,3,4,8

1.*En la mudanza se levantan los muebles con mucho ruido.
Is the following more or less what you just read?
The furniture is moved quietly. A. YES   B. NO

2.*En el garaje se secan los carros con mucho cuidado.
Is the following more or less what you just read?
The cars are dried in the garage. A. YES   B. NO

3.*En la lavandería se lavamos las medias con detergente bueno.
Is the following more or less what you just read?
The floors are washed with detergent. A. YES   B. NO

4.*En el restaurante se cortan las verduras para las ensaladas.
Is the following more or less what you just read?
The decorations are cut in the restaurant. A. YES   B. NO

5.*En la oficina se pierden los papeles todo el tiempo.
Is the following more or less what you just read?
The papers are misplaced in the office. A. YES   B. NO

6.*En el jardín se mojan las plantas con mucha agua.
Is the following more or less what you just read?
The plants are sprayed in the garden. A. YES   B. NO

7.*En la biblioteca se escribimos las tareas para las clases.
Is the following more or less what you just read?
The assignments are written in the library. A. YES   B. NO

8.*En la exposición se ven los cuadros bonitos de España.
Is the following more or less what you just read?
The frames are seen at the hospital. A. YES   B. NO
Experimental Sentences \ Impersonal Structures\(\text{(with agreement and grammaticality)}\)

Prepositional Phrase + SE + verb + 5 regions (words)

Yes – 1,3,5,7  
No – 2,4,6,8

1.*\En\las\mudanzas\se\levanta\los\muebles\todo\el\tiempo.\**

Is the following more or less what you just read?
People lift things when moving out.  A. YES  B. NO

2.*\En\las\cocinas\se\seca\los\platos\después\de\lavarlos.\**

Is the following more or less what you just read?
People dry the windows in the kitchen. A. YES  B. NO

3.*\En\las\lavanderías\se\lava\las\camisas\sucias\para\limpiarlas.\**

Is the following more or less what you just read?
People wash shirts in laundromats. A. YES  B. NO

4.*\En\las\fábricas\se\corta\los\pedazos\de\tela\sintética.\**

Is the following more or less what you just read?
People cut vegetables in factories. A. YES  B. NO

5. *
\En\las\oficinas\se\pierde\los\documentos\todo\el\tiempo.\**

Is the following more or less what you just read?
People misplace documents in offices. A. YES  B. NO

6.*\En\los\garajes\se\moja\los\coches\para\dejar\los\limpios.\**

Is the following more or less what you just read?
People wash the windows in garages. A. YES  B. NO

7. *
\En\las\universidades\se\escribe\las\tareas\para\los\profesores.\**

Is the following more or less what you just read?
People write assignments for professors. A. YES  B. NO

8.*\En\las\tiendas\siempre\se\ven\los\artículos\para\la\casa.\**

Is the following more or less what you just read?
People find household items in clinics. A. YES  B. NO
Experimental Sentences \ Impersonal Structures \ (without agreement and ungrammatical)

Prepositional Phrase + SE + verb + 5 regions (words)

Yes -2,4,6,8  
No – 1,3,5,7

1. *En las mudanzas se levantan los muebles todo el tiempo.**
Is the following more or less what you just read?
People lift items when studying.  A. YES  B. NO

2. *En las cocinas se secan los platos después de lavarlos.**
Is the following more or less what you just read?
People dry the dishes in the kitchen. A. YES  B. NO

3. *En las lavanderías se lavan las camisas sucias para limpiarlas.**
Is the following more or less what you just read?
People wash their pets in laundromats. A. YES  B. NO

4. *En las fábricas se cortan los pedazos de tela sintética.**
Is the following more or less what you just read?
People cut synthetic fabric in factories. A. YES  B. NO

5. *En las oficinas se perdemos los documentos todo el tiempo.**
Is the following more or less what you just read?
People misplace documents in the classrooms. A. YES  B. NO

6. *En los garajes se mojan los coches para dejarlos limpios.**
Is the following more or less what you just read?
People wash the cars in garages. A. YES  B. NO

7. *En las universidades se escriben las tareas para los profesores.**
Is the following more or less what you just read?
People write assignments for classmates. A. YES  B. NO

8. *En las tiendas siempre se ven los artículos para la casa.**
Is the following more or less what you just read?
People find household items in stores. A. YES  B. NO
APPENDIX B

LANGUAGE HISTORY QUESTIONNAIRE

This questionnaire is designed to give us a better understanding of your experience with other languages. We ask that you be as accurate and thorough as possible when answering the following questions.

**General Background Questions:**

1. Gender
   - ☐ Female
   - ☐ Male

2. Age: ______ years

3. Do you have any known visual or hearing problems (corrected or uncorrected)?
   - ☐ No
   - ☐ Yes [Please explain] __________________________________________

4. Native Country
   - ☐ United States
   - ☐ Other ___________________
     If other, at what age did you come to the US? _______________

**Home Language:**

5. What is your native language?
   - ☐ English
   - ☐ Other: ___________________

6. Language spoken at home:
   - ☐ English
   - ☐ Spanish
   - ☐ Other __________

**Education:**

7. Please indicate where you have studied Spanish.
   Please check all that apply and indicate length of study.
☐ High School
☐ 1 year
☐ 2 years
☐ 3 years
☐ 4 years
☐ College
☐ Less than a one semester
☐ 1-2 semesters
☐ 3-4 semesters
☐ 5-6 semesters
☐ 7-8 semesters
☐ 8+ Semesters

Rate your Spanish Skills:

8. Please rate your Spanish reading proficiency. (1=not literate and 10 = very literate)

not literate  very literate
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

9. Please rate your Spanish writing proficiency. (1=not literate and 10=very literate)

not literate  very literate
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

10. Please rate your Spanish speaking ability. (1=not fluent and 10=very fluent)

not fluent  very fluent
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

11. Please rate your Spanish speech comprehension ability. (1=unable to understand conversation and 10=perfectly able to understand)

unable to understand  perfectly able to understand
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

12. Rate how comfortable you feel expressing yourself in Spanish:

Not comfortable at all  Very Comfortable
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

13. Is there anything else that we should know about your language abilities? Other languages you may speak, etc. Please explain:

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

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APPENDIX C

INFORMED CONSENT FORM

The study "Interpretation of Verbal-Object Agreement in Spanish" is part of research intended to provide information about the way people learn and process Spanish. If you agree to participate in this study, you will be asked to perform 3 different tasks in one session (approximately 60 minutes). The first task will be conducted on a computer. You will read a series of sentences in Spanish and answer questions about the sentences. The computer will record the data, and your confidentiality will be protected by entering a participant code instead of your name. Afterwards, you will complete portions of a Spanish test designed to measure your knowledge of vocabulary and grammar in this language. Finally, you will complete a questionnaire asking about your past experience learning Spanish. You may decline to answer specific questions.

Your participation is totally voluntary, and you may stop participation at anytime. There is no expected risk during the session. However, you have the right to terminate the session at any time without any penalty.

Your performance and any information obtained will remain confidential, to the extent allowed by law. Your name will be replaced with a number for the purpose of coding and analysis of data. Only the primary researcher will have access to the codes and the data, and all data will be stored electronically on a flash drive-password protected, which will be kept in a locked file drawer in Diffenbaugh 356 when not being analyzed. In accordance with standard procedure, all data will be destroyed by March, 2022.

You are encouraged to ask any questions that you might have about this study before, during and after your participation in it. However, answers that could influence the results of the experiment will be deferred to the end of the experiment. You will also receive a debriefing form upon completion of the study, fully explaining the goals of the research.

There are benefits for participating in the research project. First, you may increase your awareness of your knowledge of Spanish. Also, you will be providing second language acquisition researchers with valuable information about how native and non-native speakers understand Spanish. This knowledge will assist researchers to improve second language learning methods.

If you have any questions about this research or your rights as a participant in this study, or if you feel you have been placed at risk please contact Estrella Rodríguez, Florida State University, Dept. of Modern Languages and Linguistics. You may also contact her at _______ and her major professor, Dr. Michael Leeser at_________. You can also contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Vice President for the Office of Research at _______________________

I understand the above information and voluntarily consent to participate in this study of my own free will. I am 18 years of age or older and a student and/or employee at Florida State University.

I understand that I am free to discontinue participation at any time without explanation. I understand that this form will not be used in conjunction with the results of the study so that my identity will be protected to the extent allowed by the law. I understand that I will receive a signed copy of this consent form.

_____________________________________   ___________ _____________
Signature                                                             Date
The study "Interpretation of Verbal-Object Agreement in Spanish" is part of research intended to provide information about the way people learn and process Spanish. If you agree to participate in this study, you will be asked to perform 3 different tasks in one session (approximately 60 minutes). The first task will be conducted on a computer. You will read a series of sentences in Spanish and answer questions about the sentences. The computer will record the data, and your confidentiality will be protected by entering a participant code instead of your name. Afterwards, you will complete portions of a Spanish test designed to measure your knowledge of vocabulary and grammar in this language. Finally, you will complete a questionnaire asking about your past experience learning Spanish. You may decline to answer specific questions.

Your participation is totally voluntary, and you may stop participation at anytime. There is no expected risk during the session. However, you have the right to terminate the session at any time without any penalty.

Your performance and any information obtained will remain confidential, to the extent allowed by law. Your name will be replaced with a number for the purpose of coding and analysis of data. Only the primary researcher will have access to the codes and the data, and all data will be stored electronically on a flash drive-password protected, which will be kept in a locked file drawer in Diffenbaugh 356 when not being analyzed. In accordance with standard procedure, all data will be destroyed by **March, 2022**.

You are encouraged to ask any questions that you might have about this study before, during and after your participation in it. However, answers that could influence the results of the experiment will be deferred to the end of the experiment. You will also receive a debriefing form upon completion of the study, fully explaining the goals of the research.

There are benefits for participating in the research project. First, you may increase your awareness of your knowledge of Spanish. Also, you will be providing second language acquisition researchers with valuable information about how native and non-native speakers understand Spanish. This knowledge will assist researchers to improve second language learning methods.

If you have any questions about this research or your rights as a participant in this study, or if you feel you have been placed at risk please contact Estrella Rodriguez, Florida State University, Dept. of Modern Languages and Linguistics. You may also contact her at _______ and her major professor, Dr. Michael Leeser at___________.

You can also contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Vice President for the Office of Research at ___________

I understand the above information and voluntarily consent to participate in this study of my own free will. I am 18 years of age or older and a student and/or employee at Florida State University.

I understand that I am free to discontinue participation at any time without explanation. I understand that this form will not be used in conjunction with the results of the study so that my identity will be protected to the extent allowed by the law. I understand that I will receive a signed copy of this consent form.

____________________________________  ___________ _____________
Signature                                                      Date
Please, take a few minutes to read the following words which appear in the experiment you are about to complete.

Abrazando (vb) = as if hugging someone
Los artículos (N) = the items
El bosque (N) = the forest
El cabello (N) = the hair
Con calma (adv) = very calmly
El jardín (N) = the garden
Las lavanderías (N) = laundromats
Las medias (N) = the socks
La mudanza (N) = moving day
Los muebles (N) = the furniture
Oscuro (adj) = dark
Los pedazos (N) = pieces
Con ruido (adv) = noisily
Saliendo (vb) = going out
Sollozando (vb) = sobbing
Tela sintética (N) = a synthetic fabric
Tremblando (vb) = shaking, trembling
Temprano (adv) = early
Traicionó (vb) = betrayed
Las verduras (N) = vegetables
APPENDIX E

GRAMMAR AND VOCABULARY PROFICIENCY TEST

Your score in this exam will only be used for the purposes of this experiment.
Your grade will not be reported to your instructor.
Your name will not be associated with your score.

Due to copyright restrictions, this exam cannot be included in the final version of the dissertation.
APPENDIX F
NON-EXPERIMENTAL SENTENCES

SUBJECT VERB AGREEMENT SENTENCES

Verbal Inflection Sentences (non-experimental)

1. *Ahora* Pedro *toma* el refresco *en* el salón.
Is the following true based on what you just read?
Pedro drinks inside. A. TRUE  B. FALSE

2. *Ahora* Pedro *tomo* el refresco *en* el salón.
Is the following true based on what you just read?
Pedro drinks inside. A. TRUE  B. FALSE

3. *Ahora* yo *tomo* el refresco *en* el salón.
Is the following true based on what you just read?
I drink inside. A. TRUE  B. FALSE

4. *Ahora* yo *toma* el refresco *en* el salón.
Is the following true based on what you just read?
I drink inside. A. TRUE  B. FALSE

5. *Ahora* Alejandro *saca* el libro *de* la mesa.
Is the following true based on what you just read?
Alejandro takes the pencil. A. TRUE  B. FALSE

6. *Ahora* Alejandro *saco* el libro *de* la mesa.
Is the following true based on what you just read?
Alejandro takes the pencil. A. TRUE  B. FALSE

7. *Ahora* yo *saco* el libro *de* la mesa.
Is the following true based on what you just read?
I take the pencil. A. TRUE  B. FALSE

8. *Ahora* yo *saca* el libro *de* la mesa.
Is the following true based on what you just read?
I take the pencil. A. TRUE  B. FALSE
9. "Ahora Isabel mira el programa con varios amigos."
Is the following true based on what you just read?
Isabel is with friends.  A. TRUE   B. FALSE

10. "Ahora Isabel miro el programa con varios amigos."
Is the following true based on what you just read?
Isabel is with friends.  A. TRUE   B. FALSE

11. "Ahora yo miro el programa con varios amigos."
Is the following true based on what you just read?
I am with friends.  A. TRUE   B. FALSE

12. "Ahora yo miro el programa con varios amigos."
Is the following true based on what you just read?
I am with friends.  A. TRUE   B. FALSE

13. "Ahora Sancho busca el lápiz en el otro escritorio."
Is the following true based on what you just read?
Sancho looks for the book.  A. TRUE   B. FALSE

14. "Ahora Sancho busco el lápiz en el otro escritorio."
Is the following true based on what you just read?
Sancho looks for the book.  A. TRUE   B. FALSE

15. "Ahora yo busco el lápiz en el otro escritorio."
Is the following true based on what you just read?
I look for the book.  A. TRUE   B. FALSE

16. "Ahora yo busca el lápiz en el otro escritorio."
Is the following true based on what you just read?
I look for the book.  A. TRUE   B. FALSE
17. *En este momento tú pagas el alquiler de este mes.*
Is the following true based on what you just read?
You pay the rent.  A. TRUE       B. FALSE

18. *En este momento tú pagan el alquiler de este mes.*
Is the following true based on what you just read?
You pay the rent.  A. TRUE       B. FALSE

19. *En este momento ellos pagan el alquiler de este mes.*
Is the following true based on what you just read?
They pay the rent.  A. TRUE       B. FALSE

20. *En este momento ellos pagan el alquiler de este mes.*
Is the following true based on what you just read?
They pay the rent.  A. TRUE       B. FALSE

21. *En este momento tú lavas el auto con los hermanos.*
Is the following true based on what you just read?
You wash the cat.  A. TRUE       B. FALSE

22. *En este momento tú lavan el auto con los hermanos.*
Is the following true based on what you just read?
You wash the cat.  A. TRUE       B. FALSE

23. *En este momento ellos lavan el auto con los hermanos.*
Is the following true based on what you just read?
They wash the cat.  A. TRUE       B. FALSE

24. *En este momento ellos lavas el auto con los hermanos.*
Is the following true based on what you just read?
They wash the cat.  A. TRUE       B. FALSE
25. *En este momento tú tocas el piano para muchas personas.*
Is the following true based on what you just read?
You play a musical instrument.  A. TRUE       B. FALSE
26. *En este momento tú tocan el piano para muchas personas.*
Is the following true based on what you just read?
You play a musical instrument.  A. TRUE       B. FALSE
27. *En este momento ellos tocan el piano para muchas personas.*
Is the following true based on what you just read?
They play a musical instrument.  A. TRUE       B. FALSE
28. *En este momento tú pasas el fútbol con los pies.*
Is the following true based on what you just read?
You play tennis.  A. TRUE       B. FALSE
29. *En este momento tú pasan el fútbol con los pies.*
Is the following true based on what you just read?
You play tennis.  A. TRUE       B. FALSE
30. *En este momento ellos pasan el fútbol con los pies.*
Is the following true based on what you just read?
They play tennis.  A. TRUE       B. FALSE
31. *En este momento ellos pasan el fútbol con los pies.*
Is the following true based on what you just read?
They play tennis.  A. TRUE       B. FALSE
33. *Ahora Adriana enseña el cálculo en otro edificio.

Is the following true based on what you just read?
Adriana teaches math.   A. TRUE   B. FALSE

34. *Ahora Adriana enseñó el cálculo en otro edificio.

Is the following true based on what you just read?
Adriana teaches math.   A. TRUE   B. FALSE

35. *Ahora yo enseño el cálculo en otro edificio.

Is the following true based on what you just read?
I teach math.   A. TRUE   B. FALSE

36. *Ahora yo enseñé el cálculo en otro edificio.

Is the following true based on what you just read?
I teach math.   A. TRUE   B. FALSE

37. *Ahora Víctor escucha el ritmo de mucha música.

Is the following true based on what you just read?
Víctor doesn’t like music.   A. TRUE   B. FALSE

38. *Ahora Víctor escuchó el ritmo de mucha música.

Is the following true based on what you just read?
Víctor doesn’t like music.   A. TRUE   B. FALSE

39. *Ahora yo escucho el ritmo de mucha música.

Is the following true based on what you just read?
I don’t like music.   A. TRUE   B. FALSE

40. *Ahora yo escuché el ritmo de mucha música.

Is the following true based on what you just read?
I don’t like music.   A. TRUE   B. FALSE
41. \*Ahora\* Diego comienza el trabajo en la oficina.\*

Is the following true based on what you just read?
Diego works indoors.  A. TRUE   B. FALSE

42. \*Ahora\* Diego comienzo el trabajo en la oficina.\*

Is the following true based on what you just read?
Diego works indoors.  A. TRUE   B. FALSE

43. \*Ahora\* yo comienzo el trabajo en la oficina.\*

Is the following true based on what you just read?
I work indoors.  A. TRUE   B. FALSE

44. \*Ahora\* yo comienza el trabajo en la oficina.\*

Is the following true based on what you just read?
I work indoors.  A. TRUE   B. FALSE

45. \*Ahora\* Verónica revisa el examen con el profesor.\*

Is the following true based on what you just read?
Verónica revises the composition.  A. TRUE   B. FALSE

46. \*Ahora\* Verónica reviso el examen con el profesor.\*

Is the following true based on what you just read?
Verónica revises the composition.  A. TRUE   B. FALSE

47. \*Ahora\* yo reviso el examen con el profesor.\*

Is the following true based on what you just read?
I revise the composition.  A. TRUE   B. FALSE

48. \*Ahora\* yo revisit el examen con el profesor.\*

Is the following true based on what you just read?
I revise the composition.  A. TRUE   B. FALSE
49. *En este momento tú recuerdas el momento sin mucha dificultad.*

Is the following true based on what you just read?
You remember the moment.   A. TRUE          B. FALSE

50. *En este momento tú recuerdan el momento sin mucha dificultad.*

Is the following true based on what you just read?
You remember the moment.   A. TRUE          B. FALSE

51. *En este momento ellos recuerdan el momento sin mucha dificultad.*

Is the following true based on what you just read?
They remember the moment.   A. TRUE          B. FALSE

52. *En este momento ellos recuerdas el momento sin mucha dificultad.*

Is the following true based on what you just read?
They remember the moment.   A. TRUE          B. FALSE

53. *En este momento tú acabas el libro en el parque central.*

Is the following true based on what you just read?
You are in the bookstore.   A. TRUE       B. FALSE

54. *En este momento tú acaban el libro en el parque central.*

Is the following true based on what you just read?
You are in the bookstore.   A. TRUE       B. FALSE

55. *En este momento ellos acaban el libro en el parque central.*

Is the following true based on what you just read?
They are in the bookstore.   A. TRUE       B. FALSE

56. *En este momento ellos acabas el libro en el parque central.*

Is the following true based on what you just read?
They are in the bookstore.   A. TRUE       B. FALSE
57. *En este momento tú encuentras el lugar en varios mapas.*
    Is the following true based on what you just read?
    You use maps.  A. TRUE    B. FALSE
58. *En este momento tú encuentran el lugar en varios mapas.*
    Is the following true based on what you just read?
    You use maps.  A. TRUE    B. FALSE
59. *En este momento ellos encuentran el lugar en varios mapas.*
    Is the following true based on what you just read?
    They use maps.  A. TRUE    B. FALSE
60. *En este momento ellos encuentras el lugar en varios mapas.*
    Is the following true based on what you just read?
    They use maps.  A. TRUE    B. FALSE
61. *En este momento tú criticas el plan de muchos políticos.*
    Is the following true based on what you just read?
    You criticize the professors.  A. TRUE    B. FALSE
62. *En este momento tú crítican el plan de muchos políticos.*
    Is the following true based on what you just read?
    You criticize the professors.  A. TRUE    B. FALSE
63. *En este momento ellos crítican el plan de muchos políticos.*
    Is the following true based on what you just read?
    They criticize the professors.  A. TRUE    B. FALSE
64. *En este momento ellos críticas el plan de muchos políticos.*
    Is the following true based on what you just read?
    They criticize the professors.  A. TRUE    B. FALSE
Non Experimental Sentences

CONTEXT EFFECT SENTENCES

1. *Marcos está hospitalizado porque lo atacó María en su casa.*
   Is the following more or less what you just read?
   Marcos is in the hospital because Maria attacked him.

2. *Jaime está irritado porque lo criticó Ana en público.*
   Is the following more or less what you read?
   Jaime is irritated because Ana ignored him.

3. *Antonio está mejor porque lo calmó Gloria en la clínica.*
   Is the following more or less what you read?
   Antonio is feeling better because Gloria insulted him.

4. *Fernando está tranquilo porque lo consoló Alicia en el funeral.*
   Is the following more or less what you read?
   Fernando is calm because Alicia criticized him.

5. *Roberto está triste porque lo rechazó Silvia en la fiesta.*
   Is the following more or less what you read?
   Roberto is sad because Silvia rejected him.

   Is the following more or less what you read?
   Ramón is nervous because Raquel followed him.

7. *Enrique está enojado porque lo ofendió Teresa en la reunión.*
   Is the following more or less what you read?
   Enrique is angry because Teresa offended him.

8. *Juan está pálido porque lo asustó Yolanda en el pasillo.*
   Is the following more or less what you read?
   Juan is pale because Yolanda consoled him.
9. *María está orgullosa porque la ascendió Carlos en el trabajo.*
    Is the following more or less what you read?
    María is proud because Carlos gave her a promotion.

10. *Isabel está perpleja porque la confundió Juan en la clase.*
    Is the following more or less what you read?
    Isabel is perplexed because Juan scared her.

11. *Carolina está furiosa porque la insultó Felipe en el jardín.*
    Is the following more or less what you read?
    Carolina is furious because Felipe insulted her.

12. *Luisa está deprimida porque la ignoró Alberto en la cena.*
    Is the following more or less what you read?
    Luisa is depressed because Alberto confused her.

13. *Marcos me dice que lo atacó María en su casa.*
    Is the following more or less what you read?
    Marcos tells me that María rejected him.

14. *Jaime me dice que lo criticó Ana en público.*
    Is the following more or less what you read?
    Jaime tells me that Ana criticized him.

15. *Antonio me dice que lo calmó Gloria en la clínica.*
    Is the following more or less what you read?
    Antonio tells me that Gloria calmed him down.

16. *Fernando me dice que lo consoló Alicia en el funeral.*
    Is the following more or less what you read?
    Fernando tells me that Alicia consoled him.
17. *Roberto me dice que lo rechazó Silvia en la fiesta.*

Is the following more or less what you read?
Roberto tells me that Silvia followed him.

18. *Ramón me dice que lo siguió Raquel en la calle.*

Is the following more or less what you read?
Ramón tells me that Raquel attacked him.

19. *Enrique me dice que lo ofendió Teresa en la reunión.*

Is the following more or less what you read?
Enrique tells me that Teresa promoted him.

20. *Juan me dice que lo asustó Yolanda en el pasillo.*

Is the following more or less what you read?
Juan tells me that Yolanda scared him.

21. *María me dice que la ascendió Carlos en el trabajo.*

Is the following more or less what you read?
María tells me that Carlos offended her.

22. *Isabel me dice que la confundió Juan en la clase.*

Is the following more or less what you read?
Isabel tells me that Juan confused her.

23. *Carolina me dice que la insultó Felipe en la fiesta.*

Is the following more or less what you read?
Carolina tells me that Felipe consoled her.

24. *Luisa me dice que la ignoró Alberto en la cena.*

Is the following more or less what you read?
Luisa tells me that Alberto ignored her.
25. *Marcos está furioso porque lo criticó Yolanda en la calle.*

Is the following more or less what you read?
Marcos is furious because Yolanda scared him.

26. *Teresa está triste porque la ofendió Juan en su casa.*

Is the following more or less what you read?
Teresa is sad because Juan offended her.

27. *Juan está mejor porque lo consoló Alicia en la clínica.*

Is the following more or less what you read?
Juan is better because Alicia criticized him.

28. *María está tranquila porque la calmó Carlos en el funeral.*

Is the following more or less what you read?
María is peaceful because Carlos calmed her down.

29. *Carolina está hospitalizada porque la atacó Alberto en la fiesta.*

Is the following more or less what you read?
Carolina is in the hospital because Alberto consoled her.

30. *María está irritada porque la asustó Ramón en público.*

Is the following more or less what you read?
María is angry because Ramón insulted her.

31. *Luisa está nerviosa porque la siguió Felipe en el pasillo.*

Is the following more or less what you read?
Luisa is nervous because Felipe promoted her.

32. *Ana está enojada porque la rechazó Antonio en la clase.*

Is the following more or less what you read?
Ana is angry because Antonio rejected her.
33. *Fernando está perplejo porque lo ignoró Gloria en la cena.*
   Is the following more or less what you read?
   Felipe is perplexed because Gloria confused him.

34. *Silvia está pálida porque la criticó Enrique en el jardín.*
   Is the following more or less what you read?
   Silvia is pale because Enrique attacked her.

35. *Ricardo está deprimido porque lo confundió Raquel en el trabajo.*
   Is the following more or less what you read?
   Ricardo is depressed because Raquel ignored him.

36. *Isabel está orgullosa porque la ascendió Jaime en la reunión.*
   Is the following more or less what you read?
   Isabel is proud because Jaime promoted her.

37. *Marcos me dice que lo criticó Yolanda en la calle.*
   Is the following more or less what you read?
   Marcos tells me that Yolanda criticized him.

38. *Teresa me dice que la ofendió Juan en su casa.*
   Is the following more or less what you read?
   Teresa tells me that Juan followed her.

39. *Juan me dice que lo consoló Alicia en la clínica.*
   Is the following more or less what you read?
   Juan tells me that Alicia consoled him.

40. *María me dice que la calmó Carlos en el funeral.*
   Is the following more or less what you read?
   María tells me that Carlos attacked her.
41. *Carolina me dice que la atacó Alberto en la fiesta.*
   Is the following more or less what you read?
   Carolina tells me that Alberto attacked her.
42. *María me dice que la asustó Ramón en público.*
   Is the following more or less what you read?
   María tells me that Ramón confused her.
43. *Luisa me dice que la siguió Felipe en el pasillo.*
   Is the following more or less what you read?
   Luisa tells me that Felipe followed her.
44. *Ana me dice que la rechazó Antonio en la clase.*
   Is the following more or less what you read?
   Ana tells me that Antonio promoted her.
45. *Fernando me dice que lo ignoró Gloria en la cena.*
   Is the following more or less what you read?
   Fernando tells me that Gloria ignored him.
46. *Silvia me dice que la caló Enrique en el jardín.*
   Is the following more or less what you read?
   Silvia tells me that Enrique calmed her down.
47. *Ricardo me dice que lo confundió Raquel en el trabajo.*
   Is the following more or less what you read?
   Ricardo tells me that Raquel confused him.
48. *Isabel me dice que la ascendió Jaime en la reunión.*
   Is the following more or less what you read?
   Isabel tells me that Jaime offended her.
Thank you for participating in the project “The Interpretation of Verbal-Object Agreement in Spanish”. This project aims at gaining more understanding of how native and non-native speakers understand Spanish. In particular, the project examines the processing of the particle SE in Spanish in reflexive, passive and impersonal sentences. This information will assist researchers to improve second language learning methods.

Our study today contrasted the use of the reflexive particle SE in reflexive, passive and impersonal sentences. Some of the sentences you read contained verbal agreement and other sentences had no verbal agreement. Present research shows that reflexive constructions with SE represent the primary use of the particle in the Spanish language. The verb form of reflexive sentences exhibits number and person features that should facilitate the processing of reflexive constructions with SE.

On the other hand, passive and impersonal sentences containing the particle SE lack a person feature and are more difficult to process. This is more so in the case of impersonal sentences in which the verb is always in the third person singular. All the information we collected in today’s study will be confidential, and there will be no way of identifying your responses in the data archive. We are not interested in any one individual’s responses. We want to look at the general patterns that emerge according to the three kinds of sentence types and the proficiency level of the participants.

Your participation today is greatly appreciated and it will assist researchers to improve second language teaching methods when presenting the particle SE in Spanish. We ask you that you do not discuss the nature of the study with others who may later participate in it, as this could affect the validity of our research conclusions. If you have any questions, please contact Estrella Rodríguez ______ Florida State University, Dept of Modern Languages and Linguistics. You may also contact her at _____, or her major professor, Dr. Michael Leeser at ____________.

If you have any questions about your rights as a participant in this study, you may contact the FSU Institutional Review Board (IRB) at ______, or at _________. If your participation in this study has caused you concerns, anxiety, or otherwise distressed you, you may contact the FSU Counseling Center at ____. If you would like to learn more about this research topic, we suggest the following reference:


THANK YOU AGAIN FOR YOUR PARTICIPATION
Gracias por participar en el proyecto “Interpretación de la Concordancia Verbo-Objeto en Español”. Este proyecto tiene el objetivo de investigar cómo los hablantes nativos y no nativos del español procesan esta lengua. En particular, el proyecto examina el procesamiento de la partícula SE en español en oraciones reflexivas, pasivas e impersonales. Esta información ayudará a los investigadores a mejorar los métodos de aprendizaje de las segundas lenguas.

El estudio de hoy contrastó el uso de la partícula reflexiva SE en oraciones reflexivas, pasivas e impersonales. Algunas de las oraciones que usted leyó tenían concordancia verbal, mientras que otras no la tenían. Las investigaciones actuales indican que las construcciones reflexivas con SE representan el uso principal de esta partícula en la lengua española. El verbo de una construcción reflexiva exhibe rasgos de número y persona que deben facilitar el procesamiento de las reflexivas con SE.

Por el contrario, las oraciones pasivas e impersonales con la partícula SE no exhiben rasgos de persona y son más difíciles de procesar. Esto es más notable en el caso de las oraciones impersonales, en las que el verbo siempre aparece en la tercera persona del singular. Toda la información recogida en este proyecto es confidencial. No habrá manera de identificar sus respuestas en el archivo de datos. No estamos interesados en las respuestas individuales de cada participante. Queremos investigar los patrones generales que resultan cuando se analizan los tres tipos de estructuras ya mencionadas y el nivel de competencia de los participantes.

Le agradecemos mucho su participación en el día de hoy, la que ayudará a los investigadores a mejorar los métodos de aprendizaje de las segundas lenguas al presentar la partícula SE en español. Le pedimos que no comente la naturaleza del estudio con otros posibles participantes. Esto podría afectar la validez de nuestras conclusiones.

Si usted tiene alguna pregunta, póngase en contacto con Estrella Rodríguez ____________, Florida State University, Dept of Modern Languages and Linguistics. También puede contactar con ella en el teléfono ____________, o con el supervisor del proyecto, el Dr. Michael Leeser en el teléfono ____________.

Si usted tuviese preguntas acerca de sus derechos como participante en este estudio, se puede poner en contacto con el Institutional Review Board (IRB) de la FSU en el teléfono ____________, o por correo en el ____________. Si su participación en este estudio le ha causado preocupación, ansiedad o le ha alterado, se puede poner en contacto con el Counseling Center de la FSU en el ____________. Si desea más información sobre el tópico de investigación, puede consultar la siguiente referencia; Mendikoetxea, A. (2008). Clitic impersonal constructions in Romance: Syntactic features and semantic interpretation. Transactions of the Philological Society, 106, 290-336.

¡MUCHAS GRACIAS POR SU PARTICIPACION!
APPENDIX H

HUMAN SUBJECTS COMMITTEE APPROVAL LETTERS

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742

APPROVAL MEMORANDUM
Date: 3/21/2011
To: Estrella Rodriguez
Address: MC 1540 Department of Modern Languages and Linguistics
Dept.: MODERN LANGUAGES AND LINGUISTICS

From: Thomas L. Jacobson, Chair
Re: Use of Human Subjects in Research
"The Interpretation of Verbal Agreement in Spanish by English Native Speakers"

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process. The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 3/19/2012 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446. Cc: Michael Leeser, Advisor HSC No. 2011.5984

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RE-APPROVAL MEMORANDUM
Date: 1/30/2012

To: Estrella Rodriguez
Address: MC 1540 Department of Modern Languages and Linguistics
Dept.: MODERN LANGUAGES AND LINGUISTICS

From: Thomas L. Jacobson, Chair
Re: Re-approval of Use of Human subjects in Research
"The Interpretation of Verbal Agreement in Spanish by English Native Speakers"

Your request to continue the research project listed above involving human subjects has been approved by the Human Subjects Committee. If your project has not been completed by 1/25/2013, you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the committee.

If you submitted a proposed consent form with your renewal request, the approved stamped consent form is attached to this re-approval notice. Only the stamped version of the consent form may be used in recruiting of research subjects. You are reminded that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report in writing, any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor are reminded of their responsibility for being informed concerning research projects involving human subjects in their department. They are advised to review the protocols as often as necessary to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

Cc: Michael Leeser, Advisor
HSC No. 2012.7643
REFERENCES


BIOGRAPHICAL SKETCH

Estrella Rodríguez is a native of Havana, Cuba. She completed a BA degree in English Language and Literature, majoring in Translation and Interpretation at the University of Havana. She then attended McGill University in Montreal, Canada where she received her MEd in Teaching English as a Second Language (TESL). She will receive her PhD in Spanish Applied Linguistics from the Florida State University in the Summer Semester of 2013. Her research areas include second language sentence processing and the acquisition of Spanish syntax by speakers of other languages.