

PhD Thesis

The distribution of subjects in L2 Spanish and L2 Greek

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Declaration

I hereby declare that this PhD thesis entitled *The distribution of subjects in L2 Spanish and L2 Greek* was written by me in my own words in partial fulfilment of the requirements for the degree of Doctor of Philosophy under the supervision of Dr. Anna Gavarró Alguero. I also certify that the material contained in this thesis is based on my own research and on my understanding of the original references.

Panagiota Margaza

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Abbreviations

acc.	accusative case
AR	Anaphora Resolution
bar.	bare noun
cl.	clitic
cont.	continuous
DOM	Differential Object Marking
e	empty
fin.	finite
Foc, FocP	focus, Focus Phrase
fut.	future
gen.	genitive
ger.	gerund
IH(s), IH-1, IH-2	Interface Hypothesis(es), Interface Hypothesis-1, Interface Hypothesis-2
inf.	infinitive
LF	Logical Form
nom.	nominative case
O	object
OP	overt pronoun
PF	Phonological Form
pl.	plural
prf.	perfect
pro	empty pronominal element
prs.	present tense
pst.	past tense
refl.	reflexive
RT	reading times
S	subject
sg.	singular
subj.part.	subjunctive particle
Top, TopP	topic, Topic Phrase

Abstract

The aim of this thesis is to study the distribution of subjects in L2 Spanish and L2 Greek, given the fact that Greek and Spanish share the property of being null subject languages. For this reason, they represent an interesting context for comparison with respect to the Interface Hypothesis, one of the most influential hypotheses on second language acquisition. In particular, I test the validity of two versions of this hypothesis, the IH-1, which locates the complexity of acquisition at the interface levels (Sorace and Filiaci, 2006), and the IH-2, which postulates an easier acquisition of the internal interfaces as compared to the external interfaces (Tsimpili and Sorace, 2006). To this end, I designed a total of eight experiments, including acceptability judgment tasks, word order selection tasks and multiple choice tasks. The empirical domains tested were the production of null and overt subjects, and the distribution of subjects with different verbs classes (unergative, unaccusative, transitive) and different discourse contexts (broad focus, narrow focus, reference maintenance, reference shift, (non)-contrastive, adverbial). They were administered to L2 intermediate and advanced learners and native speakers of Spanish and Greek. The results obtained indicate that the L2 learners were able to produce the felicitous type of subjects in the appropriate contexts, but they did not always avoid infelicitous structures, such as the unergative/unaccusative distinction in informational contexts in L2 Spanish, and the position of the subjects of unaccusatives in L2 Greek. Competence level seemed to play a role in some pragmatic contexts, but not always; the type of task also had an impact on the results. More critically, the analysis of the results indicated that the performance of the L2 learners did not fulfil the IH-1 and the IH-2, as they did not always show difficulties with the acquisition of the syntactic-pragmatic properties of subjects, and at the same time they did not distinguish the syntactic-semantic properties of all verb classes. Thus, the results confirmed that not all internal or external interface properties were equally easy or difficult to acquire in L2, as found by Montrul (2011) and White (2011) for other language combinations. Against Rothman (2009), it was also found that neither version of the IH accounted for the performance of the less advanced learners. Overall, the involvement of pragmatics was not decisive for the acquisition of a second language, at least for the combination Greek-Spanish.

Resumen

El objetivo de esta tesis es estudiar la distribución de los sujetos en español y en griego como L2, dado que ambas lenguas comparten la propiedad del sujeto nulo. Por eso, representan un término de comparación relevante con respecto a la Hipótesis de la Interfaz, muy influyente en la adquisición de segundas lenguas. En particular, examino la validez de dos versiones de esta hipótesis, la IH-1 que establece complejidad de la adquisición en los niveles de interfaz (Sorace and Filiaci, 2006) y la IH-2, que establece que es más fácil la adquisición de las interfaces internas en comparación con las interfaces externas (Tsimpili and Sorace, 2006). He diseñado un total de ocho experimentos, que incluyen tareas de juicios de aceptabilidad, tareas de selección del orden y tareas de selección múltiple. Los dominios empíricos examinados son la producción de los sujetos nulos y explícitos, y la distribución de los sujetos con diferentes clases verbales (inergativos, inacusativos y transitivos) y diferentes contextos discursivos (foco amplio, foco estrecho, mantenimiento y cambio de referencia, contextos (no)-contrastivos y adverbiales). Las tareas se administraron a estudiantes intermedios y avanzados y hablantes nativos de español y griego. Los resultados obtenidos indican que los estudiantes eran capaces de producir la forma acertada de los sujetos en los contextos apropiados, pero no eludieron estructuras erróneas, por ejemplo en la distinción de verbos inergativos e inacusativos en contextos informativos en español L2 y en la posición de los sujetos inacusativos en griego L2. El nivel de competencia parece ejercer un papel en contextos pragmáticos, pero no en todos los casos; el tipo de tarea también tuvo un efecto en los resultados. Más crucial para mis objetivos, el análisis de los resultados indicó que el comportamiento de los estudiantes no cumplió las IH-1 e IH-2 porque no mostró dificultades con la adquisición de las propiedades sintácticas-pragmáticas de los sujetos en todos los casos, y tampoco distinguieron las propiedades sintácticas-semánticas de todas las clases verbales. Por lo tanto, los resultados demuestran que no todas las propiedades de las interfaces internas o externas son igualmente fáciles o difíciles de adquirir en L2 (véase Montrul, 2011; White 2011, para otras combinaciones de lenguas). En contra de Rothman (2009), el comportamiento de los estudiantes menos avanzados no responde a las predicciones de ninguna de las dos versiones de la IH. En general, la implicación de la pragmática no es un buen

predictor de la adquisición de una lengua segunda, al menos para la combinación de griego-español.

1. Introduction

The main aim of this thesis is to investigate the acquisition of subject distribution in L2 Spanish by Greek learners and L2 Greek by Spanish learners. The combination of Spanish and Greek is not common in the literature on L2 acquisition (the exceptions being Lozano, 2006a, b, 2018 and Margaza and Bel, 2006 for L1 Greek-L2 Spanish; Margaza and Bel, 2008 for L1 Spanish-L2 Greek), so this is an opportunity to contribute to a comparison of the two languages in terms of the productions of native and non-native speakers. The goal is to explore whether respective L2 learners at intermediate and advanced levels have command of the uses of subjects in pragmatic contexts in Spanish and Greek. The question here concerns the extent to which the similarities between the two languages with respect to null/overt subjects and preverbal/postverbal subjects (see Bosque and Gutiérrez-Rexach, 2009 for Spanish; Roussou and Tsimpli, 2006 for Greek) have an effect on the performance of L2 learners.

The distribution of subjects is examined at the morphosyntax-semantics-pragmatics interfaces with the goal of testing the Interface Hypothesis (IH hereafter). According to the first version of this hypothesis, it is the interface phenomena that are most difficult to acquire due to the complexity of coordinating the syntactic domain with other linguistic domains such as pragmatics (see Sorace and Filiaci, 2006). For its part, the second version of the hypothesis postulates that internal interfaces like the syntax-semantics interface are easier to acquire than external interfaces like the syntax-pragmatics interface (see Tsimpli and Sorace, 2006). However, both versions of the hypothesis claim that the problematic domains are difficult to acquire even at near-native levels of knowledge. In addition, Rothman (2009) has argued that the effect of the IH may be not permanent.

With the aim of testing the two versions of the IH, several experiments, including acceptability judgment tasks, multiple choice tasks and selection tasks, were carried out. The first of these tasks were intended to judge the rate of acceptance by L2 learners of null/overt or preverbal/postverbal subjects in contextualized sentences facilitating the examination of the syntax-pragmatics interface and not only the syntactic domain. For their part, the multiple choice tasks also tapped into the pragmatic interface, as the referential structure of the sentences tested constrained the

form of subjects in various contexts. Finally, the selection tasks were designed to examine the word order of sentences in which the verb class (i.e. unergative/unaccusative verbs) and the sentence type (i.e. broad vs. narrow focus questions) restricted the distribution of subjects at the syntax-semantics and syntax-pragmatics interfaces.

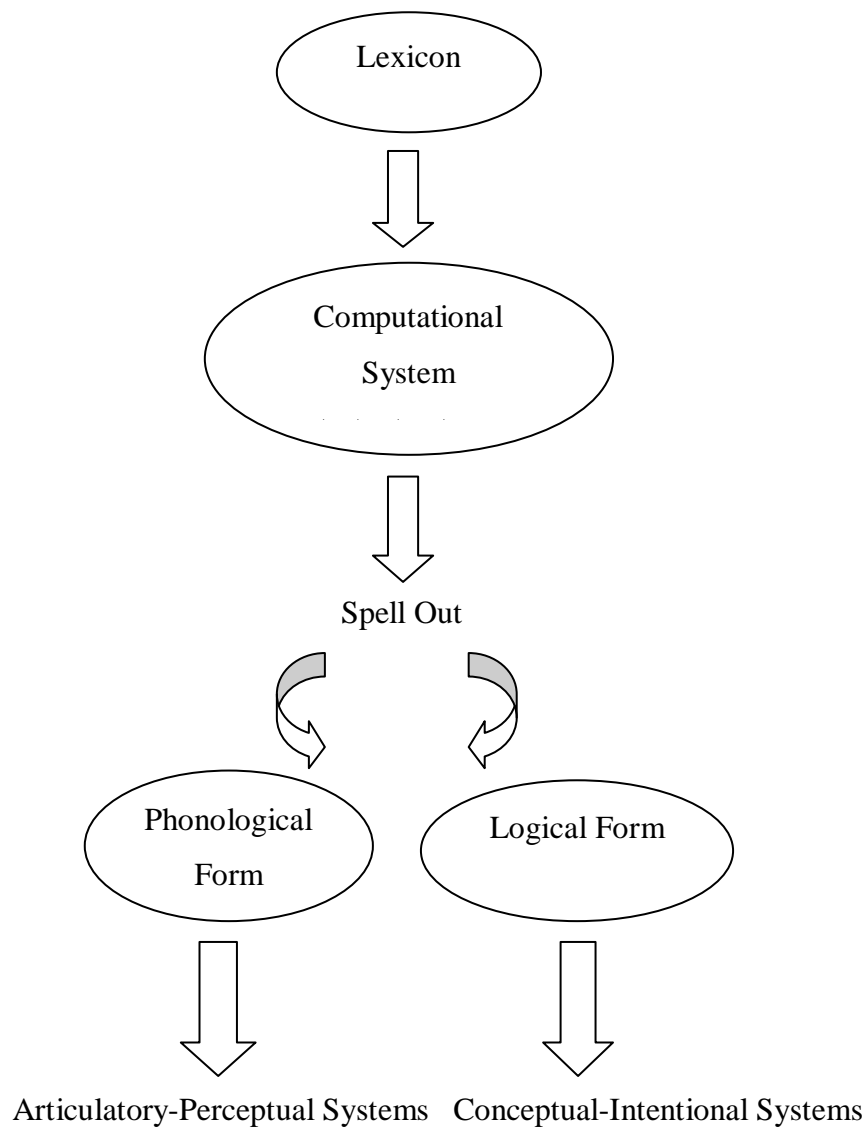
The thesis is organized as follows. After this introduction, Chapter 2 gives an account of the theoretical background regarding the interfaces of linguistic modules and the IH in its two versions, as well as the typology of Spanish and Greek with respect to the distribution of subjects and their acquisition as L2s. Chapter 3 details the main aims of this thesis, spelling out the predictions of the IH for the language combination Greek-Spanish. Chapters 4, 5 and 6 present the three experimental studies of the thesis, with each study comprising a set of specific experiments. Chapters 4 and 5, centred around L2 Spanish describe and discuss Studies 1 and 2, which contain two and three experiments, respectively. Chapter 6 involves Study 3 for L2 Greek and includes three experiments, adapted from Study 2. Chapter 7 examines the degree to which the predictions of the IHs are fulfilled as observed in the results of the three studies. Chapter 8 presents a general discussion of the main findings and the conclusions of the thesis.

2. Theoretical Background

2.1. The Minimalist Program and Interfaces

The Minimalist Program proposed by Chomsky (1995, 2000) is a model of language that examines the organization of grammars, involving the Lexicon and the Computational System, and the mappings onto other components of the mind, such as the Phonological Form (PF) and the Logical Form (LF). The Lexicon contains the list of lexical items, the words and their linguistic properties. The words selected are combined together by a series of syntactic computations in the Computational System of the grammar, thereby forming a syntactic structure. Spell-out is the operation that splits the syntactic structure serving as input into the other components of grammar. At the phonological level, the syntactic structure is mapped onto the Phonological Form representation (i.e. a representation with an instruction as to how it is pronounced). At the semantic level, the syntactic structure is mapped onto the Logical Form representation (i.e. a representation of linguistic aspects of meaning). The PF representation interfaces with the articulatory-perceptual systems (speech systems), which contain only elements which contribute to the phonological form, while the LF representation interfaces with the conceptual-intentional systems (systems of thought), which contain only elements contributing to the meaning (see Hornstein, 2001; Radford, 2004). The interface with the articulatory and conceptional systems is the level at which representations generated by the syntactic computational system converge, in other words, are legible to these external systems. The Minimalist model of language can be represented as shown in Figure 1.

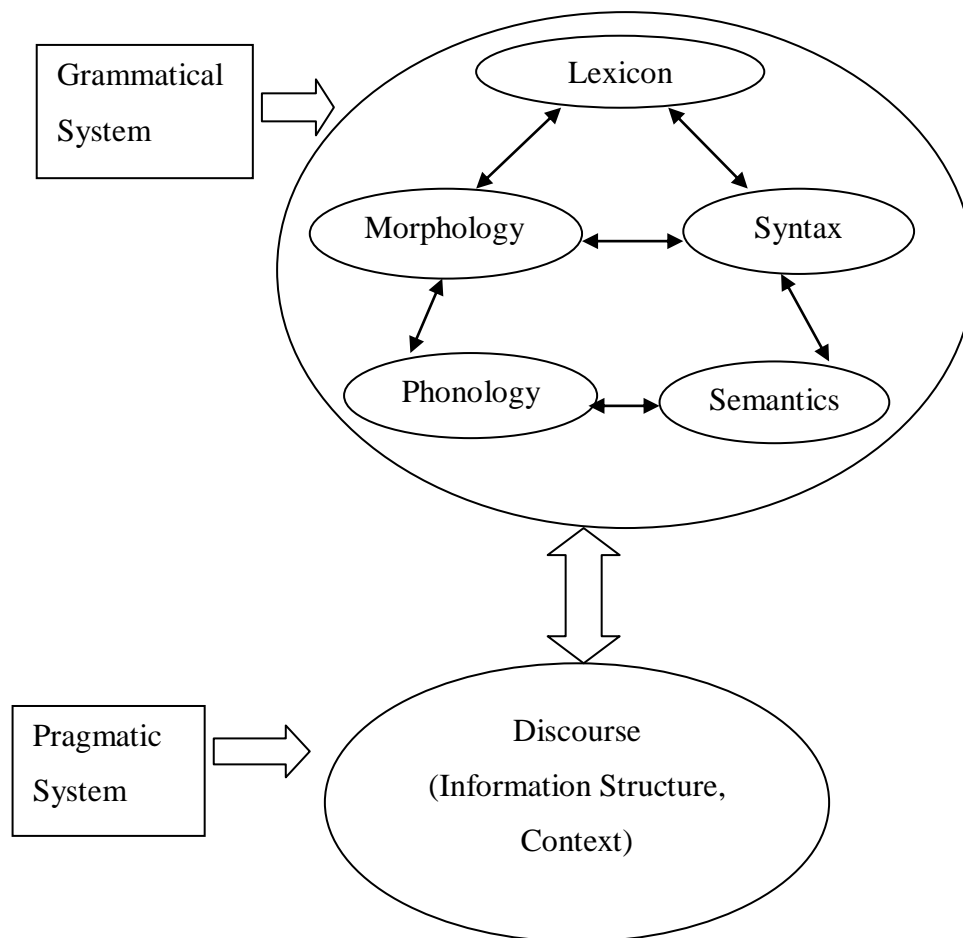
Figure 1. Model of Language



Note that, as Erteschik-Shir (2007) points out, the above Minimalist model does not accommodate pragmatics within the grammatical system. Instead, this domain is treated as being outside the grammar proper, not part of the computational system but rather part of information structure. In line with this, Burkhardt (2005) and White (2009) argue that language consists of an internal grammatical system and an external pragmatic system. The grammatical system contains independent modules, such as lexicon, morphology, syntax, semantics and phonology, as well as the interactions between these grammatical modules, which are also referred to as interfaces (in a less strict sense than that in Chomsky, 1995, 2000). They include the morphosyntax interface, where the syntax of a structure is mapped onto its

morphology, and the syntax-semantics interface, where the syntax of a sentence is mapped onto its semantics, etc. The pragmatic system contains the discourse module that determines the appropriateness of a sentence to the context and the information structure. Ramchand and Reiss (2007) argue that the interface rules link the external pragmatic system with the internal grammatical system and arrange how information/discourse is mapped onto parts of the computational module. The interactions are bidirectional from one module to another and vice-versa, while an interface between more than two domains is possible, such as the syntax-lexicon-semantics interface, which involves syntactic structures that are mapped onto their lexical-semantic properties. In Figure 2, adapted from Rothman and Slabakova (2011), the organization of the modules is illustrated.

Figure 2. Modular Interfaces



2.1.1. The Interface Hypothesis and its versions IH-1 and IH-2

Within the framework of the Minimalist model, extensive research has explored the L1 and L2 acquisition of grammatical modules and their interfaces with the pragmatic component. Based on their examination of the interfaces between the core grammatical system and the external pragmatic system, Sorace and colleagues formulated two versions of the Interface Hypothesis, for which the labels IH-1 and IH-2 are used. In the first proposal, Sorace and Filiaci (2006) consider the complexities at the interface domains in the sense of interface vulnerability as put forth by Müller and Hulk (2001). Müller and Hulk (2001: 2) propose that the clause level constitutes a vulnerable domain of linguistic representation, as in (1).

(1) Interface Vulnerability:

The C-domain is a vulnerable domain that represents an interface level, connecting internal grammar with other cognitive systems: syntactic and pragmatic information are exchanged at the C-level.

According to Müller and Hulk (2001), sentential constructions are more vulnerable to imperfect acquisition, as they require the mapping between internal and external modules such as syntax and pragmatics. In line with this notion of interface vulnerability, Sorace and Filiaci (2006: 340) posit the first version of the Interface Hypothesis, stated in (2).

(2) IH-1:

Grammatical properties that require the integration of syntactic knowledge with information from other cognitive systems such as pragmatics are computationally more complex to represent at the interface levels and may not be fully acquirable in a second language.

The complexity of the interface domains may cause acquisition difficulties, resulting in linguistic variation and instability in speakers' performance. Non-native learners have to acquire the interface rules governing the grammatical and pragmatic components, which might be different in the L2 than in the L1. This implies that

native-like attainment is not always possible in L2 acquisition, as residual knowledge of the L1 is attested in learners' productions.

In their research, Sorace and Filiaci (2006) test the IH-1 in the acquisition of Italian as a second language. In null subject languages like Italian, mastery of pronominal subjects requires both the correct representation of the syntactic licenser(s) (i.e. the correct setting of the null subject parameter) and knowledge of the pragmatic interface conditions that govern the felicitous use of null or overt subject pronouns in context. In particular, Sorace and Filiaci (2006) examine the interpretation of subjects in main-subordinate clauses (forward anaphora) and in subordinate-main clauses (backward anaphora) in Italian. In example (1a), the subordinate null subject is coreferential with the matrix subject *la mamma* ('the mother'), while the overt pronoun *lei* ('she') refers to the object *la figlia* ('the daughter') of the matrix clause. Similarly, in (1b), the coreference between the pronouns and the matrix subject/object does not change if the subordinate clause precedes the main clause. (Examples from Sorace and Filiaci, 2006: 352)

- (1) a. *La mamma_i dà un bacio alla figlia_k, mentre lei_k/pro_i si mette il cappotto.*
the mother-nom. gives-3sg.prs. a kiss-acc. to the daughter, while she-nom./pro puts-3sg.prs. on the coat
'The mother gives a kiss to the daughter, while she puts on the coat.'
- b. *Mentre lei_k/pro_i si mette il cappotto, la mamma_i dà un bacio alla figlia_k.*
while she-nom./pro puts-3sg.prs. on the coat, the mother-nom. gives-3sg.prs. a kiss-acc. to the daughter
'While she puts on the coat, the mother gives a kiss to the daughter.'

Carminati (2002) proposes a theory of pronoun antecedent assignment in Italian based on the assumption that null and overt pronouns have distinct and complementary functions, manifested in distinct biases for antecedents in different syntactic positions. This author claims that null pronouns trigger a strong bias towards an antecedent in Spec IP, whereas overt pronouns usually take an antecedent in positions lower in the phrase structure. The constituent in Spec IP is normally, but not

exclusively, the preverbal subject of the sentence and tends to be interpreted as the topic, while the constituent in non-Spec IP is the object, a non-topic referent.

Taking into account these anaphoric dependencies between null and overt pronouns, Sorace and Filiaci (2006) explore whether learners of Italian allow null pronouns in subordinate clauses to co-refer with the subject of the matrix clause and overt pronouns to co-refer with the antecedent object. In order to examine the interpretation of subjects, the authors performed a picture verification experiment using two groups of speakers, 14 English-speaking near-native learners of Italian and a control group of 20 native speakers of Italian. The experimental procedure involved interviewing participants and evaluating their speech in terms of lexicon, morphology, syntax, etc. to determine each participant's command of the language. The experiment contained 20 items, 10 with forward anaphora and 10 with backward anaphora; each item contained a null or overt pronominal subject in the subordinate clause that coreferred with the matrix subject and object, respectively. Each experimental sentence was presented together with three pictures appearing on the screen below the sentence. The participants were instructed to indicate which of the pictures corresponded to a possible interpretation of the overt or null subjects in the sentence.

When the subject of the subordinate clause was an overt pronoun, the monolingual control group clearly preferred the interpretation in which the antecedent was the object of the main clause (82%). This choice was also favoured by the L2 group (60%), but to a lesser extent, with the difference between the two groups being significant. The L2 group chose the interpretation in which the pronominal subject of the subordinate clause was coreferent with the NP subject of the main clause (27%) significantly more often than the monolingual control group (8%). The results of the overt pronoun condition revealed a significant effect for *Referent* type (antecedent subject vs. object) and a significant interaction between the two variables *Referent* type and *Group*. For both groups the null pronoun was preferentially interpreted as coreferential with intrasentential antecedents, whether the subject (46% and 51%) or the object of the matrix clause (43% and 44%), as opposed to having extrasentential antecedents. Table 1 below shows interpretation rates for both groups when the sentences featured forward anaphora.

Table 1. Results from Sorace and Filiaci's (2006: 354) picture verification task

Forward Anaphora						
	Overt Pronoun			Null Pronoun		
	#Subject	Object	Other	Subject	#Object	Other
Near-natives	27%	60%	13%	46%	43%	11%
Natives	8%	82%	10%	51%	44%	5%

The above findings show that near-native speakers presented native-like interpretations of null pronouns in the context of forward anaphora. Similarly, when pronouns were overt, near-natives tended to prefer the felicitous antecedent, although in such cases their performance was less target-like. On the basis of these results, Sorace and Filiaci (2006) argued that near-natives showed indeterminacy in their preferences for the antecedent referent of overt pronouns. Acquisition delay could explain the performance of the L2 learners, but this was not generalizable to all contexts, since they presented strong similarity to natives in the null pronoun condition. One could argue that the performance of these near-natives was not consistent with the IH-1 because they showed mastery of the syntactic-pragmatic properties of null pronoun coreferents and were about to achieve target command of the interface properties of the overt pronoun antecedents in forward anaphora.

Regarding the backward anaphora condition, Sorace and Filiaci (2006) detected that when the subject of the subordinate clause was an overt pronoun, the native-speaking group preferred to interpret it as referring to an extralinguistic antecedent not mentioned in the matrix clause (64%). By contrast, this interpretation was adopted by near-natives only 28% of the time, yielding a significant difference between the two groups. The antecedent chosen most often (47%) for the overt pronoun by the near-natives was the NP subject of the matrix clause. A choice clearly disfavoured by the native group (12%). This difference between groups was significant. An ANOVA test for the overt pronoun condition showed a significant effect for *Referent* and a significant interaction between *Referent* and *Group*. However, there was no difference between near-natives and natives when the overt pronoun coreferred with the object of the matrix clause. Sorace and Filiaci (2006) also observed that when the subject of the subordinate clause was null there was no significant difference between the control group and the L2 learners in their choices of

antecedents. In this condition there was a significant main effect for *Referent* type, but no significant effect for *Group* and no significant interactions. Both groups preferred to interpret the null pronoun as coreferent with the NP subject of the matrix clause (85% of the time). The other two possibilities, the object as antecedent (9%, 11%) or an extralinguistic referent (6%, 4%), were rarely considered by either group. See Table 2 for interpretation rates for the two groups in the backward anaphora condition.

Table 2. Results from Sorace and Filiaci's (2006: 354) picture verification task

Backward Anaphora						
	Overt Pronoun			Null Pronoun		
	#Subject	Object	Other	Subject	#Object	Other
Near-natives	47%	25%	28%	85%	9%	6%
Natives	12%	24%	64%	85%	11%	4%

Sorace and Filiaci's (2006) results showed that near-native speakers displayed very similar patterns of preferences to natives in backward anaphora sentences with null pronouns, as they did in the case of forward anaphora. Thus, the performance of near-natives did not support the IH-1, as they did not encounter problems with the interpretation of null pronouns, despite the complexity at the syntax-pragmatics interface. Regarding overt pronouns in backward anaphora, near-natives also presented the same rates of appropriate coreferences as natives between an overt pronoun and the matrix object, confirming target behaviour in the contexts examined, even though this was not their first choice. In fact, both groups displayed relaxed patterns, allowing other options for overt pronoun coreferents, but they differed in the type of antecedent, with the matrix subject being preferred by near-natives and an extralinguistic referent being preferred by natives. As Sorace and Filiaci (2006) argued, near-natives did not follow target-like patterns for their basic choice of overt pronoun antecedent in backward anaphora. Their non-native-like performance favoured the IH-1, as they did not display a full command of the syntactic-pragmatic properties governing the subject or extrasentential antecedents in referential contexts. Overall, the IH-1 was not generalizable to all contexts.

In Tsimpli and Sorace (2006), another study carried out by Tsimpli and colleagues to examine subject distribution at the modular interfaces, the authors similarly concentrate on the question of vulnerability at the interface domains. Tsimpli and Sorace (2006) distinguish between the various interfaces, arguing that the syntax-pragmatics interface reflects a higher level of language use, because it integrates properties of language and discourse processing, whereas the syntax-semantics interface involves the more formal properties of the language system. As a result, they propose a second version of the Interface Hypothesis (IH-2) for L2 acquisition, as stipulated in (3).

(3) IH-2:

Formal properties involving the integration of internal modules such as syntax and semantics are computationally easier to acquire than grammatical properties involving the integration of an internal module such as syntax and the external module of pragmatics.

The IH-2 implies that not all interfaces are created equal. Empirically, Tsimpli and Sorace (2006) concentrate in this study on the acquisition of Greek subjects by Russian learners. The two languages do not share the same typology, as Greek is a null subject language, while Russian is a partial null subject language that displays properties from both null and non-null subject languages. Russian allows both null and overt subject pronouns like Greek, but resembles English in the case of overt subject pronouns that need not be discourse-marked. On the other hand, overt subjects in Greek have discourse functions such as topic introduction or contrastive focus.

In what follows, I provide an account of the distribution of subjects in Greek, the target language of the present study. In (2) the subordinate null subject is coreferential with the overt subject *i kiria* ('the lady') introduced in the matrix clause. The inflection of the verb *diasxizo* ('cross') allows the production of a null subject, as it indicates the third person singular, thus ruling out the third person plural object *ta pedja* ('the children') as antecedent. An overt pronoun would receive emphatic/contrastive interpretation in the discourse.

- (2) *I kiria_i xeretise ta pedja, opos pro_i diesxize_i to dromo.*
 the-nom. lady greeted-3sg.pst. the-acc. children, as *pro* was crossing-
 3sg.pst.cont. the-acc. street
 ‘The lady greeted the children, as she was crossing the street.’

Tsimplici and Sorace (2006: 655) also examine the function of focus in relation to the position of sentential elements. Specifically, they observe the phenomenon of fronting at the syntax-semantics interface. In example (3) below the object *TON PETRO* (‘Petro’) is moved to the preverbal position to receive the focus of the sentence, and at the same time there is verb-raising and subject placement in final position. Focus is interpretable at the Logical Form, since it creates an operator-variable dependency between the object and its empty trace, as shown in (3). This type of dependency triggers the OVS order.

- (3) *TON PETRO_i sinandise e_i i adelfi mu.*
 the-acc. Petro met-3sg.pst. the-nom. sister my
 ‘My sister met Petro.’

Based on the distribution of sentential elements, Tsimplici and Sorace (2006) predict that focusing might be produced by the Russian-speaking L2 learners of Greek in the appropriate contexts, as the syntax-semantics interface is relatively less vulnerable for L2 grammars due to the interpretability of formal features. However, with respect to the vulnerability of the syntax-discourse interface compared to the syntax-semantics interface, and in particular the use of overt pronouns, they predict that Russian learners of Greek overuse overt pronouns in neutral contexts. This is expected due to the interference of discourse factors that regulate the distribution of overt and null pronouns in Russian and differ from the discourse factors responsible for the use of overt subject pronouns in Greek.

In order to test these predictions, the authors collected data from 10-20 minute-long oral interviews, which were tape-recorded and transcribed. The participants in the oral interviews were three experimental groups of Russian learners of Greek, one intermediate-level group consisting of 10 learners, one lower-advanced

group consisting of 9 learners and one upper-advanced group consisting of 8 learners. The results appear in Table 3 below. As shown, all three experimental groups displayed a clear preference for null subjects, following native-like patterns, with no direct transfer from their Russian L1, which, in contrast to Greek, allows the unmarked option of overt subjects. Statistical analysis of the results revealed no developmental patterns in the distribution of subjects, meaning that competence level did not affect L2 performance.

Table 3. Results from Tsimpli and Sorace's (2006: 658) oral task

	Overall distribution of subjects	
	Null	#Overt
Intermediate	91.3%	8.7%
Lower-Advanced	88%	12%
Upper-Advanced	91%	9%

In order to examine the occasional infelicitous use of subjects, Tsimpli and Sorace (2006) analyzed the distribution of overt pronouns in the oral data of the L2 learners. They distinguished between 1st/2nd and 3rd person, as the 3rd pronoun is identical in form to the demonstrative in Greek, hence its use is ambiguous between a deictic and a pronominal reading. The results of the oral interviews showed that the two advanced groups presented higher rates of overuse of 1st/2nd person pronouns (70%, 60% respectively) than the intermediate group (40%), as seen in Table 4. On the other hand, all groups showed similar behaviour with regard to 3rd person pronouns, producing fewer non-target overt pronouns. The difference between 1st/2nd and 3rd person was significant, as 1st/2nd overt subject pronouns showed more non-native uses than 3rd person pronouns. This could be due to the fact that Russian distinguishes between the demonstrative and the personal pronoun, unlike Greek. In any case, the non-target use of overt pronouns could be attributed to the difficulty in acquiring the syntax-pragmatics interface.

Table 4. Results from Tsimpli and Sorace's (2006: 659) oral task

	Uses of overt subject pronouns	
	1st/2nd	3rd
Intermediate	40%	20%
Lower-Advanced	70%	30%
Upper-Advanced	60%	25%

Regarding focus structures, Tsimpli and Sorace (2006) observed that the L2 learners in all three groups allowed OVS when the fronted element carried the focus stress of the sentence, as seen in Table 5. Although the upper-advanced group achieved the highest rate of the target pattern, Chi-square between groups did not reveal any significant differences. Thus, the rates of these learners confirmed mastery of OVS-focusing in L2 Greek.

Table 5. Results from Tsimpli and Sorace's (2006: 661) oral task

	Focusing structures
	OVS
Intermediate	95%
Lower-Advanced	90%
Upper-Advanced	98%

The above results indicated that the L2 learners performed best with respect to the distribution of focus structures, while they overused some overt subject pronouns in referential contexts. To explain this, Tsimpli and Sorace (2006) claimed that structures relevant to the syntax-semantics interface, like the focusing of grammatical elements, were less complex to acquire than syntax-pragmatics phenomena, like the constraints regulating overt subject pronouns in L2 Greek. Focusing appeared to be target-like even for intermediate learners, whereas the overuse of pronouns was attested in all groups. This confirmed the predictions that there were developmental differences between interfaces, which affected the distribution of the interface phenomena in L2 acquisition. However, the second version of the Interface Hypothesis was not fulfilled in all cases examined, as the high production of null subjects did not favour the prediction that the syntax-pragmatics interface would

always be difficult to acquire, but it was likely that the interface properties of null subjects had been set earlier than the properties of overt pronouns. Thus, it would seem that not all syntactic-pragmatic conditions were problematic in L2 Greek acquisition. Therefore, one could argue that Tsimpli and Sorace's (2006) results were not consistent with the IH-2 in all contexts.

Basing themselves on Sorace and Filiaci (2006) and Tsimpli and Sorace (2006), Belletti, Bennati and Sorace (2007) examine only the syntax-pragmatics interface, as it is complex to acquire under both versions of the Interface Hypothesis. In particular, Belletti et al. (2007) observe the production of null subjects in Italian in relation to their antecedent (the overt subject) in topic continuity contexts, as illustrated in (4). In (4a) the null subject of the embedded clause refers to the antecedent lexical subject *Maria* of the superordinate clause, whereas in (4b) the overt pronominal subject *lei* ('she') is ambiguous. The antecedent overt subject is normally interpreted as given, topic-like information and is adjacent to the discourse, allowing the omission of the subject in the subordinate clause. However, an overt subject pronoun is characteristically interpreted as introducing a new topic, in this case, for example, referring to a distinct person.

- (4) a. *Maria_i telefonerà quando pro_{i/?j} ne avrà_i voglia.*
 Maria will call-3sg.fut. when *pro* will feel-3sg.fut. like
 'Maria will call when she likes.'
- b. *?*Maria_i telefonerà quando lei_{?*i/j} ne avrà voglia.*
 Maria will-call-3sg.fut. when she-nom. will feel-3sg.fut. like
 'Maria will call when she likes.'

Belletti (2004) shows that in Italian a *wh*-question triggers the postposition of the subject that carries the focus of the information in relation to the verb, the topic of the sentence that appears in initial position. In example (5), the *chi* ('who')-question in (5a) allows the postverbal subject *Gianni* in (5b) to receive focus interpretation, while the unergative *parlare* ('speak') and unaccusative *arrivare* ('arrive') receive topic interpretation.

- (5) a. *Chi parlerà/arriverà?*
 who will-talk/arrive-3sg.fut.
 ‘Who will talk/arrive?’
- b. *Parlerà/arriverà Gianni.*
 will-talk/arrive-3sg.fut. Gianni
 ‘Gianni will talk/arrive.’

Based on the typology of Italian, Belletti et al. (2007) test whether the complexity of integrating the internal domain of syntax and the external domain of pragmatics causes delays in the selection of the appropriate form of subjects. In this case, they are interested in seeing whether the conditions governing subject distribution at the syntax-pragmatics interface are fully mastered or not by non-native speakers at high competence levels. Their experimental group consisted of 17 English-speaking near-native learners of Italian and a control group consisted of 8 native speakers of Italian. Participants performed two experimental tasks, one a story-telling task designed to obtain spontaneous productions of subjects in a narrative context and the other a task in which participants were asked questions about a video they had been shown such that their answers would reveal information about how they positioned the subjects of intransitive verbs in informational contexts.

First, in the story-telling task, Belletti et al. (2007) found that both near-native learners and native-Italian speakers produced similar rates of null subjects (52%, 59%, respectively), but lower percentages of overt pronominal subjects in narrative contexts (14%, 4%). The difference between groups was significant with regard to overt pronouns. On the other hand, there were no statistical differences between groups with regard to the position of subjects in the sentence. Near-natives and natives presented indistinguishable percentages of postverbal subjects with unaccusative verbs (16%, 15%, respectively) and preverbal subjects with transitive verbs (18%, 22%). These results are shown in Table 6.

Table 6. Results from Belletti et al.'s (2007: 666) story-telling task

	Subject distribution in narrative contexts			
	Subject Production		Subject Position	
	Null	Pronominal	Preverbal	Postverbal
Near-natives	52%	14%	18%	16%
Natives	59%	4%	22%	15%

The results showed that near-native learners used target-like null referential subject pronouns, confirming that they had reset from the non-null subject value of the L1 English to the null subject value of the L2 Italian. This revealed that transfer did not affect the productions of learners, who did not seem to overuse pronominal subjects in Italian, despite the non-null subject grammar of their L1. Thus, they presented higher availability of null than overt pronominal subjects in the spontaneous contexts of this task. As Belletti et al. (2007) argued, these near-natives also approached native-like performance of SV/VS alternations. It was therefore appropriate to conclude that they did not encounter problems with the coordination of the internal and external modules, determining the distribution of subjects at the syntax-pragmatics interface. This implies that their competence level enhanced the performance of these learners, indicating that the IH-1 and the IH-2 were not fulfilled at higher stages of knowledge.

As noted, in Belletti et al.'s (2007) second experimental task participants answered questions they were asked about video clips they had seen. Here they had to make word order choices in answer to subject-focused questions with intransitive verbs. In their productions, the near-natives tended to produce the answers that involved contrastively focused preverbal subjects with unergative (60%) and unaccusative verbs (59%). However, they avoided the unstressed SV with both verb classes (3%, 8%). In these contexts, they were able to produce postverbal subjects, independently of the verb (34%, 32%), but this was not their first choice. Thus, they did not achieve the rates of native speakers regarding postverbal subjects (86%, 90%), showing significant differences from the control group. Similarly, the L2 learners differed significantly from natives in the contrastive focused subject condition, as the control group avoided the stressed preverbal subjects (5%, 8%) in the contexts

examined. Only in the case of unstressed preverbal subjects did both groups present similar rates. The respective rates are shown in Table 7.

Table 7. Results from Belletti et al.'s (2007: 683-4) video task

	Subject position in discourse contexts							
	Unergatives				Unaccusatives			
	VS	SV	*SV	Other	VS	SV	*SV	Other
Near-natives	34%	60%	3%	3%	32%	59%	8%	1%
Natives	86%	5%	6%	3%	90%	8%	2%	0

Belletti et al. (2007) argued that these results indicated that, despite their competence level in Italian, the near-natives had not achieved full mastery of the focus conditions regulating subject inversion with intransitives in informational contexts, so that they had problems with the syntax-pragmatics interface. This could be attributed to their L1, English, which allows SV in both types of contexts. In any case, their performance fulfilled both the IH-1 and the IH-2, since they had not attained a native-like distribution of subject inversion at the pragmatics interface. However, their high level of competence had some effect in their manifest tendency to apply the felicitous word order. This was also evident in their behaviour in the first task, in which they presented patterns indistinguishable from those of the control group. Therefore, the fulfilment of the IH-1 and IH-2 was not generalizable to all contexts, as near-natives produced native-like subject positions in more spontaneous contexts (i.e. the story-telling task) and tended to produce inversion of subjects in question-answer-constrained contexts (i.e. the video task).

In a further study, Argyri and Sorace (2007) also examine how the vulnerability at the syntax-pragmatics interface (Hulk and Müller, 2000; Müller and Hulk, 2001) is presented in bilingual language acquisition, with the two languages in this case being Greek and English. With regard to subjects, the difference between the two languages lies in the production of subjects in neutral contexts: Greek allows the omission of the subject, whereas English requires overt subjects. Argyri and Sorace (2007) centre their study around the distribution of Greek null/overt subject pronouns in wide focus question-answer contexts. This is illustrated in example (6), where a felicitous answer to the *jati*-(‘why’) question (6a) requires the use of a null subject

(6b), which is coreferential with the antecedent topic *i Eleni*. An overt pronominal subject *afti* ('she') is redundant as coreferential in (6b), even though it is possible with a contrastive interpretation.

- (6) a. Jati pige sto vivliopolio *i Eleni*_i?
 why went-3sg.pst. to the bookshop the-nom. Eleni
 'Why did Eleni go to the bookshop?'
 b. Epidi *pro*_j/#*afti*_j *ithele*_j na agorasi ena vivlio.
 because *pro*/she-nom. wanted-3sg.pst. na-subj.part. buy-3sg.fin. a-acc.
 book
 'Because she wanted to buy a book.'

In English, on the other hand, the expression of a pronominal subject is obligatory in this context. In (7) the answer to the *why*-question requires the overt pronoun *she* in subject position. The pronoun corefers with the topic antecedent subject *Helen*.

- (7) a. Why did *Helen*_i go to the bookshop?
 b. Because *she*_i wanted to buy a book.

The authors also examine the inversion of subjects, as Greek allows an overt subject to appear in postverbal position, while English admits only preverbal subjects. In example (8) the subject *o Petros* is appropriate in postverbal position, preceded by the clitic *to* ('it'), as an answer (8b) to the wide focus question of *Ti ejine?* ('What happened?') in (8a). English, in contrast, preserves the SV(O) structure, regardless of the discourse context in which the sentence occurs. In (9) the subject *John* appears in preverbal position in a wide focus question-answer pair.

- (8) a. Ti ejine *to molivi tis Marias*?
 what happened-3sg.pst. the-nom. pencil of the-gen. Maria
 'What happened to Maria's pencil?'
 b. *To pire o Petros*.
 it-cl. took-3sg.pst. the-nom. Petros
 'Petros took it.'

- (9) a. What happened to *Maria's pencil*?
 b. *John* took it.

Based on the typology of Greek and English, Argyri and Sorace (2007) explore whether the distribution of null/overt subjects and preverbal/postverbal subjects is a vulnerable domain due to the complexity in integrating syntax and pragmatics at the interface levels. If the syntax-pragmatics interface and the differing language typologies of English and Greek play a role, the authors predict that bilingual speakers use inappropriate overt pronominal subjects and preverbal subjects in wide focus contexts in Greek.

In order to test the predictions of the IH-1, Argyri and Sorace (2007) performed two experimental tasks, an elicited production task and an acceptability judgment task, that both examined the distribution of subjects in Greek. The participants in the tasks were two bilingual English-Greek groups, one of them an English-dominant group consisting of 16 speakers, who received more input in English and the other a Greek-dominant group consisting of 16 speakers, who obtained more input in English. In addition, a third group of 15 native Greek-speakers served as a control.

Regarding the production of subjects in Greek, the overall results showed that all three groups performed at ceiling in the elicited production task for the use of null subject pronouns (6/6) in coreferential contexts. No further statistical analysis was carried out on this data. However, participant performance differed in the acceptability judgement task, showing a significant effect for *Task*. The English-dominant group tended to produce null subjects less often (4.13/6) than either the Greek-dominant group (4.63/6) or the monolingual group (5.20/6), indicating a significant effect for *Group*. Results for the three groups are presented in Table 8.

Table 8. Argyri and Sorace's (2007: 92) results for null subjects

	Distribution of null subjects	
	Elicited Task	Judgment Task
English-dominant bilinguals	6/6	4.13/6
Greek-dominant bilinguals	6/6	4.63/6
Control	6/6	5.20/6

Argyri and Sorace's (2007) analysis revealed that the type of task played a role in the preference for the felicitous choice of subjects. An explanation could be that it was more difficult for the speakers to judge the given answers in the acceptability task and decide which was correct and which incorrect, while it was easier to answer spontaneously the questions in the production task because they were based on the pictures. In the judgment task, the bilingual groups were found to accept some inappropriate overt pronominal subjects in contexts in which null subject pronouns were felicitous. Argyri and Sorace (2007) claimed that the influence of English could have explained the higher rate of pronominal subjects in the responses of bilingual speakers; thus, the English-dominant group reflected a stronger effect of the distribution of overt subjects in English, while the Greek-dominant group allowed null subjects more often due to the typology of Greek. The English-dominant group showed a greater divergence from native-like grammar, so that they confronted more problems with the syntax-pragmatics interface of subjects. This performance supported the IH-1, but I would argue that this was not generalizable to all contexts because this group was sensitive to the possibility of omitting subjects in Greek. The behaviour of the Greek-dominant bilingual group also ran against the IH-1, since they presented more native-like use of null subjects. Recall that the type of task determined the preferences of bilingual speakers, as both groups performed at ceiling in the first task, showing command of the interface properties, regulating subject distribution. Therefore, the behaviour of bilinguals was not consistent with the IH-1, since they did not present vulnerability in all contexts, involving the syntax-pragmatics interface.

Regarding the results of the position of subjects, Argyri and Sorace (2007) detected that the English-dominant group had a variable performance in both tasks in the use of postverbal subjects in wide-focus contexts. No statistical effect for *Task* was found. However, the performance of this group was statistically different from the Greek-dominant group and the control group, so that the effect for *Group* was significant. English-dominant bilinguals accepted wide-focus sentences in which the subjects were preverbal and not postverbal more often than Greek-dominant bilinguals and Greek monolinguals. The latter groups produced postverbal subjects more often in the elicited task than in the judgment task, showing significant effect for *Task*. See Table 9 for the rates of the three groups.

Table 9. Argyri and Sorace's (2007: 93) results for subject position

	Postverbal Subjects	
	Elicited Task	Judgment Task
English-dominant bilinguals	2.69/6	2.81/6
Greek-dominant bilinguals	5.44/6	4.31/6
Control	6/6	5/6

Argyri and Sorace's (2007) analysis indicated that the English-dominant group presented indeterminate behaviour between accepting and rejecting postverbal subjects in contexts in which native speakers allowed the inversion of subjects in Greek. Thus, the English-dominant group overextended the expression of preverbal subjects, confronting difficulties in acquiring the syntactic-pragmatic conditions, constraining word order in Greek. The problematic acquisition at the interface levels favoured the IH-1. However, the Greek-dominant bilinguals presented a better performance in the two tasks, as they were more exposed to Greek. This group approached native-like command of the interface domains, regulating the inversion of subjects, so that the IH-1 was not fulfilled. Therefore, I conclude that the results were affected by the dominant language, thus the IH-1 failed to predict the performance pattern of both bilingual groups in the contexts analyzed.

Based on Tsimpli and Sorace (2006), Serratrice, Sorace, Filiaci and Baldo (2009) and Sorace, Serratrice, Filiaci and Baldo (2009) carried out two investigations on the internal syntax-semantics interface in the first case and the external syntax-pragmatics interface in the second. Their aim was to examine the IH-2 with respect to the order of acquisition of the interface domains: the internal interfaces were predicted to be acquired earlier than the external interfaces due to their nature. In order to do this, Serratrice et al. (2009) considered the distribution of plural noun phrases at the syntax-semantics interface and Sorace et al. (2009) explored the use of referential subjects. Both studies examined these phenomena in bilingual acquisition. In both studies, which both involved judgment tasks, the participants were the same two bilingual groups for both studies, one group of 39 English-Italian speakers and one group of 31 Spanish-Italian bilinguals, as well as a control group of 23 native speakers of Italian in the first study and a control group of 38 native speakers in the second.

Serratrice et al. (2009) focus on plural NPs with specific and generic interpretation in the three languages. For example, in sentences (10a) for Italian, in (10b) for Spanish and in (10c) for English, the respective plural definite phrases *le fragole*, *las fresas* and *the strawberries* are given a specific interpretation. The expression of the definite article is obligatory in order to avoid ungrammaticality. On the other hand, the three languages do not display the same option of plural nouns with generic reading. In (11a) for Italian and in (11b) for Spanish, the grammatical options are the definite nominals *gli squali* and *los tiburones* ('the sharks'), while the bare nouns are acceptable with generic interpretation in (11c) for English.

- (10) a. Qui *le fragole* sono rosse.
 here the strawberries are-3pl.prs. red-pl.
 'Here the strawberries are red.'
- b. Aquí *las fresas* son rojas.
 here the strawberries are-3pl.prs. red-pl.
 'Here the strawberries are red.'
- c. Here *the strawberries* are red.
- (11) a. In genere *gli squali* sono pericolosi.
 in general the sharks are-3pl.prs. dangerous-pl.
 'In general sharks are dangerous.'
- b. En general *los tiburones* son peligrosos.
 in general the sharks are-3pl.prs. dangerous-pl.
 'In general sharks are dangerous.'
- c. In general *sharks* are dangerous.

In Serratrice et al. (2009), the results of analysis indicated that all groups were able to discriminate between the grammatical and ungrammatical plural noun phrases in specific and generic contexts. The differences between the groups were not significant in the grammatical conditions. Regarding the ungrammatical contexts, the English-Italian group seemed to reject bare nouns less often than the other groups, indicating a significant effect for *Group*. In this case, they rejected bare plurals more often with specific (2.5/3) than with generic (2/3) interpretation, presenting significant effect for *Context*. See Table 10 for the rates of the three groups.

Table 10. Results from Serratrice et al.'s (2009: 251) judgment task

	Plural Noun Phrases			
	Specific Contexts		Generic Contexts	
	Full DPs	#Bare Nouns	Full DPs	#Bare Nouns
English-Italian	2.7/3	2.5/3	2.8/3	2/3
Spanish-Italian	3/3	3/3	3/3	3/3
Control	3/3	2.9/3	3/3	2.8/3

Serratrice et al. (2009) claimed that the typology of the two languages had an impact on the performance of the English-Italian and Spanish-Italian groups, compared to the monolingual speakers. The English-Italian group seemed to transfer the use of generic bare plurals from English to Italian, so that they could not avoid the infelicitous option in specific and generic contexts. In this case, the group might have confronted difficulties with the syntactic-semantic properties, regulating the unacceptability of bare nouns in Italian. Thus, I conclude that the performance of this group did not support the IH-2 for the earlier acquisition of the syntax-semantics interface, but the IH-1 for complexities at the interface levels. Still, the IH-1 failed to consider the whole range of preferences of the English-Italian group, since they presented better distribution of the DPs in grammatical contexts.

On the other hand, Serratrice et al. (2009) claimed that the Spanish-Italian group did not confront any typological problems with the two languages in acquisition, and therefore performed native-like in the DP condition and showed sensitivity to the ungrammaticality of bare plurals in specific and generic contexts of Italian. Their performance favoured the IH-2, as they indicated earlier command of the syntactic-semantic properties that Spanish and Italian shared, regardless of the cost of the simultaneous acquisition of two languages. Therefore, the similarity between Spanish and Italian facilitated the fulfilment of the IH-2. However, it failed for the English-Italian group. Different typology did not always result in incomplete command of (i.e. full) plural nominals, diverging from the native group. Still, I argue that the IHs did not predict the performance patterns of the bilingual speakers.

Sorace et al. (2009) examine the topic shift and non-topic shift contexts with respect to the expression of overt/null pronominal subjects in Italian and Spanish, compared to English that does not allow the omission of the subject in the relevant

contexts. For instance, in examples (12a) and (12b) the production of a null subject is acceptable in the subordinate clause, as it maintains the referent of the adjacent matrix subject *Minnie* in a non-topic shift [–topic shift] context in Italian and Spanish, respectively. On the other hand, an overt subject pronoun is not coreferential with the antecedent subject in Italian and Spanish if it changes the referent in a topic shift [+topic shift] context. In (13a) and (13b) the subordinate subject pronouns *lei* (‘she’) in Italian and *ella* (‘she’) in Spanish change the referent of the antecedent matrix, referring to a distinct person in the discourse. Only English requires the expression of the overt pronoun *she* in both cases, in topic shift (13c) and non-topic shift contexts (12c), as the realization of the subject is obligatory in non-null subject languages.

- (12) a. *Minnie_i ha detto che pro_i é caduta.*
Minnie has said-3sg.prs.prf. that *pro* has fallen-3sg.prs.prf.
‘Minnie has said that she has fallen.’
- b. *Minnie_i ha dicho que pro_i se ha caído.*
Minnie has said-3sg.prs.prf. that *pro* has fallen-3sg.prs.prf.
‘Minnie has said that she has fallen.’
- c. *Minnie_i has said that she_i has fallen.*
- (13) a. *Minnie_i ha detto che lei_j é caduta.*
Minnie has said-3sg.prs.prf. that she-nom. has fallen-3sg.prs.prf.
‘Minnie has said that she has fallen.’
- b. *Minnie_i ha dicho que ella_j se ha caído.*
Minnie has said-3sg.prs.prf. that she-nom. has fallen-3sg.prs.prf.
‘Minnie has said that she has fallen.’
- c. *Minnie_i has said that she_j has fallen.*

In Sorace et al. (2009), the results showed that the control group of Italian monolingual speakers presented a limited proportion of overt subject in [–topic shift] contexts, since they preferred a null subject as coreferential with the adjacent subject antecedent. Regarding the bilingual groups, the English-Italian group allowed a few more overt subjects (30%) than the monolingual group, showing non-significant differences. The Spanish-Italian group also admitted overt pronouns (40%) in these contexts, but also showed significant differences from the control group because they

showed higher alternation between overt and null subjects. On the other hand, the three groups presented a higher rate of overt pronouns in [+topic shift] contexts, confirming a significant effect for *Context*. The control group preferred overt pronominal subjects more often than null subjects in order to change the referent of the antecedent discourse and introduce a new one. The English-Italian group also expressed a high rate of overt pronouns in referent shift contexts, revealing non-statistical differences from native speakers. However, the Spanish-Italian group accepted overt subjects less often than the control group. See Table 11 for the rates of the bilingual and monolingual groups.

Table 11. Results from Sorace et al.'s (2009: 471-472) judgment task

	Overt Pronouns	
	Discourse Contexts	
	[-Topic Shift]	[+Topic Shift]
English-Italian	30%	70%
Spanish-Italian	40%	60%
Control	20%	80%

Sorace et al.'s (2009) analysis showed that the English-Italian group approached the performance of native speakers with respect to the distribution of pronouns in both types of contexts, so that the influence of English might not have been crucial in the alternation of null/overt subjects in Italian, contrary to what is expected by the typology of non-null subject languages. Therefore, the behaviour of this group did not fulfil the IH-1 and the IH-2 because they followed target patterns for the use of null/overt subjects.

On the other hand, Sorace et al.'s (2009) results indicated that the Spanish-Italian group diverged from the monolingual group, as they allowed some redundant overt pronouns in [-topic shift] contexts and alternated towards null subjects with ambiguous interpretation in [+topic shift] contexts. This group presented incomplete command of the target subjects, despite the indistinguishable distribution of Spanish and Italian in the sentences examined. Sorace et al. (2009) argued that the simultaneous mastery of two null subject languages was more difficult to attain, as this type of language has a more complex system of two values, null/overt subjects,

compared to the more economical system of the non-null subject languages that display only overt subjects. Therefore, the null subject languages have a more complex interface system, so that the Spanish-Italian group presented variability in their preferences for null/overt subjects at the syntax-pragmatics interface. Their performance seemed to fulfil the IH-1 and the IH-2, as they confronted difficulties with the acquisition of the syntactic-pragmatic properties, constraining the use of subjects in [-/+topic shift] contexts. However, I would argue that the IHs did not always determine the behaviour of bilingual speakers, as the combination of languages and their typology played a role in the degree of divergence from native patterns of null/overt subject distribution.

Regarding the comparison between the interfaces, I would conclude that Serratrice et al.'s (2009) and Sorace et al.'s (2009) results did not favour the IH-2 in all contexts, as the bilingual combination and the type of interface affected the acquisition of the phenomena examined. In the results, I have observed that the English-Italian group encountered problems with the distribution of bare nominals at the syntax-semantics interface, while they followed native-like alternations of null/overt subjects at the syntax-pragmatics interface. On the other hand, the Spanish-Italian group achieved target command of the distribution of full and bare nominals at the syntax-semantics interface, while they confronted difficulties in coordinating the syntax-pragmatics interface of two null subject languages. Therefore, the performance of the English-Italian group was not consistent with the IH-2, while the behaviour of the Spanish-Italian group was. With respect to the IH-1, the performance of the two groups did not fulfil it, as the complexities at the syntax-semantics and syntax-pragmatics interfaces were not systematic. I conclude that the IHs did not predict the performance of the bilingual speakers in all contexts.

2.1.1.1. Criticisms of the IH-1 and the IH-2

Researchers in the field have criticised the Interface Hypothesis, arguing in the first place that the definitions of the IH-1 and the IH-2 are not clear. White (2009, 2011) and Montrul (2011) argue that the IH-1 is relatively vague, as it refers to syntax interfaces without specifying the particular interfaces that encounter problems in L2 acquisition. If this implies that it refers to all syntax interfaces, it seems implausible

that they should all have the same level of difficulty, as they do not display the same position in the linguistic system. Despite the vagueness in the proposal of the IH-1, Sorace and colleagues examine the external syntax-pragmatics interface in their studies, while the other internal or external interfaces are not explicitly discussed. A more general problem in the proposal is what they regard as interface, how many modules can participate in this interface and which phenomena involve this multiple modular interface (Montrul, 2011).

White (2009, 2011) also criticises the confusion between the two versions of the IH. Assuming that the IH-1 involves all syntax interfaces, it is likely that the syntax-semantics interface is also difficult to acquire. Still, it is not clear if this version involves the grammatical interfaces. On the other hand, the IH-2 involves the syntax-semantics and syntax-pragmatics interface, even though it does not refer to the other internal or external interfaces, so that it is a weak IH version. The definition of the IH-2 implies that the internal syntax-semantics interface is eventually acquired at the near-native levels, while the external syntax-discourse interface presents prolonged difficulty in L2 acquisition. White (2011) points to the inconsistency of the proposals with respect to the syntax-semantics interface, claimed to be difficult to acquire in the IH-1 and easy in the IH-2. It is not clear why in the IH-1 Sorace and colleagues take into account only the mapping points between the modules and in the IH-2 only the position of the interfaces in the linguistic system. The results of Sorace's studies are also vague, as they do not explicitly assert whether the syntax-semantics interface is acquired or not in the contexts examined.

On the other hand, both versions of the IH recognize that the syntax-pragmatics interface is complex to acquire due to its external nature. However, White (2009, 2011), Montrul (2011) and Rothman (2009) wonder why the external module of pragmatics is more complex than the internal module of syntax (differently from Sorace and Serratrice, 2009). The authors argue that the pragmatic patterns might actually facilitate the acquisition of the phenomena at the syntax-pragmatics interface. Lozano (2006a), Slabakova (2009, 2011) and Rothman and Slabakova (2011) also argue that the universal pragmatic principles are not so difficult to acquire in L2, as they are acquired from the L1; this implies that the universal pragmatics enhances the acquisition of the syntactic interfaces in L2. As Lozano (2006a) states, the problematic acquisition at the interfaces might be attributed to the incomplete

command of the computational system and not due to the conceptual system of pragmatics. The idea here is that not all pragmatic properties are problematic, but complexities are construction-specific and language-specific.

Another debated issue is the endstate of L2 acquisition, as both IH-1 and IH-2 support the notion that the external syntax-pragmatics interface may not be fully acquirable. Montrul (2011) and White (2009, 2011) argue that if something is already difficult at the highest level of proficiency, it is even more problematic at less advanced levels. Therefore, it is expected that the L2 speakers show incomplete command of the interface domains at earlier stages of knowledge. But on a continuum of proficiency, the target deviance may decline as proficiency increases, thus, the L2 learners can be more sensitive to the syntactic-pragmatic environments of the interface phenomena by very high levels. In other terms, Rothman (2009) states that problems at the syntax-pragmatics interface are not permanent (differently from Sorace and Filiaci, 2006; Tsimpli and Sorace, 2006; Sorace, 2004, 2005, 2011, 2012), because they are eventually overcome, achieving stable final states of second language acquisition, despite inevitable delays due to crosslinguistic influence. This is consistent with Montrul's (2011) claim that certain difficulties can arise at the performance level, including the processing level and not at the competence level. This implies that the performance of learners is not always dependent on their L2 level, but there are other factors, such as the experimental design of the research (i.e. the type of tasks) that determine their performance, as compared to the patterns of native speakers.

2.2. The distribution of subjects in Spanish and Greek: similarities and differences

In this section, I present the two languages which are the focus of this thesis, Spanish and Greek, which are examined with respect to the distribution of subjects.

Following Bosque and Gutiérrez-Rexach (2009) for Spanish (see also Fernández-Soriano, 1999; Luján, 1999) and Spyropoulos and Philippaki-Warbuton (2001) for Greek (see also Dimitriadis, 1996; Philippaki-Warbuton and Spyropoulos, 1999), Spanish and Greek are two null subject languages that display rich verbal inflection, which shows the features of person (1st, 2nd, 3rd) and number (singular, plural). In the examples below, the inflection of the Spanish verb *ir* ('go') in (14a) and

the Greek verb *pigeno* ('go') in (14b) indicates the first person singular, allowing the omission of the subject.

- (14) a. *pro_i fui_i a la universidad.*
pro_i went_i-1sg.pst. to the university
 'I went to university.'
- b. *pro_i piga_i sto panepistimio.*
pro_i went_i-1sg.pst. to the university
 'I went to university.'

Roussou (2009) argues that Greek carries a more productive overt agreement feature than Spanish, since it lacks non-finite constructions (except for gerunds) unmarked for subject agreement. In (15a) for Greek, the matrix verb *matheno* ('learn') and the subordinate *pezo* ('play') are finite forms that agree in number and person with the matrix subject *o Janis* ('the Janis'). On the other hand, Spanish displays non-finite constructions (infinitives), triggering reduced marking for agreement (see also Alexiadou, Anagnostopoulou, Iordachioaia and Marchis, 2010). In (15b) variation between the finite verb *aprender* ('learn') and the infinitive *tocar* ('to play') is observed. The finite verb shows the number and person of the subject *Juan*, whereas the infinitive does not carry overt agreement feature.

- (15) a. *O Janis_i emathe_i na pezi_i cithara.*
 the-nom. Janis learned-3sg.pst. *na*-subj.part. play-3sg.fin. guitar-acc.
 'Janis learned to play the guitar.'
- b. *Juan_i aprendió_i a tocar guitarra.*
 Juan learned-3sg.pst. to play-inf. guitar
 'Juan learned to play the guitar.'

In general, morphology seems to be more productive in Greek than in Spanish, confirming parametric microvariation, despite the proximity between the two languages with respect to the null subject value.

The position of subjects in Spanish (Bosque and Gutiérrez-Rexach, 2009; Ordoñez, 2007; Leonetti, 2014) and Greek (Spyropoulos and Philippaki-Warburton,

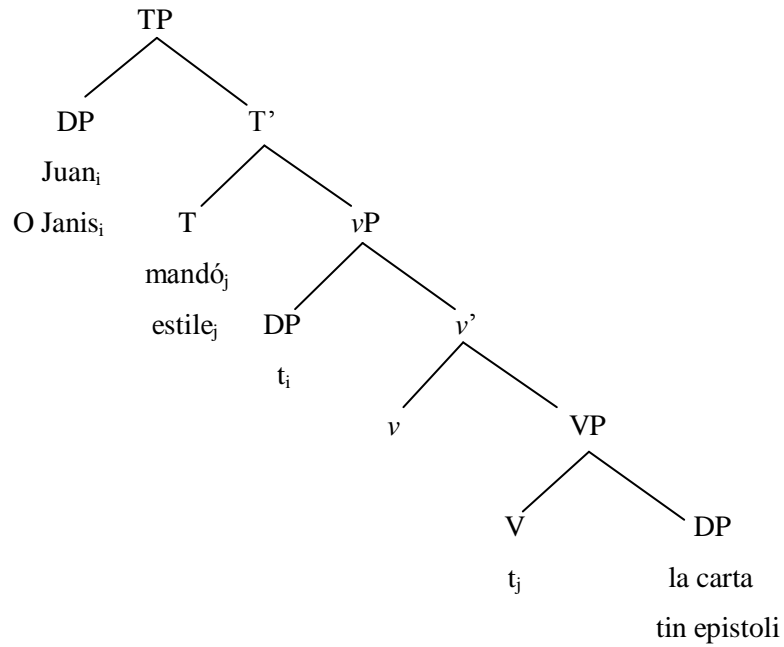
2001; Spyropoulos and Revithiadou, 2009) has also been examined. Gutiérrez-Bravo (2007), Alexiadou and Anagnostopoulou (1998, 2001) and Roussou and Tsimpli (2006), among others, argue that Spanish and Greek are two languages that allow the alternation between SVO and VSO in various contexts. In example (16), the subject of the sentence appears in preverbal position, triggering the SVO word order. In particular, the proper name *Juan* in Spanish (16a) and the equivalent *o Janis* ('the Janis') in Greek (16b) occupy the subject position, preceding the verbs *mandar* and *stelno* ('send') as well as the objects *la carta* and *tin epistoli* ('the letter'), respectively. The inversion of the subject is also possible in the two languages. For example, the subjects *Juan* in Spanish (17a) and *o Janis* in Greek (17b) appear in postverbal position, giving the VSO word order.

- (16) a. *Juan* mandó la carta.
 Juan sent-3sg.pst. the letter
 'Juan sent the letter.'
- b. *O Janis* estile tin epistoli.
 the-nom Janis sent-3sg.pst. the-acc. letter
 'Janis sent the letter.'
- (17) a. Mandó *Juan* la carta.
 sent-3sg.pst. Juan the letter
 'Juan sent the letter.'
- b. Estile *o Janis* tin epistoli.
 sent-3sg.pst. the-nom Janis the-acc. letter
 'Janis sent the letter.'

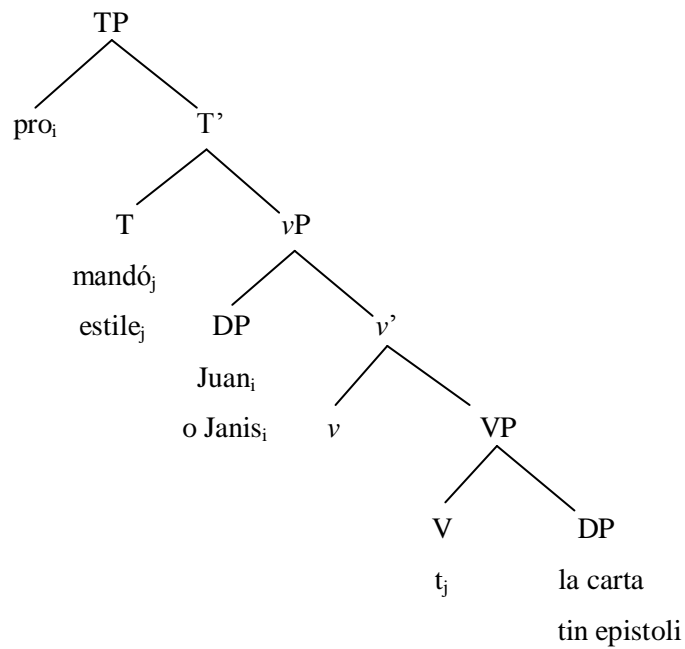
The two word orders are schematically represented in (18a) and (18b) for Spanish and Greek. As for SVO in (18a), Roussou and Tsimpli (2006) argue that the subjects raise from the [Spec, *v*P] to the [Spec, TP] position to check nominative case, while the verbs move from the V to the T. Regarding VSO in (18b), Alexiadou and Anagnostopoulou (1998, 2001) claim that the subjects remain *in situ* in the [Spec, *v*P] position and check nominative case via a null *pro* in the [Spec, TP], while the verbs raise to the higher T domain. The difference between the two word orders is that in SVO the subject moves to the [Spec, TP] position, while in VSO it remains *in situ*.

This difference is observed in both Spanish and Greek, as attested by Gutiérrez-Bravo (2007) and Alexiadou and Anagnostopoulou (1998, 2001).

(18) a. SVO in Spanish and Greek



(18) b. VSO in Spanish and Greek



Fábregas (2013) and Roussou and Tsimpli (2006) examine the position of the subject in relation to the object of the sentence. Differential object marking in Spanish (Fábregas, 2013) and overt morphological case in Greek (Roussou and Tsimpli, 2006) allow the liberal distribution of the subject in preverbal, postverbal or final position. Leonetti (2004) and Rodríguez-Mondoñedo (2008) argue that animate objects in Spanish are preceded by the preposition *a*, reflecting differential marking for accusative case. A-marking is the differential object marking (DOM) that distinguishes between the subject and the object in Spanish. For instance, the subject *Juan* and the animate object *María* preceded by *a*-marking are acceptable in SVO (19a), VSO (20a) and VOS (21a). On the other hand, it is well known that Greek displays overt morphological case on subject and object DPs (see Tsimpli and Stavrakaki, 1999; Ralli, 1999, 2000). In examples (19b), (20b) and (21b), the definite articles *o* (*o Janis* ‘the Janis’) and *ti* (*ti Maria* ‘the Maria’) mark the nominative and accusative case, respectively. The existence of two distinct types of determiners points towards the different Case features. Greek is a highly morphological language that also allows the liberal distribution of the case-marked subject and object in SVO (19b), VSO (20b) and VOS (21b).

- (19) a. Juan saludó *a* María.
 Juan greeted-3sg.pst. a-DOM. Maria
 ‘Juan greeted Maria.’
 b. *O* Janis xeretise *ti* Maria.
 the-nom. Janis greeted-3sg.pst. the-acc. Maria
 ‘Janis greeted Maria.’
- (20) a. Saludó Juan *a* María.
 greeted-3sg.pst. Juan a-DOM. Maria
 ‘Janis greeted Maria.’
 b. Xeretise *o* Janis *ti* Maria.
 greeted-3sg.pst. the-nom. Janis the-acc. Maria
 ‘Janis greeted Maria.’
- (21) a. Saludó *a* María Juan.
 greeted-3sg.pst. a-DOM. Maria Juan
 ‘Janis greeted Maria.’

- b. Xeretise *ti* Maria *o* Janis.
greeted-3sg.pst. the-acc. Maria the-nom. Janis
'Janis greeted Maria.'

Following Zubizarreta (1994, 1999), Olarrea (2012) and Leonetti (2014) for Spanish and Alexiadou (2000), Spyropoulos and Revithiadou (2009) and Sifaki (2013) for Greek, word order alternations are constrained by the information structure of the sentence. The broad focus question *¿Qué pasó?* ('What happened?') in Spanish (22) and the equivalent *Ti ejine?* ('What happened?') in Greek (23) trigger as new information the entire utterance of the answer with no prominent stress in the sentence. In the specific neutral focus contexts, the preferred word order is SVO in Spanish (22), while in Greek (23) subject alternations between SVO (23a) and VSO (23b) are acceptable. Roussou and Tsimpli (2006) observe that word order is more fixed in Spanish, while in Greek it is more flexible.

- (22) A. *¿Qué pasó?*
what happened-3sg.pst.
'What happened?'
- B. [_{Foc} Juan comió el plátano].
Juan ate-3sg.pst. the banana
'Juan ate the banana.'
- (23) A. *Ti ejine?*
what happened-3sg.pst.
'What happened?'
- Ba. [_{Foc} O Janis efage tin banana].
the-nom. Janis ate-3sg.pst. the-acc. banana
'Janis ate the banana.'
- Bb. [_{Foc} Efage o Janis tin banana].
ate-3sg.pst. the-nom. Janis the-acc. banana
'Janis ate the banana.'

A narrow focus *who*-question asks for the unknown subject that constitutes the focus of the structure and receives the nuclear stress of the sentence. In Spanish, the

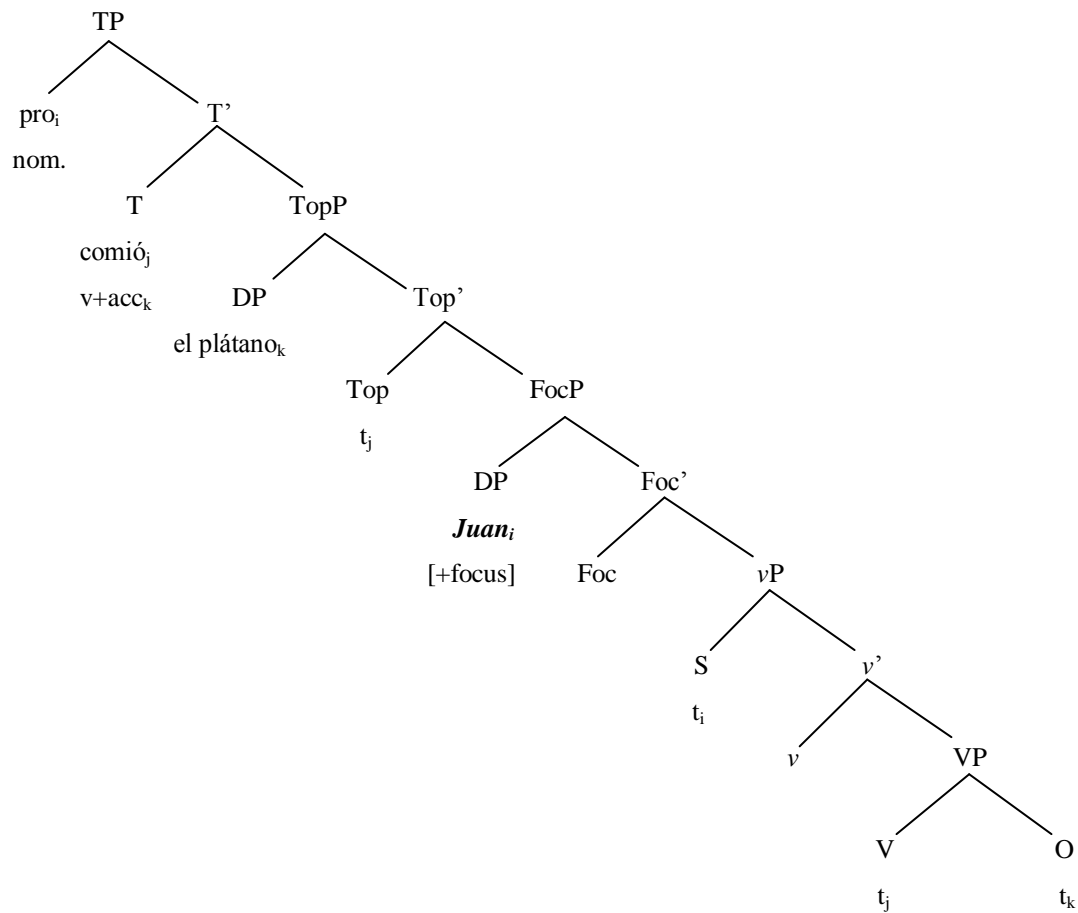
question *¿Quién comió el plátano?* ('Who ate the banana?') in (24a) triggers the focused subject *Juan* in final position (24b), allowing for VOS word order (see also Casielles-Suárez, 2004; Ordoñez, 2007). The verbal complement *comer el plátano* ('eat the banana') in initial position is the topic that provides the background context and receives neutral intonation. On the other hand, the equivalent narrow question *Pjos efage tin banana?* ('Who ate the banana?') in Greek (25a) triggers SVO word order in the answer (see also Roussou and Tsimpli, 2006). The focused subject DP *o Janis* ('the Janis') in (25b) occupies the preverbal position, while the topic complement *troo tin banana* ('eat the banana') appears after the subject.

- (24) a. *¿Quién comió el plátano?*
 who ate-3sg.pst. the banana
 'Who ate the banana?'
- b. *Comió el plátano [Foc **Juan**].*
 ate-3sg.pst. the banana Juan
 'Juan ate the banana.'
- (25) a. *Pjos efage tin banana?*
 who ate-sg.pst. the-acc. banana
 'Who ate the banana?'
- b. *[Foc **O Janis**] efage tin banana.*
 the-nom. Janis ate-3sg.pst. the-acc. banana
 'Janis ate the banana.'

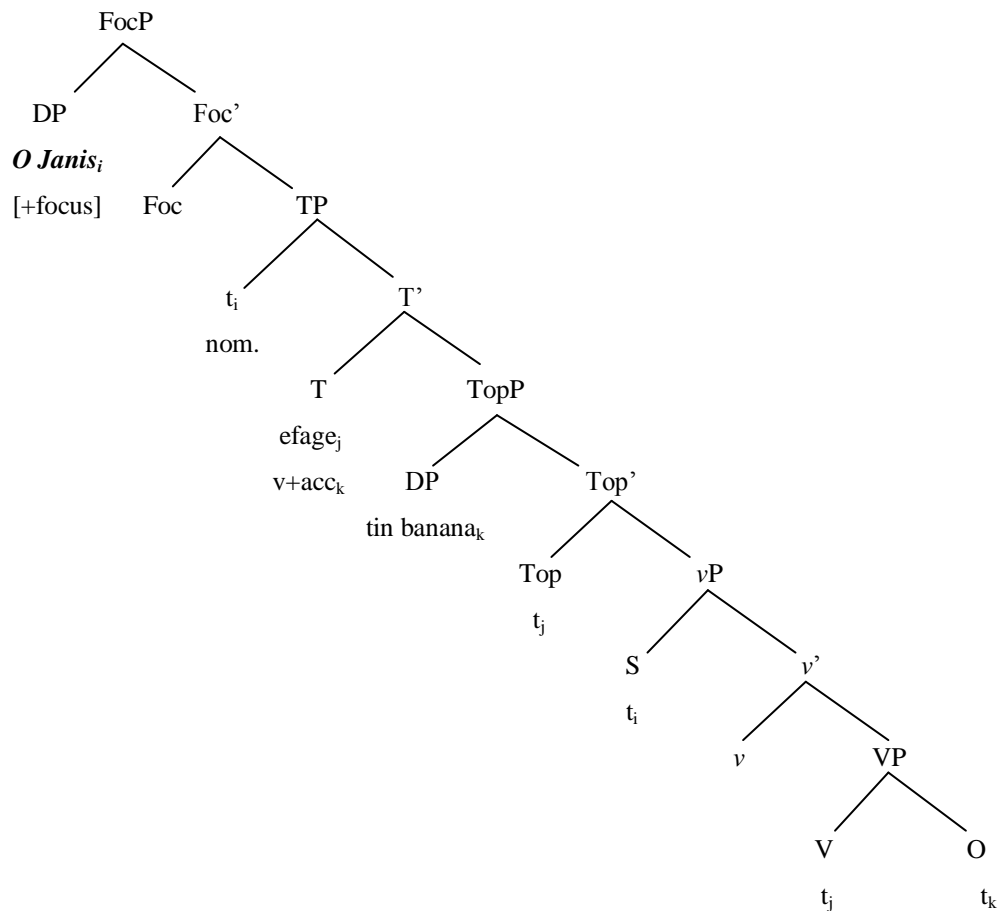
Following Belletti (2004) and Cardinaletti (2004), Roussou and Tsimpli (2006) argue that the subject appears in initial or final position, depending on the position of the FocP. In (26a) and (26b), Spanish and Greek differ with respect to the position of the FocP: in Spanish the FocP occupies a lower position below the TopP and the TP categories, while in Greek it occupies a higher position above the other categories. Roussou and Tsimpli (2006) argue that the subject in Spanish checks focus features in the lower FocP, namely in sentence-final position, whereas in Greek it receives focus in the highest FocP, namely in initial position. In (26a) for Spanish, the subject raises from the [Spec, *v*P] to the [Spec, FocP] position directly, while in (26b) for Greek the subject moves to the [Spec, FocP] via the [Spec, TP] position.

Regarding the complement of the verb, the object raises to the [Spec, TopP]. The resulting word order is VOS in Spanish and SVO in Greek, showing microvariation between the two languages. (26a) and (26b) are adapted from Belletti's (2004) analysis of the focus system.

(26) a. VOS in Spanish

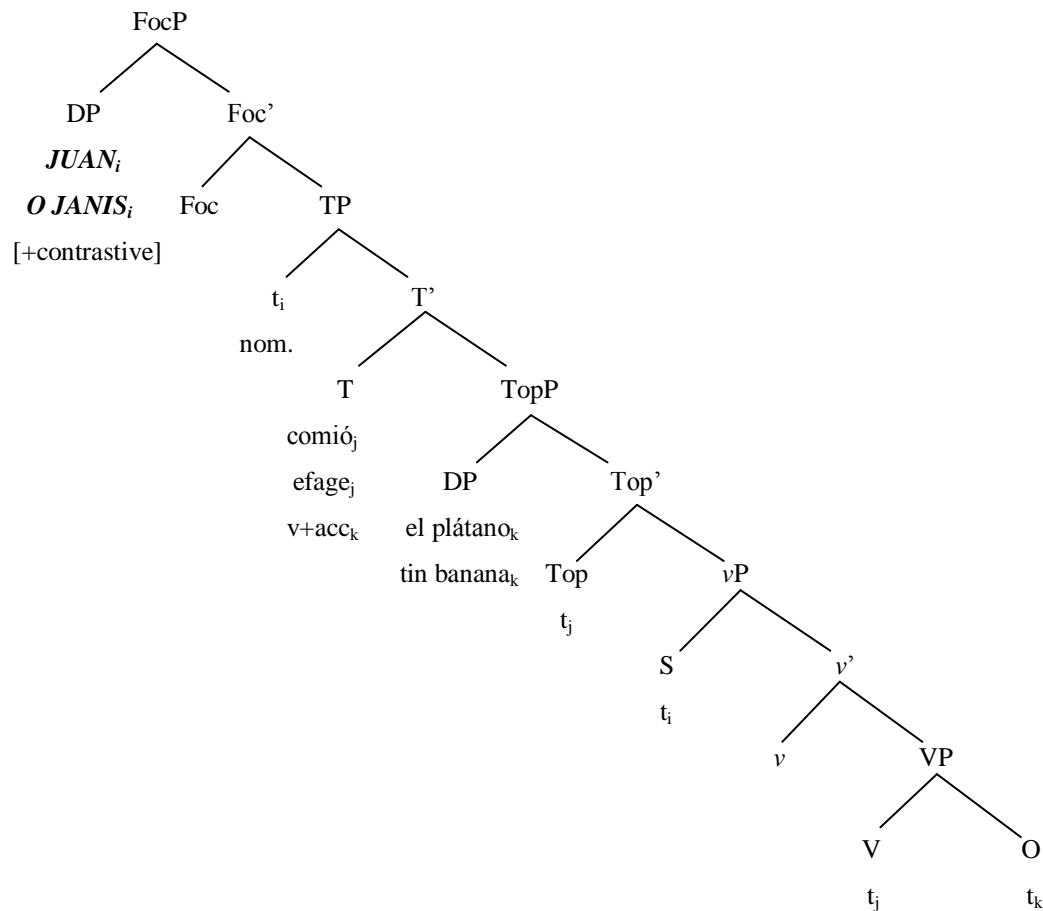


(26) b. SVO in Greek



The type of focus affects the position of the subject, as the contrastive focus allows the SVO word order in both Spanish and Greek. Following Belletti (2009), a narrow focus question *¿Quién?/Pjos?* (‘Who?’) triggers a preverbal subject in the higher FocP [Spec, FocP] in the left periphery in order to receive contrastive focus. In examples (24) for Spanish and (25) for Greek, the subjects *Juan* and *o Janis* (‘the Janis’) can display a contrastive interpretation and appear in preverbal position in relation to the verbal complements *comer el plátano* and *troo tin banana* (‘eat the banana’) that constitute the topic of the sentence and occupy the position after the subject. Thus, Spanish and Greek share indistinguishable position of contrastive subjects in narrow focus question-answer pairs. The representation of the FocP with contrastive feature is displayed in (27) for the two languages.

(27) SVO in Spanish and Greek

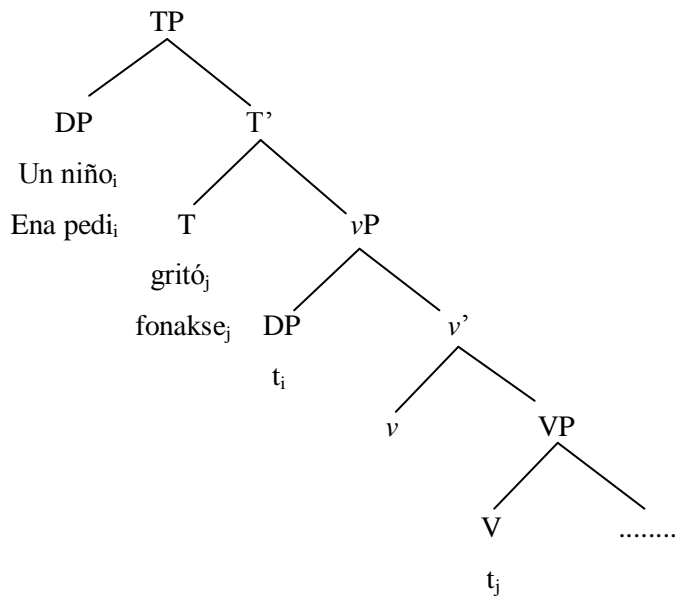


Another factor that affects the position of subjects is the lexical-syntactic distinction between unergative and unaccusative verbs (see Perlmutter, 1978; Burzio, 1986). Based on Eguren and Fernández-Soriano (2004) for Spanish and Alexiadou and Anagnostopoulou (2004) for Greek, Lozano (2008) and Agouraki (2013) argue that the two languages allow the subject of unergative verbs to appear in preverbal position, in the external specifier position, while the subject of unaccusatives occupies the postverbal position, the internal object position. In (28a) and (29a) the unergative verbs *gritar* ('shout') in Spanish and *fonazo* ('shout') in Greek accept the preverbal subjects *un niño* and *ena pedi* ('a child'), respectively. On the other hand, the unaccusative verbs *venir* ('come') in (28b) and *erxome* ('come') in (29b) preferably present a postverbal subject in both Spanish and Greek, respectively.

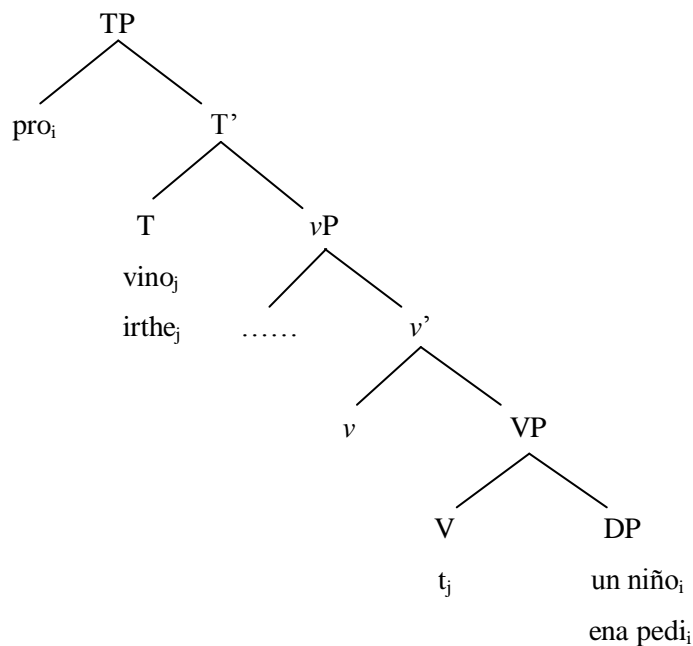
- (28) a. *Un niño gritó.*
a child shouted-3sg.pst.
‘A child shouted.’
- b. *Vino un niño.*
came-3sg.pst. a child
‘A child came.’
- (29) a. *Ena pedi fonakse.*
a-nom. child shouted-3sg.pst.
‘A child shouted.’
- b. *Irthe ena pedi.*
came-3sg.pst. a-nom. child
‘A child came.’

(30a) and (30b) represent schematically the structure of unergative and unaccusative verbs. Eguren and Fernández-Soriano (2004) and Alexiadou and Anagnostopoulou (2004) argue that Spanish and Greek allow unergatives to move from the V to the T position to check tense features. In (30a) the unergative subjects raise from the [Spec, ν P] to the [Spec, TP] position to check nominative case. The resulting word order is SV. On the other hand, the unaccusative subjects remain *in situ* in postverbal position and can check nominative case via a null subject *pro* licensed in the [Spec, TP]. In (30b) the subjects occupy the internal position in the VP, that of the complement, while the unaccusative verbs move to the T position like the unergative verbs. The surface word order is VS for unaccusatives. Spanish and Greek display indistinguishable word order with unergatives and unaccusatives, confirming that the unaccusativity constraint is universal in null subject languages.

(30) a. Spanish/Greek unergatives: SV



(30) b. Spanish/Greek unaccusatives: VS



However, there are some factors such as the type of subject, the (in)definiteness of the subject and the position of locative adverbial phrases that affect the distribution of subjects with intransitive verbs. Roussou and Tsimpli (2006) and Alexiadou (2011) argue that bare subjects are not well-formed in preverbal position irrespective of the verb, as their empty determiner is not governed in preverbal position, causing ungrammaticality in both languages. For example, the bare subject

niños ('children') in Spanish (31a) and the equivalent *pedja* ('children') in Greek (32a) are ungrammatical in preverbal position with unergative verbs *jugar* and *pezo* ('play'), respectively. Still, Leonetti (2013) and Roussou and Tsimpli (2006) argue that these subjects may become acceptable in preverbal position if they are topicalized or contrastively focused in the peripheral domain of the sentence. See the respective examples for Spanish (31b, 31c) and Greek (32b, 32c).

- (31) a. #*Niños* juegan en la calle.
 children-bar. play-3pl.prs. in the street
 'The children play in the street.'
- b. [_{Top} *Niños*], juegan en la calle.
 children-bar., play-3pl.prs. in the street
 'The children play in the street.'
- c. [_{Foc} ***NIÑOS***] juegan en la calle (pero no demasiados).
 children-bar. play-3pl.prs. in the street (but not too many)
 'The children play in the street (but not too many).'
- (32) a. #*Pedja* pezun sto dromo.
 children-bar. play-3pl.prs. in the street
 'The children play in the street.'
- b. [_{Top} *Pedja*], pezun sto dromo.
 children-bar., play-3pl.prs. in the street
 'The children play in the street.'
- c. [_{Foc} ***PEDJA***] pezun sto dromo (ala oxi para pola).
 children-bar. play-3pl.prs. in the street (but not too many)
 'The children play in the street (but not too many).'

Eguren and Fernández-Soriano (2004) and Alexiadou (2011) also argue that the definiteness of the DP can determine the position of subjects in the structure. This is related to an interpretative effect regarding the interpretation of a definite DP as known information ('topic'), which triggers the movement of the subject to the preverbal position of the sentence in order to comply with the known-new information constraint. For instance, the definite DPs *los estudiantes* ('the students') in Spanish (33a) and *i fitites* ('the students') in Greek (33b) appear in SV order with the

unaccusative verbs *llegar* ('arrive') and *ftano* ('arrive'), respectively. Thus, the anteposition of unaccusative subjects is possible in definite structures, even though this is not categorical. The topicalization or contrastive focalization of the DPs allows the anteposition of subjects, regardless of the verb class.

- (33) a. *Los estudiantes* llegaron.
the students arrived-3pl.pst.
'The students arrived.'
- b. *I fitites* eftasan.
the-nom. students arrived-3pl.pst.
'The students arrived.'

Alexiadou (2011) also argues that the definiteness effect plays a role in subject distribution, as an indefinite DP presents new information in the structure and appears after the known information in VS order. This is the case in examples (34a) for Spanish and (34b) for Greek where the indefinite DPs *unos niños* and *kapja pedja* ('some children') occupy the postverbal position with unaccusative verbs. But this is not categorical, as seen in (35a) and (35b) where the indefinite subjects can appear in preverbal position with unergative verbs. This variable behaviour of the indefinite DPs is highly attributed to the unergative/unaccusative distinction that determines the position of subjects in neutral contexts.

- (34) a. Llegaron *unos niños*.
arrived-3pl. pst. some children
'Some children arrived.'
- b. Eftasan *kapja pedja*.
arrived-3pl. pst. some-nom. children
'Some children arrived.'
- (35) a. *Unos niños* jugaban.
some children were playing-3pl. pst.cont.
'Some children were playing.'

- b. *Kapja pedja epezan.*
 some-nom. children were playing-3pl.pst.cont.
 ‘Some children were playing.’

Moreover, the postposition of an indefinite DP is possible with unergatives in locative adverbial contexts. Eguren and Fernández-Soriano (2004) and Alexiadou (2011) argue that the anteposition of a locative adverbial affects the distribution of unergative subjects. In example (36), the adverbials *aquí* (‘here’) in Spanish (36a) and *edo* (‘here’) in Greek (36b) trigger the locative inversion of the indefinite subjects *unos niños* and *kapja pedja* (‘some children’) with the unergative verbs *jugar* and *pezo* (‘play’), respectively.

- (36) a. *Aquí juegan unos niños.*
 here play-3pl.prs. some children
 ‘Some children play here.’
 b. *Edo pezun kapja pedja.*
 here play-3pl.prs. some-nom. children
 ‘Some children play here.’

However, locative inversion is not categorical, as unergatives can maintain the default SV order. In example (37) the verb *reírse* (‘laugh’) in Spanish (37a) and the equivalent *gelao* in Greek (37b) allow the anteposition of the subject, despite the presence of an adverbial phrase.

- (37) a. En el cine *Juan* se reía.
 in the cinema Juan was laughing-3sg.pst.cont.
 ‘At the cinema Juan was laughing.’
 b. Sto sinema *o Janis* gelage.
 in the cinema the-nom. Janis was laughing-3sg.pst.cont.
 ‘At the cinema Janis was laughing.’

Regarding the anteposition of locative adverbials, Roussou and Tsimpli (2006) also claim that the transitive verbs maintain their default SVO in neutral contexts,

while they allow the VSO order in contrastive adverbial contexts. For instance, the neutral adverbial phrases *en la editorial* ('at the publishing company') in Spanish (38a) and *ston ekdotiko iko* ('at the publishing company') in Greek (39a) do not affect the structure, so that the subjects appear in preverbal position in both cases. However, the contrast between two adverbial phrases in (38b) (*en la editorial-en la universidad* 'at the publishing company-at the university') and in (39b) (*ston ekdotiko iko-sto panepistimio* 'at the publishing company-at the university') influences the distribution of the transitive structure, triggering the VSO word order in both languages. Still, the contrastive context does not disallow the default SVO in Spanish that presents more fixed word order, while Greek shows a preference for VSO.

- (38) a. En la editorial *Juan* publicó su primer libro.
in the publishing company Juan published-3sg.pst. his first book
'At the publishing company Juan published his first book.'
- b. *En la editorial* publicó *Juan* su primer libro, y no *en la universidad*.
in the publishing company published-3sg.pst. Juan his first book and
not in the university
'At the publishing company Juan published his first book and not at the university.'
- (39) a. *Ston ekdotiko iko o Janis* dimosiefse to proto tu vivlio.
in the publishing company the-nom. Janis published-3sg.pst. the-acc.
first his-gen. book
'At the publishing company Janis published his first book.'
- b. *Ston ekdotiko iko* dimosiefse *o Janis* to proto tu vivlio *ce oxi sto panepistimio*.
in the publishing company published-3sg.pst. the-nom. Janis the-acc.
first his-gen. book and not in the university
'At the publishing company Janis published his first book and not at the university.'

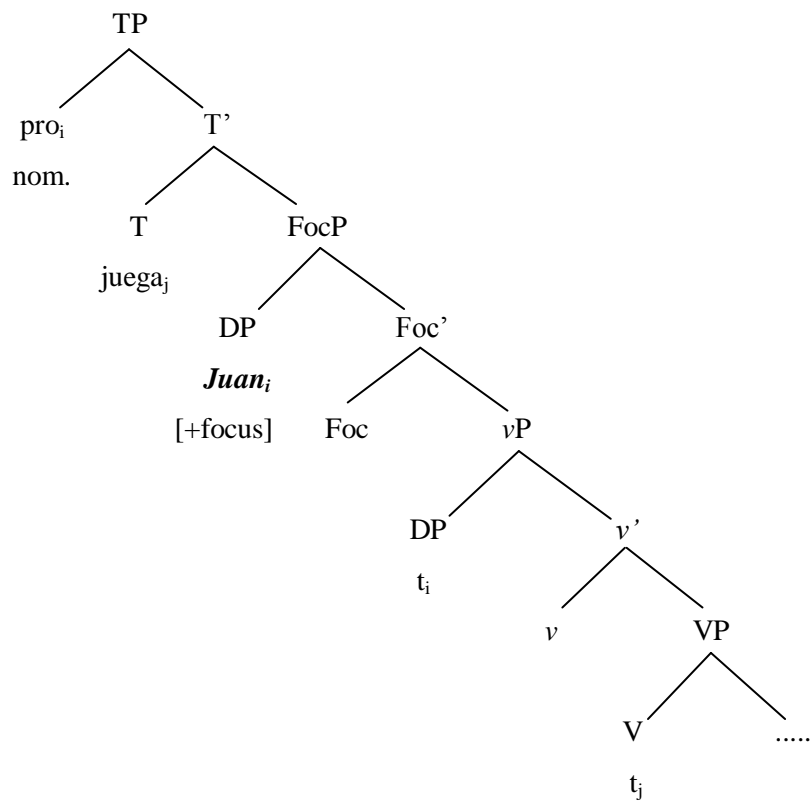
Casielles-Suárez (2004) observes that the focalization of subjects gives rise to VS in Spanish, while Roussou and Tsimpli (2006) argue that Greek presents different behaviour, allowing SV in informational contexts. In example (40) for Spanish the

focused subject *Juan* appears in postverbal position as an answer to the *¿Quién?* ('Who?') question asking for the unknown referent, independently of the unergative verb *jugar* ('play') or the unaccusative *venir* ('come'), forming the topic or known information of the sentence. On the other hand, in example (41) for Greek a direct *Pjos?* ('Who?') question elicits the anteposition of the focused subject *o Janis* ('the Janis') followed by the equivalent unergative *pezo* ('play') or the unaccusative *erxome* ('come'), functioning as topic. The distinction between the two verb classes seems to be neutralized by the discourse context in both Spanish and Greek, but the word order of the sentence is different in the two languages due to the parametric distribution of the focused subject in the informational structure.

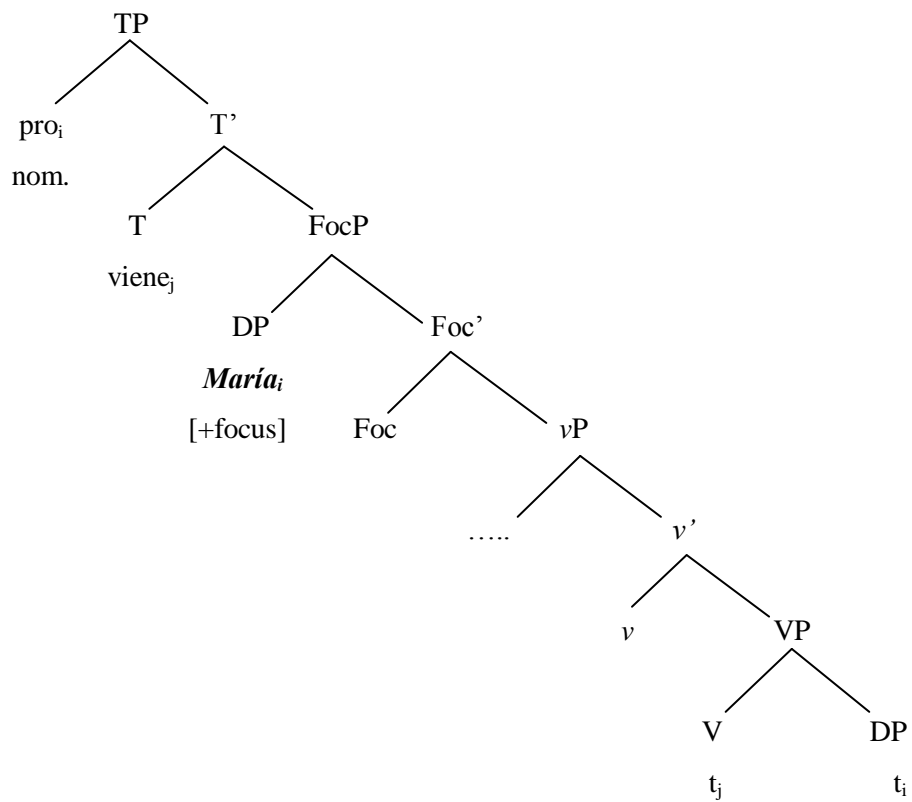
- (40) a. *¿Quién juega/viene?*
 who plays/comes-3sg.prs.
 'Who plays/comes?'
 b. *Juega/viene* [_{Foc} ***Juan***].
 plays/comes-3sg.prs. *Juan*
 'Juan plays/comes.'
- (41) a. *Pjos pezi/erxete?*
 who plays/comes-3sg.prs.
 'Who plays/comes?'
 b. [_{Foc} ***O Janis***] *pezi/erxete*.
 the-nom. Janis plays/comes-3sg.prs.
 'Janis plays/comes.'

Lozano (2008) and Roussou and Tsimpli (2006) argue for different positions for FocP in the tree representation in Spanish (42a, b) and Greek (43a, b). In Spanish the FocP occupies a lower position before the TP, while in Greek it appears in the highest position after the other categories. In (42a) and (42b) for Spanish, the unergative subject raises from the [Spec, *v*P] to the [Spec, FocP] and the unaccusative subject moves from the complement position in VP to the [Spec, FocP]. The unergative and unaccusative verbs also move from the V to the T position to check tense features.

(42) a. Spanish Unergatives: VS

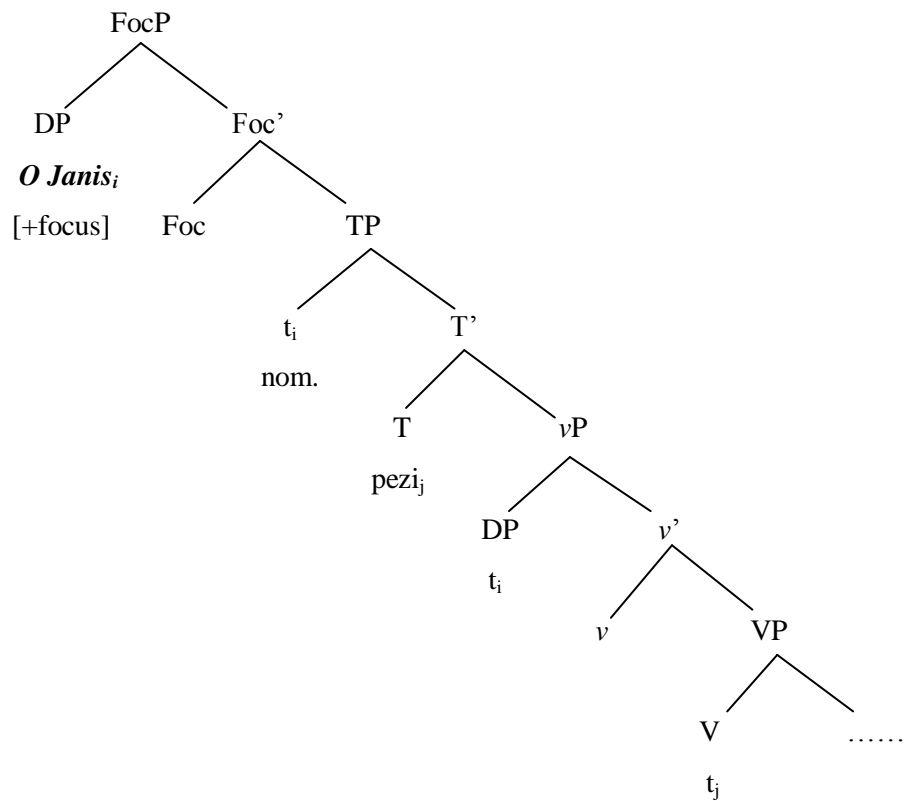


(42) b. Spanish Unaccusatives: VS

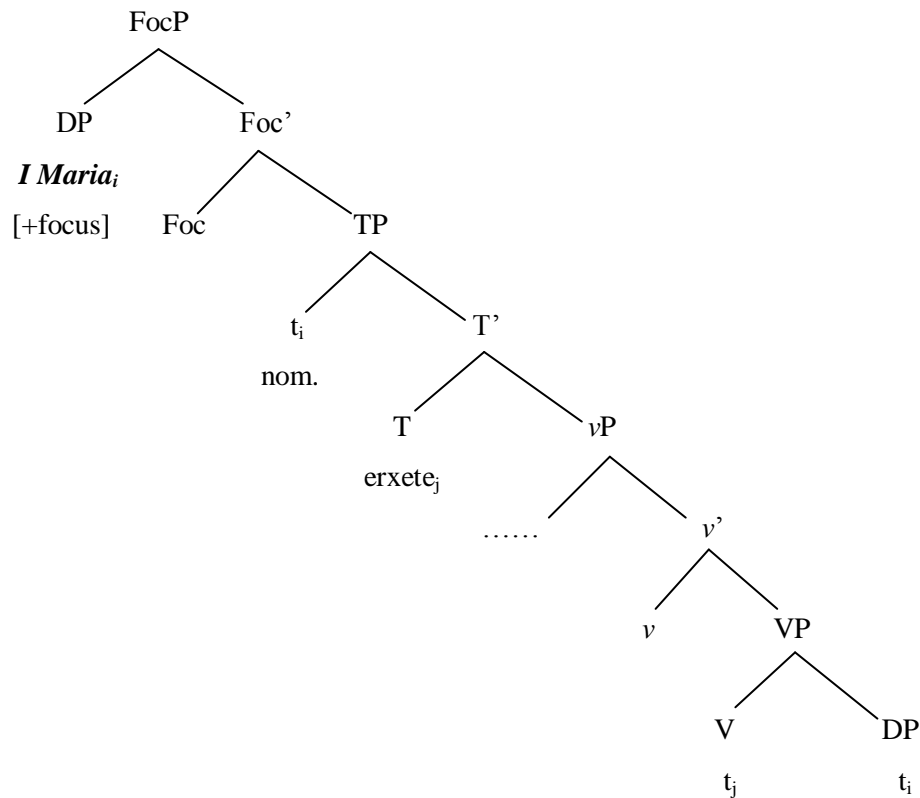


On the other hand, in (43a) and (43b) for Greek, the unergative and unaccusative subjects move to the [Spec, FocP] via [Spec, TP] to check focus features after checking case features. The unergative and unaccusative verbs also raise from the V to the T to check tense features. The FocP in Greek appears in a higher position than the TP, so that the subject precedes the verb in the structure.

(43) a. Greek Unergatives: SV



(43) b. Greek Unaccusatives: SV



Casielles-Suárez (2004) and Ordoñez (2007) also claim that Spanish maintains the focused VS order with intransitive verbs in indirect speech. On the other hand, Skopeteas (2016) argues that Greek presents a different distribution from the direct SV, as it allows VS in indirect informational contexts. An explanation could be that the anteposition of an indirect question in the sentential structure facilitates the placement of the subject of the answer in final position. For example, the subjects *Juan* in Spanish (44) and *o Janis* ('the Janis') in Greek (45) appear in sentence-final position with both the unergatives *jugar* and *pezo* ('play') and the unaccusatives *venir* and *erxome* ('come') in answers to indirect *quién/pjos*-'who') questions. The unergative/unaccusative distinction is also neutralized in discourse contexts of indirect speech, so that both verb classes present VS order (see Lozano, 2008; Roussou and Tsimpli, 2006). In general, the type of speech affects the position of focused subjects-intransitive verbs in Greek, while the distribution of the elements is indistinguishable in Spanish. Thus, Spanish displays a more homogeneous word order, while Greek presents variable behaviour, according to the discursive conditions of the sentence and speech.

- (44) Tu madre te pregunta *quién* juega/viene y tú contestas que juega/viene
 [Foc **Juan**].
 your mother you-acc. asks-3sg.prs. who plays/comes-3sg.prs. and you-nom.
 answer-2sg.prs. that plays/comes-3sg.prs. Juan
 ‘Your mother asks who plays/comes and you answer that Juan plays/comes.’
- (45) I mitera se rotai *pjos* pezi/erxete ce esi apandas oti pezi/erxete [Foc **o Janis**].
 the-nom. mother you-acc. asks-3sg.prs. who plays/comes-3sg.prs. and you-
 nom. answer-2sg.prs. that plays/comes-3sg.prs. the-nom. Janis
 ‘The mother asks who plays/comes and you answer that Janis
 plays/comes.’

In short, the similarities between Spanish and Greek confirm the typological proximity of the two languages concerning the null subject value and the default word order, while the differences lead to parametric microvariation regarding subject alternations in neutral and informational contexts.

2.3. The acquisition of subject distribution in second languages

In the following sections, I examine the distribution of subjects in second language acquisition, specifically of Spanish and Greek. As there is a gap in the literature on the bidirectional combination of L1 Greek/L2 Spanish and L1 Spanish/L2 Greek, I also examine L1-L2 combinations that do not share the same value of the null subject parameter.

2.3.1. The acquisition of subject distribution in L2 Spanish

In the first section, I present the research that combines L2 Spanish with L1 Greek. Then, I expand the review on studies that examine the combination of Spanish with English, a non-null subject language due to the limited number of investigations regarding L1 Greek/L2 Spanish.

Margaza and Bel (2006) explore the acquisition of null subjects in Spanish and Greek with regard to the syntactic possibility of omitting subjects in non-contrastive contexts. The production of null subjects is restricted by pragmatic conditions such as

referent introduction or maintenance. To illustrate, in dialogue (46), the omission of the subject is natural in answer (46a) to the *¿A dónde?* ('Where?') question, as the inflection of the verb *ir* ('go') shows the first person singular without causing ambiguity in the introduction of the referent. On the other hand, the expression of the pronoun *yo* ('I') is redundant in (46b), as the context does not present any emphatic/contrastive stress.

- (46) *¿A dónde vas?*
 where go-2sg. prs.
 'Where are you going?'
 a. *pro_i voy_i a Barcelona.*
 pro go-1sg.prs. to Barcelona
 'I am going to Barcelona.'
 b. *#Yo voy a Barcelona.*
 I-nom. go-1sg.prs. to Barcelona
 'I am going to Barcelona.'

In example (47) the null subject of the subordinate clause maintains the referent *Juan y María* of the antecedent matrix. The omission of the subject is natural because the antecedent referent is adjacent in the discourse. As in the previous example, the inflection of the verb *recoger* ('collect') indicates the third person plural, thus avoiding ambiguity.

- (47) *Juan_i y María_i salieron del aeropuerto, cuando pro_i recogieron_i las maletas.*
 Juan and María left-3pl.pst. of the airport, when *pro* collected-3pl.pst. the bags
 'Juan and Maria left the airport when they collected their bags.'

In the above contexts, the syntax of subjects interacts with their pragmatic functions at the interface domain. Following Sorace and Filiaci's (2006) version of the Interface Hypothesis (IH-1), Margaza and Bel (2006) predict that the interface between syntax and pragmatics constitutes a more complex domain of knowledge. Furthermore, the authors argue that there is indirect transfer from the L1 in the syntactic module of grammatical knowledge and not at the syntax-pragmatics

interface. In this case, the participants in the study were an experimental group of 10 intermediate learners and a group of 9 advanced learners of Spanish, as well as a control group of 10 native speakers. In order to examine the behaviour of non-native groups, Margaza and Bel (2006) administered a cloze task. The task contained a narrative text of 268 words which described some events that took place at the airport. The cloze test included 40 subject positions and the students were asked to fill in the blanks by selecting the correct answer.

The results indicated that as a whole the L2 learners were able to omit subjects in matrix and subordinate clauses. However, the intermediate group admitted null subjects less often in matrix clauses, showing significant differences from native speakers. But this group employed null subjects more often in subordinate clauses where the antecedent referent was adjacent in the discourse, even though they did not reach the rate of the control group. On the other hand, the advanced group exhibited a better performance of null subject selection in both matrix and subordinate clauses, approaching target behaviour. Thus, the effects for *Group* and type of *Clause* were significant for the intermediate group, but not for the other groups. See subject omission rates for the three groups in Table 12.

Table 12. Results from Margaza and Bel's (2006: 92) cloze task

	Null Subjects	
	Matrix clauses	Subordinate clauses
Intermediate	52%	81.66%
Advanced	85.50%	98.13%
Control	96%	100%

Margaza and Bel's (2006) results showed that both groups were sensitive to the possibility of omitting subjects, confirming that they had set the null subject value of Spanish syntax. However, the intermediate learners presented variation, overusing overt pronouns in matrix clauses (Bini, 1993) and diverged from native-like patterns in subordinate clauses. Their performance showed incomplete command of the pragmatic uses of null subjects in referential contexts. Thus, Margaza and Bel (2006) claimed that the behaviour of the intermediate L2 learners fulfilled the IH-1, favouring the notion that the integration of syntax with pragmatics is a more

vulnerable domain of linguistic knowledge (Sorace and Filiaci, 2006). The lower group did not present direct transfer of the interface properties (i.e. referent maintenance and introduction) from their L1 Greek because they did not achieve target-like use of null subjects in L2 Spanish, with the result that they showed partial mastery of L1-L2 indistinguishable patterns at the syntax-pragmatics interface. Reference type played a role, as the referent maintenance properties were set earlier than the referent introduction properties because the adjacent referent triggered the easier production of null subjects in subordinate contexts. Margaza and Bel (2006) argued that the interface vulnerability (as well as L1 transfer) did not have a permanent effect on the performance of the L2 learners, who attained native-like patterns at higher levels of knowledge.

Lozano's research also examines the pairing of L2 Spanish and L1 Greek. In his recent study, Lozano (2018) explores anaphora resolution (AR) at the syntax-pragmatics/discourse interface, namely, how anaphoric expressions (i.e. personal pronouns) resolve their reference in discourse. Spanish and Greek allow the alternation between null subjects in topic-continuity contexts and overt pronominal subject in contrastive focus contexts (see also Lozano, 2016). The following examples are adapted from Lozano (2002, 2016). In (48) there is coreference between the subject of the subordinate clause and the DP of the matrix clause. Specifically, in examples (48a) from Spanish and (48b) from Greek, the more acceptable option in the subordinate clause is the null subject that receives the pragmatic function of topic-continuity and refers to the antecedent subject *Diego*. The inflection of the verbs *trabajar* ('work') in Spanish and *dulevo* ('work') in Greek shows the third person singular, allowing omission of the subject. An overt pronominal subject *él* ('he') in Spanish and *aftos* ('he') in Greek would be redundant or would get an emphatic interpretation in the specific contexts.

- (48) a. *Diego_i tiene mucho dinero, aunque pro_i trabaja_i poco.*
 Diego has-3sg.prs. a lot of money, although *pro* works-3sg.prs. little
 'Diego has a lot of money, although he works little.'

- b. *O Diego_i exi pola xrimata, an ce pro_i dulevi_i ligo.*
 the-nom. Diego has-3sg.prs. a lot of money-acc., although *pro* works-
 3sg.prs. little
 ‘Diego has a lot of money, although he works little.’

An overt subject is obligatory in both languages in order to express the pragmatic function of contrast. In the examples below, the contrastive reading is possible via an overt pronoun in the matrix clause. In Spanish (49a), the overt pronouns *él* (‘he’) or *ella* (‘she’) are acceptable, but the former corefers with the antecedent DP *Roberto* in the subordinate clause, while the latter corefers with the antecedent *Asunción*. In Greek (49b) the overt pronouns *aftos* (‘he’) or *afti* (‘she’) are also preferable in similar contrastive contexts. A null pronoun would not maintain the contrastive interpretation, even though it could refer to the closest antecedent in the structure.

- (49) a. *Aunque Roberto_i y Asunción_j ganan muchos millones al año, él_i/ella_j trabaja poco.*
 although Roberto and Asuncion earn-3pl.prs. many millions per year,
 he/she-nom. works-3sg.prs. little
 ‘Although Roberto and Asuncion earn many millions per year, he/she works little.’
- b. *An ce o Roberto_i ce i Asuncion_j vgazun pola ekatomiria ton xrono, aftos_i/afti_j dulevi ligo.*
 although the-nom. Roberto and the-nom. Asuncion earn-3pl.prs. many
 millions-acc. per year, he/she-nom. works-3sg.prs. little
 ‘Although Roberto and Asuncion earn many millions per year, he/she works little.’

The functions of topic-continuity or contrastive focus govern the production of null or overt subjects at the syntax-pragmatics/discourse interface. Lozano (2016, 2018) tests Sorace and Filiaci’s (2006) version of the IH-1, which predicts lack of ultimate success at the pragmatics interface and residual deficits even at high levels of competence. In this case, the author observes the extent to which the interface

properties of anaphora resolution (AR) are acquirable in L2. Lozano also examines the role of the L1, considering whether similarity between L1 (Greek) and L2 (Spanish) is a facilitator factor in the acquisition of anaphora resolution. In line with this, he tests whether learners have command of the L1-L2 indistinguishable distribution of subjects, according to their developmental patterns, or if instead they produce the erroneous type of subjects, violating the pragmatic constraints, that is, employing redundant overt subjects and ambiguous null subjects (see also Lozano, 2016).

Lozano (2018) administered an acceptability judgment task adapted from his previous studies (Lozano 2002, 2016) which contained different scenarios, such as a topic-continuity scenario that required a null subject as coreferent to the single antecedent present in the structure and a contrastive scenario with an overt pronoun as coreferent to one of the two antecedents in the discourse. The task assessed on a five-point rating scale (range -2 to 2) the felicity of null/overt subjects in the respective sentences in topic-continuity and contrastive focus contexts. The participants in the task were three experimental groups, an intermediate group of 22 learners, a lower-advanced group of 32 learners and an upper-advanced group of 31 learners, as well as a control group of 12 native speakers of Spanish.

In topic-continuity contexts, as seen in Table 13, the intermediate group alternated between null and overt subjects, diverging from the control group, which clearly preferred null pronouns. The lower- and upper-advanced groups presented target patterns for the null pronoun option, but they differed from natives in the case of overt pronouns. The advanced and control groups showed a significant effect for *Pronoun* type, while the intermediate group did not.

Table 13. Results from Lozano's (2018: 423) acceptability judgment task

	Topic-continuity contexts	
	Null pronoun	#Overt pronoun
Intermediate	1.35/2	1.12/2
Lower-Advanced	1.64/2	0.83/2
Upper-Advanced	1.64/2	0.70/2
Control	1.76/2	-0.32/2

In contrastive focus contexts, the intermediate L2 learners presented chance rates, varying between the felicitous overt pronouns and the infelicitous null pronouns, as shown in Table 14. This group differed significantly from native speakers, who preferred the expression of subjects against null subjects. The advanced groups followed a developmental pattern, as the upper group approached native-like behaviour more often than the lower group in both overt and null subject conditions. Thus, with regard to the effect of *Pronoun* type, unlike the intermediate group, the advanced and control groups showed a significant difference between overt and null pronouns.

Table 14. Results from Lozano's (2018: 421) acceptability judgment task

	Contrastive focus contexts	
	Overt pronoun	#Null pronoun
Intermediate	0.50/2	-0.57/2
Lower-Advanced	0.95/2	-0.85/2
Upper-Advanced	1.15/2	-1.20/2
Control	1.32/2	-1.50/2

The above results show that the intermediate group diverged from target attainment, since they accepted both subject options in topic-continuity contexts and presented variation towards chance rates in contrastive focus contexts. As Lozano (2018) stated, this group showed difficulties with the expression of the appropriate subject in discourse-constrained contexts, confirming that they had not yet acquired the syntactic-pragmatic properties of subject anaphora. Their performance fulfilled the IH-1 for incomplete command of the interface domains (Sorace and Filiaci, 2006). The L1-L2 typology could have affected the behaviour of the lower group, since both languages allow null/overt subjects, even though the learners did not transfer the pragmatic conditions of topic continuity and contrastive focus from their L1 Greek because they displayed non-target use of subjects in L2 Spanish. On the other hand, Lozano (2018) claimed that the learners of advanced levels showed better command of the felicitous options, which did not support the IH-1, as the increase in competence level reduced the interface deficits, so the upper-advanced group achieved more native-like performance.

Lozano's (2018) results revealed that the type of context determined the performance of all groups, as they accepted the felicitous option more often in topic-continuity contexts due to the adjacency of the coreferent antecedent, while they rejected the infelicitous option more often in contrastive contexts in order to avoid ambiguity. Specifically, the L2 groups preferred continual null subjects more often than contrastive overt subjects, while they rejected ambiguous null pronouns more often than redundant overt pronouns. Therefore, the above AR phenomena did not present homogeneous behaviour, as not all syntactic-pragmatic properties were equally delayed in their acquisition (see also White, 2009, 2011; Rothman and Slabakova, 2011). The L2 performance demonstrated that the AR properties of null subjects in topic-continuity contexts were mastered better than the respective properties of overt subjects in contrastive contexts, while the properties of ambiguous null subjects were set earlier than the properties of redundant overt subjects at the pragmatics interface, so that the interface deficits were selective, depending on the type of subject and the context.

Lozano (2006a, b, 2014) also examines the phenomenon of word order in L2 Spanish by Greek learners. In particular, he concentrates on SV/VS alternations constrained by syntactic-lexical-semantic properties, such as the unergative/unaccusative distinction and syntactic-pragmatic/discursive properties, such as the type of focus, neutral or informational, in the appropriate contexts (see also Hertel, 2003). As two null subject languages, Spanish and Greek share the unergative/unaccusative distinction governing the position of subjects in neutral contexts: SV is acceptable with unergative verbs, while VS is acceptable with unaccusative verbs (see also Perlmutter, 1978; Eguren and Fernández-Soriano, 2004 for Spanish; Alexiadou and Anagnostopoulou, 1999 for Greek).

For instance, a broad focus question with an unergative or unaccusative verb can receive an answer with non-topicalized or non-focused subject in preverbal or postverbal position, respectively. In examples (50a) for Spanish and (51a) for Greek, the questions *¿Qué pasó?/Ti ejine?* ('What happened?') trigger the anteposition of the subjects *un niño/ena pedi* ('a child') with the unergatives *gritar/fonazo* ('shout'), respectively. On the other hand, this type of question elicits the postposition of the above subjects with the unaccusatives *venir* ('come') in Spanish (50b) and *erxome* ('come') in Greek (51b).

- (50) *¿Qué pasó?*
 what happened-3sg.pst.
 ‘What happened?’
- a. *Un niño gritó.*
 a child shouted-3sg.pst.
 ‘A child shouted.’
- b. *Vino un niño.*
 came-3sg.pst. a child
 ‘A child came.’
- (51) *Ti ejine?*
 what happened-3sg.pst.
 ‘What happened?’
- a. *Ena pedi fonakse.*
 a-nom. child shouted-3sg.pst.
 ‘A child shouted.’
- b. *Irthe ena pedi.*
 came-3sg.pst. a-nom. child
 ‘A child came.’

On the other hand, Spanish and Greek differ with respect to the position of the subject that carries the informational focus of the structure, since Spanish allows VS (Domínguez, 2004) and Greek allows SV (Roussou and Tsimpli, 2006). Focused subjects are elicited as an answer to a direct *wh*-question in informational contexts (see also Hertel, 2003). The verb class does not affect the position of subjects because the focus feature neutralizes the unergative/unaccusative distinction. In example (52) from Spanish, the *quién*- (‘who’) question triggers the postposition of the focused subject *un niño* (‘a child’) with both the unergative *gritar* (‘shout’) and the unaccusative *venir* (‘come’). However, the equivalent *pjos*- (‘who’) question in Greek elicits the anteposition of the focused subject *ena pedi* (‘a child’) with both the unergative *fonazo* (‘shout’) and the unaccusative *erxome* (‘come’) in (53).

- (52) *¿Quién gritó/vino?*
 who shouted/came-3sg.pst.
 ‘Who shouted/came?’
- a. Gritó [_{Foc} *un niño*].
 shouted-3sg.pst. a child
 ‘A child shouted.’
- b. Vino [_{Foc} *un niño*].
 came-3sg.pst. a child
 ‘A child came.’
- (53) *Pjos fonakse/irthe?*
 who shouted/came-3sg.pst.
 ‘Who shouted/came?’
- a. [_{Foc} *Ena pedi*] fonakse.
 a-nom. child shouted-3sg.pst.
 ‘A child shouted.’
- b. [_{Foc} *Ena pedi*] irthe.
 a-nom. child came-3sg.pst.
 ‘A child came.’

Taking into account the distribution of subjects in neutral and informational contexts, Lozano (2006a, b) explores the order of acquisition at the interfaces, testing Tsimpli and Sorace’s (2006) version of the Interface Hypothesis (IH-2), which predicts that the external syntax-pragmatics interface is more difficult to acquire than the internal lexicon-syntax interface. Under those assumptions, Lozano (2006a) predicts that word order alternations at the syntax-discourse interface would be persistently problematic even at advanced levels of competence, while word order alternations at the lexicon-syntax interface would be acquired. Therefore, Greek adult learners of Spanish are expected to command the position of subjects with unergative/unaccusative verbs, but not expected to show full sensitivity to sentence-final informational focus.

In order to test the above predictions, Lozano (2006a) administered an acceptability judgment task, including a dialogue with a question, eliciting SV or VS, according to the context and the verb class in Spanish (see also Hertel, 2003). The test

contained 24 target stimuli with unfocused contexts (6 unaccusative, 6 unergative) and presentationally focused-subject contexts (6 unaccusative, 6 unergative). Each item consisted of two sentences with SV/VS to be rated on a five-point scale ranging from –2 to 2. The particular task was completed by three experimental groups, one upper-intermediate group of 23 learners, one lower-advanced group of 24 learners and one upper-advanced group of 19 learners, as well as one control group of 19 native speakers of Spanish.

In neutral contexts, Lozano (2006a) observed that the three experimental groups showed a preference for the felicitous SV with unergatives and VS with unaccusatives. The upper-intermediate and the low-advanced groups presented non-distinguishable performance. However, the two groups did not reach the rates of native speakers in the case of unergatives, though the effect for *Group* was statistically significant only in the VS condition and not in the SV condition. On the other hand, the upper-advanced group attained target rates in the SV condition. Regarding the distribution of unaccusatives, the upper-intermediate and the low-advanced groups also showed similar rates of the felicitous VS against the infelicitous SV, demonstrating significant differences from the control group in the latter condition, but not in the former one. On the other hand, the upper-advanced group diverged from native-level performance in both SV and VS conditions, as they presented a very high rate of VS, while they followed the rates of the other experimental groups in the SV condition. Thus, a main effect for *Group* was found for the upper-advanced group in the VS condition, but for all groups in the SV condition with unaccusatives and for all groups in the VS condition with unergatives, but not in the remaining cases. See the rates for all groups in Table 15.

Table 15. Results from Lozano's (2006a: 14) acceptability judgment task

	Neutral contexts			
	Unergatives		Unaccusatives	
	SV	#VS	#SV	VS
Upper-Intermediate	1.41/2	0.87/2	0.91/2	1.52/2
Lower-Advanced	1.47/2	0.84/2	0.9/2	1.44/2
Upper-Advanced	1.64/2	0.9/2	0.98/2	1.81/2
Control	1.61/2	-0.45/2	0.29/2	1.34/2

In informational contexts, as shown in Table 16, the experimental groups accepted the infelicitous SV with unergatives more often due to the grammatical properties of this verb class, even though they did not avoid the discursive VS. The upper-intermediate group showed a main effect for *Word Order*, as the difference between SV and VS was significant, while the other L2 groups did not. The three groups presented a main effect for *Group* in the SV condition, but not in the VS condition, because they diverged from the control group in the former case, but not in the latter. Regarding the distribution of unaccusatives, the upper-intermediate group did not distinguish between SV and VS, as they presented identical rates in both cases. On the other hand, the advanced groups had a higher preference for VS than SV, indicating an effect of *Word Order*. The rates of native and non-native groups are displayed in Table 16.

Table 16. Results from Lozano's (2006a: 15-16) acceptability judgment task

	Informational focus contexts			
	Unergatives		Unaccusatives	
	#SV	VS	#SV	VS
Upper-Intermediate	1.43/2	0.97/2	1.32/2	1.32/2
Lower-Advanced	1.26/2	0.93/2	0.91/2	1.38/2
Upper-Advanced	1.32/2	1.12/2	0.94/2	1.54/2
Control	0.17/2	1.25/2	-0.28/2	1.52/2

Lozano's (2006a) results indicated that the three L2 groups presented better command of the felicitous option of subject position with unergative/unaccusative verbs in neutral contexts. Their performance showed that they were sensitive to the constraints regulating the default word order at the lexicon-syntax interface, which favoured the IH-2 for the earlier acquisition of the core grammatical properties. However, as I observe, the L2 groups did not reject the infelicitous word order outright, but instead merely presented a tendency towards this option, allowing non-target subject alternations with unergative/unaccusative verbs. In this case, the IH-2 did not predict a high preference for the infelicitous word order in the respective contexts (against Tsimplici and Sorace, 2006). However, the L2 behaviour could favour

Sorace and Filiaci's (2006) IH-1 for the incomplete acquisition of subject alternations, independently of the nature of the internal domains.

Lozano (2006a) also found that the upper-intermediate group overaccepted SV with unergative verbs in informational focus contexts, indicating misuse of the default unergative order of neutral contexts. The advanced groups showed higher optionality between SV and VS, as they did not discriminate the discursive from the unergative word order. The performance of all groups favoured both the IH-1 and IH-2, because even at high levels they had not acquired the syntactic-pragmatic properties. Still, all groups tended towards the rate of native speakers in the VS condition, even though their behaviour did not indicate full command of the alternations of unergative subjects in the cases examined. Regarding the unaccusatives, Lozano (2006a) observed that the upper-intermediate group presented identical rates with both word orders, demonstrating complete variation at the syntax-pragmatics interface. On the other hand, the L2 learners at advanced levels showed a clearer preference for VS than SV, approaching target patterns for subject inversion. However, the author claimed that the L2 performance could be attributable to overgeneralization of the unaccusative word order from neutral to informational contexts, so that the L2 groups did not present full mastery of the syntactic-pragmatic properties of the discursive word order, favouring the IH-2 for complexities at the external interface. The preference for SV with unergatives and VS with unaccusatives showed that the distribution of intransitive verbs at the lexicon-syntax interface constrained the word order at the syntax-pragmatics interface. Thus, Lozano (2006a) argued that the interface domains were not equally acquirable, but the lexical-syntactic properties were acquired earlier than the syntactic-pragmatic properties, as predicted by the IH-2.

Next, I review studies that focus on the L1 English/L2 Spanish pairing. Montrul (2005) examines word order alternations at the syntax-lexicon interface. Taking into account the unergative/unaccusative distinction, the author favours the Unaccusative Trap Hypothesis (Oshita, 2001), which predicts the gradual acquisition of the two verb classes in relation to the position of subjects. In other words, at earlier stages of development L2 learners are expected to regard all intransitive verbs as unergatives with the subject in preverbal position because they do not distinguish the lexical-syntactic properties of verbs. At more advanced stages, the L2 learners are

expected to know that unaccusatives and unergatives have different representations and restructure their interlanguage lexicon, admitting SV with unergatives and VS with unaccusatives. As for the L1-L2 pairing, Montrul (2005) examines whether the L1 English typology affects the performance of the L2 learners of Spanish, allowing the SV overacceptance, irrespective of the verb class. She administered a grammaticality judgment task consisting of a total of 110 sentences (55 grammatical and 55 ungrammatical) with 9 unergative verbs and 9 unaccusative verbs and 10 transitive verbs as distractors. All verbs appeared with preverbal and postverbal subjects and the participants were asked to judge their acceptability (on a scale from 1 to 5). The groups examined were 25 low-intermediate learners, 21 intermediate learners, 25 advanced learners and 28 native speakers of Spanish.

The statistical analysis of the results indicated that the low-intermediate and intermediate groups differed significantly from the control group in their judgments of both unergative and unaccusative verbs, while the advanced group approached the patterns of native speakers. The rates for all groups are displayed in Table 17.

Table 17. Results from Montrul's (2005) grammaticality judgment task

	Subject positions with intransitives			
	Unergatives		Unaccusatives	
	SV	#VS	#SV	VS
Low-intermediate	4.1/5	3.2/5	4/5	3.3/5
Intermediate	4.4/5	3.49/5	4.2/5	3.99/5
Advanced	4.82/5	4.43/5	4.71/5	4.68/5
Control	4.9/5	4.45/5	4.9/5	4.85/5

The gradual acquisition of target unergative/unaccusative distribution seemed to favour the Unaccusative Trap Hypothesis, but Oshita's (2001) predictions were not always fulfilled in the developmental patterns of these L2 learners. From what I observe, the lower level L2 groups did not regard all intransitives as unergatives, but rather neutralized the intransitive dichotomy, depending on the context. The SV/VS variation in the data of the L2 groups could be attributed to the typology of their L1, English, which allows SV with both unergatives/unaccusatives, but this depended on

competence level, as the advanced group approached native-like performance, so that they did not seem to transfer the L1 word order patterns. Therefore, the L1 typology did not affect all levels of proficiency, as the gradual acquisition of L2 played a determinant role in the distribution of subjects with intransitive verbs in the particular contexts.

Rothman (2008, 2009) also examines the distribution of subjects in L2 Spanish by English learners. He investigates whether the L2 learners admit the felicitous null/overt subjects in the appropriate discourse-marked contexts. The author questions whether the learners have set the null subject value of Spanish or if instead they transfer the non-null subject value from their L1 English. Unlike Sorace and Filiaci (2006) in Interface Hypothesis (IH-1), Rothman's (2008, 2009) hypothesis is that problems at the syntax-pragmatics interface are not permanent, but decline with the increase in competence level. Confirmation of this hypothesis would be the native-like attainment of L2 learners at higher levels of proficiency.

Rothman (2009) administered two tasks: a coreference interpretation task and a context-matching judgment task. The first task consisted of 40 contextualized sentences and the participants had to indicate if there was coreference between the subordinate subject and the intrasentential antecedent (option a) or if a new person in the discourse was preferred (option b). The second task contained 20 sentences and the participants had to judge on a scale (from 1 to 5) the felicitousness of subjects in relation to the context. The experimental groups consisted of 28 intermediate and 23 advanced learners and a control group of 15 native speakers.

The differences between the groups were significant in the DP/overt pronoun coreference, since the intermediate group (6.47/10) diverged from the advanced (3.91/10) and control groups (3.53/10), as shown in Table 18. On the other hand, the three groups presented higher rates of DP/null subject coreferences and the advanced group (8.61/10) attained native patterns (8.73/10) more often than the intermediate group (8.42/10). Therefore, the advanced and control groups showed clear preference for the felicitous DP/null pronoun coreference, while the intermediate group accepted both types of coreference. See Table 18 for the rates of the native and non-native groups.

Table 18. Results from Rothman's (2009: 961) interpretation task

	Subject coreference contexts	
	DP/Null	#DP/Overt
Intermediate	8.42/10	6.47/10
Advanced	8.61/10	3.91/10
Control	8.73/10	3.53/10

The statistical differences between the three groups were not significant in the overt subject condition, as they all showed a high rate for the felicitous option in contrastive contexts. However, the intermediate group had a high acceptance rate for the null subject option, so that they did not distinguish between null and overt pronouns. This group differed statistically from the advanced and control groups. The latter groups presented indistinguishable behaviour in the infelicitous condition, meaning that the learners of higher levels attained target-like patterns in contrastive contexts. The rates of the three groups are displayed in Table 19.

Table 19. Results from Rothman's (2009: 963) judgment task

	Subjects in contrastive contexts	
	Overt	#Null
Intermediate	4.3/5	3.69/5
Advanced	4.43/5	1.8/5
Control	4.49/5	1.72/5

Rothman's (2009) results indicated that the intermediate learners were not always aware of the pragmatic uses of subjects (see also Montrul and Rodríguez-Louro, 2006), so that they had problems with the acquisition of the interface properties, regulating the distribution of subjects in discourse-marked contexts. Therefore, the performance of the intermediate L2 learners seemed to favour Sorace and Filiaci's (2006) Interface Hypothesis (IH-1). Regarding the L1 influence, the overuse of overt subjects and the misuse of null subjects could also be attributed to the non-null subject typology of their L1 English, although the intermediate learners were sensitive to the possibility of licensing null subjects in Spanish, despite the L1 value of overt subjects.

On the other hand, the advanced group attained a clear native-like distribution of null and overt subjects in all contexts examined. In this case, Rothman (2009) argued that the advanced L2 learners did not show difficulties in employing the felicitous subjects at the syntax-pragmatics interface, suggesting that they had acquired the interface properties constraining the type of subjects. Thus, their performance did not fulfil the IH-1, but confirmed Rothman's hypothesis because the problems at the interfaces were not permanent. The interface conditions were eventually acquired at advanced levels, contrary to the predictions of the IH-1 for near-native levels. The influence of the L1 English had also declined, as the upper group did not misuse overt/null subjects, but they presented full mastery of the two types of subjects of Spanish, irrespective of the non-null subject value of English. Overall, the L1 effect and the interface problems depended on the competence level of the learners in L2 Spanish.

Domínguez and colleagues also examine null/overt and preverbal/postverbal subjects in various contexts. Domínguez and Arche (2014) observe the acquisition of subject position in L2 Spanish by English speakers, concentrating on SV/VS alternations with unergative/unaccusative verbs at the lexicon-syntax interface and the syntax-pragmatics interface. In this case, they examine the position of subjects with the two verb classes in *qué* ('what') questions with broad focus (54a, 56a) and *quién* ('who') questions with narrow focus (55a, 57a), following Hertel (2003) and Lozano (2006a, b). For instance, the unergative verb *estornudar* ('sneeze') allows the subject *Juan* in preverbal position (54b) in broad focus contexts, but in postverbal position (55b) in narrow focus contexts. On the other hand, the unaccusative verb *salir* ('leave') admits postverbal subjects in both broad (56b) and narrow focus contexts (57b). Still, the two verbs present identical word order in narrow focus contexts.

- (54) a. ¿*Qué* pasó?
 what happened-3sg.pst.
 'What happened?'
 b. [_{Foc} *Juan* estornudó].
 Juan sneezed-3sg.pst.
 'Juan sneezed.'

- (55) a. *¿Quién estornudó?*
 who sneezed-3sg.pst.
 ‘Who sneezed?’
 b. Estornudó [_{Foc} **Juan**].
 sneezed-3sg.pst. Juan
 ‘Juan sneezed.’
- (56) a. *¿Qué pasó?*
 what happened-3sg.pst.
 ‘What happened?’
 b. [_{Foc} Salió Juan].
 left-3sg.pst. Juan
 ‘Juan left.’
- (57) a. *¿Quién salió?*
 who left-3sg.pst.
 ‘Who left?’
 b. Salió [_{Foc} **Juan**].
 left-3sg.pst. Juan
 ‘Juan left.’

Domínguez and Arche (2014) argue that, if interface conditions constraining word order in Spanish are impaired, non-native speakers would show a gradient of acceptability of subject alternations with unergative/unaccusative verbs in broad and narrow focus contexts. The authors administered a context-dependent task in order to test non-native preference for SV/VS structures (see also Hertel, 2003; Lozano, 2006a, b). The task consisted of 28 experimental items. Each item included two sentences, one SV and the other VS, with an unergative or unaccusative verb, framed in an appropriate context. The participants were asked to choose which of the two sentences could match the situation introduced by the brief context. The groups were three experimental groups of 20 (beginner, intermediate and advanced) learners of Spanish and a control group of 20 native speakers.

The results for unergative verbs appear in Table 20. The advanced group achieved target performance in narrow focus contexts in which the native group also allowed both SV (49%) and VS (51%). But the natives presented a higher preference

for SV (64%) than VS (36%) in broad focus contexts, so the advanced group did not reach their behaviour in this case. The lower groups also differed from the control group, as they accepted SV more often in both focus contexts.

Table 20. Results from Domínguez and Arche's (2014: 22-24) context-dependent task

	Unergative verbs			
	Broad focus contexts		Narrow focus contexts	
	SV	#VS	#SV	VS
Beginner	82%	18%	88%	12%
Intermediate	75%	25%	78%	22%
Advanced	51%	49%	52%	48%
Control	64%	36%	49%	51%

Regarding the distribution of unaccusative verbs, the two lower groups also presented a higher preference for SV than VS in both focus contexts, as seen in Table 21. The statistical differences between the two word orders were significant for both groups. On the other hand, the advanced group accepted VS more often than SV in both contexts. This group did not reach the performance of native speakers, who showed a clearer preference for VS. The lower groups indicated a higher divergence from native patterns, as they accepted the infelicitous SV more often.

Table 21. Results from Domínguez and Arche's (2014: 25-27) context-dependent task

	Unaccusative verbs			
	Broad-focus contexts		Narrow-focus contexts	
	#SV	VS	#SV	VS
Beginner	71%	29%	73%	27%
Intermediate	59%	41%	66%	34%
Advanced	45%	55%	44%	56%
Control	32%	68%	25%	75%

Domínguez and Arche's (2014) results indicated that the beginner and intermediate groups consistently preferred SV more often than VS with both verb classes, as either they considered it default word order or they were reflecting the influence of their L1, English, which requires only SV with intransitives. However,

this word order was grammatical with unergatives in broad focus contexts of Spanish, implying that the two lower groups were sensitive to the lexical-syntactic properties of this verb class and therefore showed a higher preference for it (see also Lozano, 2006a). Their performance did not favour the IH-1 (against Sorace and Filiaci, 2006), as they had set correctly the properties of unergative verbs dependent on the lexicon-syntax interface. Still, the less advanced groups overgeneralized the unergative SV from broad to narrow focus contexts, showing that they had not fully mastered the syntactic-pragmatic properties constraining the informational word order in Spanish. Their behaviour fulfilled the IH-1 for the difficulties in acquiring the position of subjects at the syntax-pragmatics/discourse interface. On the other hand, the advanced group presented better distribution of unergative subjects at the syntax-pragmatics interface, against the IH-1, while they diverged from native-like performance at the lexicon-syntax interface because they did not show target command of SV/VS relaxation patterns. Thus, Domínguez and Arche (2014) concluded that observed gradients of acceptability (i.e. optionality) in advanced grammars affected structures in broad focus contexts, and that their findings did not support the view that optionality primarily affects structures at the syntax-pragmatics interface. The authors proposed that the type of evidence in the input can explain why acquiring SV/VS contrasts in Spanish is an area of particular difficulty for L2 speakers.

Clements and Domínguez (2017) also focus on the referential uses of null and overt subjects at the syntax-pragmatics interface. In discourse contexts, the authors examine the antecedent referent of a null or overt subject, following the Position of Antecedent Hypothesis (see Carminati, 2002). This hypothesis for Italian predicts that *pro* prefers to refer to a more prominent antecedent in a higher syntactic position [Spec, IP], while overt pronouns refer to a non-prominent antecedent in a lower non-[Spec, IP] position. However, in Spanish overt pronouns can retrieve both prominent and non-prominent antecedents without incurring a significant processing penalty (see Alonso-Ovalle, Fernández-Solera, Frazier and Clifton, 2002; Filiaci, Sorace and Carreiras, 2014). In example (58a) from Spanish *pro* prefers to be licensed by the antecedent *la mujer* ('the woman') in subject position. In (58b) an overt pronoun *ella* ('she') can be licensed by the antecedent subject in the [Spec, IP] or by the antecedent object *a la niña* ('the girl') in non-[Spec, IP] position without causing additional processing costs.

- (58) a. *La mujer_i empuja a la niña_j en el columpio, mientras pro_i se come un helado.*
the woman pushes-3sg.prs. the girl on the swing, while *pro* eats-3sg.prs. an ice-cream
‘The woman pushes the girl on the swing, while she eats an ice-cream.’
- b. *La mujer_i empuja a la niña_j en el columpio, mientras ella_{ij} se come un helado.*
the woman pushes-3sg.prs. the girl on the swing, while she-nom. eats-3sg.prs. an ice-cream
‘The woman pushes the girl on the swing, while she eats an ice-cream.’

Taking these facts into account, Clements and Domínguez (2017) test Sorace and Filiaci’s (2006) Interface Hypothesis (IH-1), examining whether the L2 learners encounter difficulties with the syntactic-pragmatic properties that constrain the distribution of subjects in referential contexts. Complexity at the interfaces is manifested by selecting the infelicitous antecedents for null/overt subjects in the discourse structure. The authors administered a picture verification task, adapted from Sorace and Filiaci (2006). Participants were presented with eight sets of pictures alongside two sentences in Spanish describing the events of the picture. Each sentence contained two referents in the main clause, one subject in [Spec, IP] and another referent in a lower (object) syntactic position. The embedded clause sentence contained a null or overt pronoun which was matched in terms of gender and number to the two antecedents in the main clause. The participants were asked to select a picture when *pro* was the subject of the subordinate clause (a) and again when an overt pronoun was in the subordinate (b). The groups were 20 English advanced learners of Spanish and 16 native speakers of Spanish.

Clements and Domínguez’s (2017) results showed that in sentences where *pro* was the subject of the embedded clause, the L2 advanced learners preferred to associate *pro* with the highest (subject) antecedent of the main clause in 67.5% of cases, compared with 77.4% for the control group. In sentences where the overt pronoun (OP) was the subject of the embedded clause, the advanced group (62.5%) preferred to license this pronoun with the nearest (object) antecedent more often than the control group (53.9%). The statistical analysis indicated that the differences

between the two groups were not significant in the cases examined, meaning that the advanced group showed native-like preferences for the antecedents of *pro* and overt pronouns. See Table 22 for the rates of the two groups.

Table 22. Results from Clements and Domínguez's (2017: 14-15) picture task

	Antecedent Position in L2 Spanish					
	Preferred antecedent for <i>pro</i>			Preferred antecedent for OP		
	Subject	#Object	Both	Subject	Object	Both
Advanced	67.5%	20.6%	11.9%	23.1%	62.5%	14.4%
Control	77.4%	11.7%	10.9%	27.3%	53.9%	18.8%

The above results indicated that both L2 learners and native speakers closely followed the antecedent position patterns, namely they preferred an antecedent subject for *pro* and an object antecedent for overt pronouns, as predicted by Carminati (2002). The performance of the L2 group did not fulfil the IH-1 (against Sorace and Filiaci, 2006), as they had acquired the distribution of subjects in referential contexts. Overall, the L2 preferences showed native-like attainment of the antecedent position phenomenon at the syntax-pragmatics interface.

2.3.2. *The acquisition of subject distribution in L2 Greek*

In this section, I provide an account of subject alternations in pre-existing research for L1 Spanish-L2 Greek and expand on other null subject or non-null subject L1s. The number of applied studies in L2 Greek is very small, as subject distribution (i.e. anaphora resolution) has been mainly studied in monolingual Greek (see Papadopoulou, Peristeri, Plemenou, Marinis and Tsimpli, 2015), in L1 Greek-L2 English (see Tsimpli, Sorace, Heycock and Filiaci, 2004; Prentza and Tsimpli, 2013) or other bilingual combinations (see Kaltsa, Tsimpli and Rothman, 2015 for L1 Greek-L2 Swedish).

Margaza and Bel (2008) observe the distribution of null subjects in L2 Greek by Spanish learners. This is an adaptation of Margaza and Bel's (2006) study for L1 Greek-L2 Spanish. As in their previous study, the authors concentrate on the conditions that regulate the production of null subjects. In examples (59a) and (60) for

Greek the omission of subjects is felicitous in referent introduction or maintenance structures. The inflection of the verbs *pigeno* ('go') and *perno* ('take') shows the first and third person singular, avoiding referential ambiguity. An overt pronoun *ego* ('I') in (59b) would be redundant in non-contrastive contexts. In (60) the referent *i kopela* ('the girl') of the matrix clause is adjacent to the subordinate clause, so that the expression of a pronoun *afti* ('she') in the subordinate would violate the reference maintenance structure or would be emphatic/contrastive.

- (59) *Pu pas?*
 where go-2sg.prs.
 'Where are you going?'
 a. *pro_i pao_i sti Barceloni.*
pro go-1sg.prs. to Barcelona
 'I am going to Barcelona.'
 b. *#Ego pao sti Barceloni.*
 I-nom. go-1sg.prs. to Barcelona
 'I am going to Barcelona.'
- (60) *I kopela_i perase stin ethusa diethnon anaxoriseon, otan pro_i pire_i tin*
karta epivivasis.
 the-nom. girl passed-3sg.pst. in the hall of international departures,
 when *pro* took-3sg.pst. the-acc. card of boarding
 'The girl went on to the international departures hall when she got her
 boarding card.'

In this study, Margaza and Bel (2008) test whether L2 learners of Greek allow null subjects in L1-L2 non-distinguishable referential contexts or instead overaccept overt pronouns due to vulnerability at the syntax-pragmatics interface (see Sorace and Filiaci, 2006). In contexts where the L2 learners employ the felicitous null subject, they might be presenting positive transfer from their L1 Spanish and thus approaching native-like performance in L2 Greek. On the other hand, if they overuse overt pronouns, they might be showing incomplete mastery of the interface conditions constraining subject alternations.

Margaza and Bel (2008) administered a cloze task of 40 items adapted of their previous study (2006) in order to assess the distribution of null/overt subjects in pragmatic contexts. The Spanish-speaking L2 Greek learners were asked to fill in the blanks by selecting the appropriate type of subjects. The participants were one intermediate group of 12 learners, one advanced group of 11 learners and one control group of 10 native speakers of Greek. The three groups showed non-significant differences in the selection of null subjects in referential contexts. As shown in Table 23, the intermediate and advanced groups presented a high rate of the felicitous option in matrix and subordinate clauses, approaching the patterns of the control group. The effect for *Competence* level was not significant for either type of sentence. The two experimental groups showed nearly the same rates for subordinate clauses, while the advanced group presented a slightly lower rate than the other groups for matrix clauses. The effect of *Clause* type was not significant. See the rates of all groups in Table 23.

Table 23. Results from Margaza and Bel's (2008: 3) cloze task

	Null Subjects	
	Matrix clauses	Subordinate clauses
Intermediate	94.44%	88.33%
Advanced	86.35%	89.08%
Control	96.66%	94%

Margaza and Bel's (2008) results from the cloze task indicated that the L2 learners had set the [+null subject] value for Greek, presenting target command of the syntactic domain of subjects from earlier stages of competence. This could be attributed to the null subject value of L1 Spanish. The groups of both levels also showed native-like mastery of the pragmatic uses of null subjects, as they avoided the infelicitous option in referent introduction and maintenance contexts. The high preference for null subjects revealed that the L2 learners had acquired the referential properties constraining subject alternations, suggesting that they had dealt with problems at the syntax-pragmatics interface, against Sorace and Filiaci's (2006) IH-1. The positive influence of the L1 was also possible, as Spanish presents non-

distinguishable subject distribution in the equivalent referential contexts in matrix and subordinate clauses.

Note that the above results were not consistent with the performance of the intermediate learners of Spanish in Margaza and Bel (2006), where competence level, type of referent and clause type played a crucial role in the production of null subjects at the syntax-pragmatics interface. Still, the typology of Spanish and Greek did not explain the behaviour of the L1 Greek intermediate group of L2 Spanish, as both languages allowed the omission of subjects in the contexts examined, so that the natural option would have been a null subject in the preferences of L2 learners. Thus, they would have been expected to show better mastery of interface conditions that were the same in L1 and L2, following the patterns of the L1 Spanish intermediate group learning L2 Greek. However, the intermediate learners of Spanish overgeneralized subject distribution from other contexts like referent shift contexts, in which the L1 Greek allows the production of a strong pronoun with deictic interpretation, while the L2 Spanish allows the default null subject more often than an emphatic overt subject. On the other hand, the advanced groups in both studies approached native-like patterns in L2 Spanish and L2 Greek, regardless of the type of phenomenon and reference at the syntax-pragmatics interface. It is likely that competence level influenced the performance of L2 learners more often than the L1-L2 typology. The type of task also played a role, since both native and non-native speakers presented flexible null/overt subject distribution in the referential contexts they created in free production tasks.

Next, I examine the combination of L1 Albanian and L2 Greek, two languages that share the properties of the null subject parameter. Kaltsa, Tsimpli, Marinis and Stavrou (2016) study the processing of subject-verb number agreement in preverbal and postverbal coordinate subject constructions. In Albanian and Greek, SV and VS alternations also give rise to alternations in overt number agreement marking between the subject and the verb, while the verb class (unergative/unaccusative) does not affect number agreement. In example (61a) from Greek a preverbal coordinate subject like *o Janis ce i Maria* ('the Janis and the Maria') requires plural agreement on the verb (i.e. *erxome* 'come'), while singular number agreement gives rise to ungrammaticality. On the other hand, the coordinate subject in postverbal position triggers plural agreement but optionally allows for a singular verb, as seen in (61b).

- (61) a. *O Janis ce i Maria irthan/*irthe.*
the-nom. Janis and the-nom. Maria came-3pl.pst./came-3sg.pst.
‘Janis and Maria came.’
- b. *Irthan/irthe o Janis ce i Maria.*
came-3pl.pst./came-3sg.pst. the-nom. Janis and the-nom. Maria
‘Janis and Maria came.’

Kaltsa et al. (2016) test the extent to which the L1 Albanian learners of L2 Greek process coordinate subjects with singular or plural verb constructions. As the L1 allows the partial number agreement in coordinate DPs, if transfer occurs, Kaltsa et al. predict that the L2 learners establish a difference in acceptability between singular VPs in SV and VS constructions. Thus, the L2 learners are expected to show higher tolerance for singular number marking on the verb with postverbal subjects.

To this end, Kaltsa et al. (2016) collected data from one experimental group of 30 advanced L1 Albanian learners of Greek and one control group of 41 native Greek speakers. The experiment was a self-paced reading task consisting of 106 items: 10 practice sentences, 24 experimental sentences and 72 filler sentences. Participants controlled the speed of reading each segment by pressing a button on the keyboard. The button press recorded the participants’ reading times (RT) per segment.

The results of the analysis revealed a main effect for *Group* across all segments, suggesting overall longer RT in L2 advanced learners compared to monolingual speakers. Regarding coordinate subjects, the L2 learners read the singular subjects faster in VS order than in SV order. The RT of native and non-native groups are detailed in Table 24.

Table 24. Results from Kaltsa et al.’s (2016: 8) self-paced reading task

Reading Times per Segment (in milliseconds)												
Preverbal Subject						Postverbal Subject						
Coordinate Subjects				Verb		Verb		Coordinate Subjects				
1st Subject		2nd Subject						1st Subject		2nd Subject		
Sg.	Pl.	Sg.	Pl.	Sg.	Pl.	Sg.	Pl.	Sg.	Pl.	Sg.	Pl.	
Advan	1476	1349	1246	1262	1201	1234	1543	1455	1237	1360	1281	1306
Contr	1095	1040	817	872	895	928	1087	1100	831	942	879	874

Kaltsa et al.'s (2016) results showed that the L2 advanced learners were able to coordinate subjects with singular or plural verbs in SV or VS position under the influence of their L1, even if the L2 learners needed more time to integrate the first DP with the second DP and match the plurality of the subject construction with the appropriate number of the verb.

Amvrazis (2012) considers the omission/expression of subjects in coreference contexts and the word order in pragmatic contexts in L1 English/L2 Greek. In particular, Amvrazis (2012) analyzes intra-sentential anaphora in Greek, following Carminati (2002). He agrees that in Greek the null pronoun, being the default pronominal form, is preferably anchored to the most salient/prominent referent, the sentential subject/topic, and hence leads to a non-shifted interpretation for the subject. On the other hand, the overt pronoun marks topic shift and is preferably associated with less salient/prominent entities of the discourse, namely non-topic referents. In example (62), the null pronoun of the subordinate is co-referential with the prominent topic antecedent *o papus* ('the grandfather') in subject position (62a), whereas the overt pronoun *aftos* ('he') is biased towards the non-prominent antecedent *ton egono* ('the grandson'), which is in object position (62b).

- (62) a. *O papus_i heretise ton egono_k tu otan pro_i ekane podilato.*
the-nom. grandfather waved-3sg.pst. the-acc. grandson his when *pro*
was riding-3sg.pst. bike-acc.
'The grandfather waved at his grandson when he was riding a bike.'
- b. *O papus_i heretise ton egono_k tu otan aftos_k ekane podilato.*
the-nom. grandfather waved-3sg.pst. the-acc. grandson his when he-
nom. was riding-3sg.pst. bike-acc.
'The grandfather waved at his grandson when he was riding a bike.'

Amvrazis (2012) also examines the position of subjects in relation to the focus of the sentence. Discursive features such as presentational focus or contrastive focus determine the position of subjects, triggering SV in Greek, irrespective of the type of verb. In example (63), the dialogue consists of a *pjos* ('who') question with unergative (*tilefono* 'call') and unaccusative verbs (*erxome* 'come') and an answer that triggers the presentationally focused subject *o Janis* ('the Janis') in preverbal position. A

postverbal subject would be acceptable in indirect speech of question-answer pairs. In (64) the *wh*-question asks for one of two referents (*o Janis* or *i Athina*) and elicits an answer with the referent *o Janis* contrastively focused in preverbal subject position, independently of the unergative *milao* ('speak') or the unaccusative *fevgo* ('leave').

- (63) a. *Pjos telefonise/irthe?*
 who called/came-3sg.pst.
 'Who called/came?'
 b. [_{Foc} ***O Janis***] *telefonise/irthe.*
 the-nom. Janis called/came-3sg.pst.
 'Janis called/came.'
- (64) a. *Pjos milise/efige, o Janis i i Athina?*
 who spoke/left-3sg.pst., the-nom. Janis or the-nom. Athina
 'Who spoke/left, Janis or Athina?'
 b. [_{Foc} ***O JANIS***] *milise/efige.*
 the-nom. Janis spoke/left-3sg.pst.
 'Janis spoke/left.'

Amvrazis (2012) tests the extent to which English learners of Greek show sensitivity to the coreference of null/overt pronouns with their antecedent matrix subject/object and the selection of the informational or contrastive word order (i.e. SV) in discourse-marked contexts. Following Sorace and Filiaci's (2006) Interface Hypothesis, Amvrazis (2012) predicts that, if the L2 learners have difficulties in integrating discourse information in the sentence interpretation, they may misinterpret pronominal subjects in referential structures and employ non-target focused subjects with intransitive verbs. The influence of the L1 English is possible, as it requires only overt pronouns in referential contexts; still, both English and Greek allow SV in informational and contrastive contexts. A high level of competence might also imply a better command of subject distribution in L2 Greek, despite the difference in L1-L2 typology.

In order to test his predictions, Amvrazis (2012) administered a picture verification task (adapted from Sorace and Filiaci, 2006) and a story-retelling task. The first task included 20 critical sentences, each consisting of two clauses, one

matrix, the other subordinate. The main clause always included an animate subject NP, a transitive verb and an animate object NP; the subordinate clause consisted of either a null or an overt pronominal subject, a verb and an object NP. Each item corresponded to a set of three visual depictions of the verbal events in which the main characters of the sentence (subject/object NPs) were involved. What distinguished each picture from the other two was the agent of the subordinate, which was either congruent or incongruent with the referential bias conditioned by the syntax-discourse interface. In the second task the participants were shown two short videos and were asked to retell the story of the film in their own words. While retelling the story they were asked some questions to clarify what they had just said. In order to avoid elliptical answers, the participants had been instructed to include the verb in their answer. In both tasks, the groups were one experimental group of advanced level English L1 learners of Greek and one control group of native Greek speakers, each group comprising 16 participants.

In the picture verification task, the advanced and control groups presented almost identical pattern of coreference between the null pronoun and the antecedent matrix subject. An ANOVA test revealed no significant differences in results. However, the advanced learners did not achieve the rate of the native speakers for the matrix complement referent, indicating an effect for *Group*. Similarly, the advanced group diverged from the control group in coreference between the subordinate overt pronoun and the antecedent complement in the matrix clause. In this case, the advanced learners preferred the subject antecedent for the overt pronoun more often than the control group. The natives also showed a significantly higher preference for an extralinguistic referent than the advanced group. The *Referent* type played a role in the performance of the two groups, as they both preferred the null pronoun-subject coreference more often than the overt pronoun-subject coreference. The rates of the coreference conditions are shown in Table 25. (The rate of each element is calculated separately for each condition and therefore all of them do not add up to 100%.)

Table 25. Results from Amvrazi's (2012: 213) picture verification task

Subject coreferences						
	Null Pronoun Condition			Overt Pronoun Condition		
	Subject	#Complement	Other	#Subject	Complement	Other
Advanced	91%	45%	6%	44%	76%	18%
Control	94%	62%	7%	24%	94%	39%

In the story-retelling task, the advanced and control groups produced a high rate of the SV order in presentational and contrastive focus contexts. Specifically, the advanced group presented the same rate of focused subjects in both contexts, while the control group produced almost the maximum rate (98%) of SV in contrastive contexts, compared to a lower rate (89%) in presentational contexts. The differences between the two groups in the two conditions were shown to be not statistically significant by a Chi-Square test. See the rates of subject distribution in Table 26.

Table 26. Results from Amvrazi's (2012: 250) story-retelling task

Subject Position						
	Presentational Focus			Contrastive Focus		
	SV	#VS	Other	SV	#VS	Other
Advanced	95%	3%	2%	95%	4%	1%
Control	89%	6%	5%	98%	2%	0%

Amvrazi's (2012) overall results showed that the advanced group presented better performance in the story-retelling task than in the picture verification task, a clear *Task* effect. In the story task, the L1 English-L2 Greek similarity might have facilitated the preference for the felicitous SV, as both languages display *focus in situ* in presentational and contrastive contexts. The competence level of the L2 group was also likely to explain the high rate of the appropriate word order, as in Domínguez and Arche's (2014) study where the advanced learners approached the target inversion of focused subjects in L2 Spanish, while the learners of lower levels accepted SV more often due to the influence of the L1 English.

Regarding the pronoun coreferences in the picture task, the L2 advanced group presented a higher preference for the felicitous null pronoun-subject coreference.

Their performance demonstrated that they had set the null subject value of Greek in referential contexts, even though their L1 English allows only overt pronouns in the equivalent cases of Greek null pronouns. The advanced group was also sensitive to the wider scope of null pronouns, as they accepted the null pronoun-complement coreference, although they did not attain native-like rates, as it was not their first choice in the contexts examined. On the other hand, the L2 group preferred the felicitous overt pronoun-complement coreference more often in the overt pronoun condition, though they did not reach the rate of native speakers. Here the L1-L2 combination seems to have played a role in the coreference structure, as the advanced group of this study presented a higher rate of null pronoun-subject and overt pronoun-complement coreference than that seen in Clements and Domínguez's (2017) study involving the English-Spanish combination. The Greek native speakers selected the first choice of coreference more often than the Spanish native speakers, showing that the null/overt pronoun coreference is more natural in Greek than in Spanish.

The performance of the advanced learners in Amvrazi's (2012) tasks indicated that they had acquired the properties of the focused SV but had not achieved native-like command of all properties of pronouns and their antecedent referents. This implies that they did not have equal mastery of all syntactic-pragmatic properties (see also Lozano, 2018 for L2 Spanish), having acquired the focus properties earlier than the coreferential properties, so that Sorace and Filiaci's (2006) Interface Hypothesis (IH-1) was not always fulfilled.

3. *Aims*

The main goal of my thesis is to test whether the predictions of the two versions of the Interface Hypothesis (IH-1, IH-2) are fulfilled or not in the performance of L2 learners of Spanish and Greek. I aim at examining whether the interface domains are complex to acquire, as proposed by Sorace and Filiaci (2006), or if instead the internal interfaces are easier to acquire than the external interfaces, as argued by Tsimpli and Sorace (2006). See (4) and (5) for the IH-1 and the IH-2, repeated here for convenience.

(4) Interface Hypothesis-1 (IH-1):

Grammatical properties that require the integration of syntactic knowledge with information from other cognitive systems, such as pragmatics, are computationally more complex to represent at the interface levels and may not be fully acquirable in a second language (Sorace and Filiaci, 2006).

(5) Interface Hypothesis-2 (IH-2):

Formal properties involving the integration of internal modules such as syntax and semantics are computationally easier to acquire than grammatical properties involving the integration of an internal module such as syntax and the external module of pragmatics (Tsimpli and Sorace, 2006).

In choosing to investigate the combination of Spanish and Greek, my goal is to test whether the interface domains of a null subject language as L2 are easier to acquire by learners of another null subject language (even though the two languages do not always present the same distribution of, for example, demonstrative overt pronouns and preverbal/postverbal subjects in discourse contexts). In this case, I examine whether similarities in L1-L2 typology enhance or not the acquisition of the internal and external interfaces.

In particular, I explore the empirical domains of the expression/omission of subjects and the distribution of preverbal/postverbal subjects with transitive/intransitive verbs in different tasks. In what follows I formulate the relevant predictions of the IH-1 and IH-2 regarding the performance of L2 learners in the languages under scrutiny.

Both IHs make Prediction 1 for the distribution of null/overt subjects in pragmatic contexts.

(6) Prediction 1 (for IH-1 and IH-2):

L2 learners of Spanish and Greek are expected to confront difficulties in employing null and overt subjects in referential contexts due to complexities in coordinating the modules of morphosyntax with pragmatics at the interface levels, even though Spanish and Greek share the null subject value.

The IH-1 and the IH-2 make different predictions for the distribution of preverbal/postverbal subjects with transitive verbs in neutral contexts.

(7) Prediction 2 for IH-1:

L2 learners of Spanish/Greek are expected to express less the felicitous word order with transitive verbs in neutral contexts due to the difficulty in acquiring the syntactic-lexical-semantic properties that restrict the position of subjects at the interface levels, even when Greek and Spanish display the same default SVO order with transitives in neutral contexts.

(8) Prediction 2 for IH-2:

L2 learners of Spanish/Greek are expected to have command of the target word order with transitive verbs, as the formal properties that regulate the position of subjects are easier to acquire at the internal syntax-lexicon-semantics interfaces.

The IH-1 and the IH-2 make different predictions for the position of transitive subjects with adverbial phrases in neutral and contrastive contexts.

(9) Prediction 3 for IH-1:

L2 learners of Spanish/Greek are not expected to command the felicitous word order with transitive verbs in sentences with adverbial phrases due to the difficulties involved in coordinating syntactic with lexical-semantic properties in neutral adverbial contexts and syntactic with pragmatic properties in contrastive adverbial contexts.

(10) Prediction 3 for IH-2:

L2 learners of Spanish/Greek are expected to be on target with respect to the word order with transitive verbs preceded by adverbial phrases in neutral contexts, as the formal properties of these elements are determined by the internal syntax-lexicon-semantics interfaces, while they are likely to have problems with the felicitous word order with adverbial phrases in contrastive contexts due to the difficulties in integrating the internal modules with the external pragmatic module.

The IH-1 and the IH-2 also make different predictions for the default and non-default word orders in transitive contexts.

(11) Prediction 4 for IH-1:

L2 learners of Spanish/Greek are not expected to have acquired the target distribution of the default SVO and non-default VOS/OVS orders due to the difficulties in setting the syntactic-lexical-semantic properties of verbs and the morphosyntactic properties of subjects/objects in transitive SVO contexts in Spanish and Greek.

(12) Prediction 4 for IH-2:

L2 learners of Spanish/Greek are expected to have command of the default SVO and the non-default VOS/OVS orders, as the formal properties of transitive verbs and subjects/objects are acquired easily at the internal morphosyntax-lexicon-semantics interfaces.

The IH-1 and the IH-2 make different predictions for the position of subjects with unergative/unaccusative verbs in neutral contexts.

(13) Prediction 5 for IH-1:

L2 learners of Spanish/Greek are expected to produce subjects in erroneous positions with unergative/unaccusative verbs in neutral contexts due to the complexities involved in mapping the syntactic-lexical-semantic properties that distinguish the two classes of intransitive verbs at the interface levels,

despite the fact that Spanish and Greek share the same distribution of subjects with unergative/unaccusative verbs.

(14) Prediction 5 for IH-2:

L2 learners of Spanish/Greek are expected to select the grammatical word order with unergative/unaccusative verbs in neutral contexts because the formal properties that distinguish the two classes of verbs are acquired early at the internal syntax-lexicon-semantics interfaces.

Both versions of the IH make Prediction 6 for the position of subjects with unergative/unaccusative verbs in informational contexts.

(15) Prediction 6 (for IH-1 and IH-2):

L2 learners of Spanish/Greek are expected to employ less felicitous word orders in informational contexts due to the difficulty involved in acquiring the syntactic-pragmatic properties that neutralize the unergative/unaccusative distinction at the external interface levels.

Therefore, the IH-1 and the IH-2 make the same predictions (6, 15) in pragmatic contexts, but different predictions in the rest of the contexts examined. The above predictions are tested in the responses of L2 learners of intermediate and advanced levels. In including different competence levels, my aim is to determine whether learners at higher stages have better command of interface domains than learners of lower proficiency. Thus, I investigate if an increase in competence level reduces the fulfilment of the IH-1 and the IH-2 in L2 acquisition, as suggested by Rothman (2009).

4. Study 1: The acquisition of subjects in L2 Spanish

Study 1 is the first study of this thesis that explores the uses of subjects in L2 Spanish. In particular, this study consists of two experiments, an acceptability judgment task and a word order selection task. The first task examines the expression or omission of subjects and the position of subjects with unergative/unaccusative verbs in various contexts. The second task also tests the distribution of preverbal/postverbal subjects with the two intransitive verb classes in a larger array of contexts.

4.1. Experiment 1 on subject expression and position in various contexts

4.1.1. Predictions

In Experiment 1, I aim at examining whether Greek learners of Spanish achieve target distribution of null/overt subjects in referential contexts and preverbal/postverbal subjects with unergative/unaccusative verbs in neutral and informational focus contexts. In order to observe whether Greek learners have acquired the specific grammatical requirements of Spanish I test the following predictions of the two versions of the Interface Hypothesis (IH-1, IH-2), as numbered in the previous section.

Prediction 1 refers to the acceptance of null/overt subjects in pragmatic contexts.

(16) Prediction 1 (for IH-1 and IH-2):

Greek learners of Spanish are expected to confront difficulties in admitting null and overt subjects in referential contexts due to complexities in coordinating the modules of morphosyntax with pragmatics at the interface levels, even though Greek and Spanish share the null subject value.

Predictions 5 and 6 test the position of subjects with unergative/unaccusative verbs in neutral and non-neutral contexts.

(17) Prediction 5 for IH-1:

L2 learners of Spanish are expected to accept subjects in erroneous positions with unergative/unaccusative verbs in neutral contexts of direct question-answer pairs due to the complexities involved in mapping the syntactic-lexical-semantic properties that distinguish the two classes of intransitive verbs at the interface levels, despite the fact that Greek and Spanish share the same distribution of subjects with unergative/unaccusative verbs.

(18) Prediction 5 for IH-2:

L2 learners of Spanish are expected to attain the grammatical word order with unergative/unaccusative verbs in neutral contexts because the formal properties that distinguish the two classes of verbs are acquired early at the internal syntax-lexicon-semantics interfaces.

(19) Prediction 6 (for IH-1 and IH-2):

L2 learners of Spanish are expected to admit less felicitous word orders in informational contexts of direct question-answer pairs due to the difficulty involved in acquiring the syntactic-pragmatic properties that neutralize the unergative/unaccusative distinction at the external interface levels.

Therefore, the IH-1 and the IH-2 make the same predictions (16, 19) in pragmatic contexts, but different predictions (17, 18) in neutral contexts.

4.1.2. Experimental design

The first experiment is an acceptability judgment task designed to examine the type of subject, null or overt, and preverbal or postverbal, in contextualized sentences. This experiment includes a 5-point Likert-scale from -2 (fully rejected) to 2 (fully accepted) that allows the rating of the exact degree of acceptability of the four types of subjects in various pragmatic contexts. Similar Likert scales are employed in Lozano's (2006a, b) and Domínguez and Arche's (2014) studies.

This task consists of a total number of 41 stimuli: 36 items that test the acceptance or rejection of null/overt subjects and preverbal/postverbal subjects with unergative/unaccusative verbs and 5 items that do not concern the phenomena

examined and therefore serve as distractors and are not further analyzed. In particular, five conditions are tested: three conditions involve the use of null/overt subjects and two conditions test preverbal/postverbal subjects.

The first condition contains 6 items involving null/overt subjects, 3 of them 1st person and 3 of them 2nd person. The two types of person are examined together, as they allow the production of null subjects in non-contrastive referential contexts. In examples (65) and (66) the null subjects are felicitous in referent maintenance contexts in which the inflection of the verbs *volver* ('return') and *dejar* ('stop') shows the 1st and 2nd person in (65a) and (66a), respectively. In this case, the expression of the overt pronouns *yo* ('I') in (65b) and *tú* ('you') in (66b) would be redundant. Though, the overt pronouns would be acceptable with an emphatic/contrastive interpretation, this is not the first choice in the sentences examined.

- (65) Ayer, cuando *salí* del trabajo, _____.
 yesterday, when left-1sg.pst. from the work, _____
 'Yesterday, when I left work, _____.'
- (a) *volví* a casa para cenar con mis padres. -2 -1 0 1 2
 returned-1sg.pst. to house to dine-inf. with my parents
 'I went back home to have dinner with my parents.'
- (b) *yo volví* a casa para cenar con mis padres. -2 -1 0 1 2
 I-nom. returned-1sg.pst. to house to dine-inf. with my parents
 'I went back home to have dinner with my parents.'
- (66) Por más dieta que hagas, _____.
 for more diet that do-2sg.prs.subj., _____
 'No matter how much you are on diet, _____.'
- (a) si *no dejas* de beber alcohol, no podrás bajar rápidamente de peso.
 -2 -1 0 1 2
 if not stop-2sg.prs. of drink-inf. alcohol, not can-2sg.fut. lose-inf. quickly of weight
 'if you don't stop drinking alcohol, you will not be able to lose weight quickly.'

- (b) si *tú* *no dejas* de beber alcohol, no podrás bajar rápidamente de peso. -2 -1 0 1 2
 if you-nom. not stop-2sg.prs. of drink-inf. alcohol, not can-2sg.fut. lose-inf.
 quickly of weight
 ‘if you don’t stop drinking alcohol, you will not be able to lose weight
 quickly.’

The second and third conditions test the acceptability of null/overt subjects of 3rd person in referential contexts. Each condition consists of 5 items containing two sentences with the two types of subjects. The second condition involves the omission of subjects of 3rd person in referential contexts with recovery of an unambiguous antecedent. In example (67) the inflection of the verb *tener* (‘have’) allows the identification of the 3rd person of the antecedent referent *Juan*, so that the production of a null subject is acceptable in (67a). However, the overt pronominal subject *él* (‘he’) is possible with emphatic/contrastive interpretation in referent shift contexts (67b).

- (67) *Juan* está estudiando para las oposiciones y sus amigos no creen que _____.
 Juan is studying-3sg.prs.cont. for the exams and his friends not think-3pl.prs.
 that _____
 ‘Juan is studying for the exams and his friends do not think that _____.’
- (a) *tenga* tiempo para tomar un café con ellos. -2 -1 0 1 2
 has-3sg.prs.subj. time to drink-inf. a coffee with them
 ‘he has time to have coffee with them.’
- (b) *él tenga* tiempo para tomar un café con ellos. -2 -1 0 1 2
 he-nom. has-sg.prs.subj. time to drink-inf. a coffee with them
 ‘he has time to have coffee with them.’

On the other hand, the expression of 3rd person subjects is sometimes obligatory in order to avoid ambiguity between two antecedent referents. The third condition includes the items in which the production of overt subjects is required in referent shift contexts of contrast. In example (68), the inflection of the verb *ganar* (‘win’) shows the 3rd person singular, but it does not distinguish the antecedent

referent *el escritor Breton* ('the writer Breton') from *la poeta García* ('the poet García'), so the expression of the pronoun *él* ('he') is compulsory in (68a) to refer to the distant antecedent. However, the null subject is possible in (68b) if it refers to the closest antecedent (*la poeta García*) in the discourse.

- (68) *El escritor Breton es el mejor del mundo, pero también la poeta García es muy buena.*

the writer Breton is-3sg.prs. the best of the world, but also the poet García is-3sg.prs. very good

'The writer Breton is the best in the world, but also the poet García is very good.'

- (a) *Todo el mundo cree que él ganará el premio Nobel.* -2 -1 0 1 2

all the world believes-3sg.prs. that he-nom. will win-3sg.fut. the prize Nobel

'The whole world believes that he will win the Nobel Prize.'

- (b) *Todo el mundo cree que ganará el premio Nobel.* -2 -1 0 1 2

all the world believes-3sg.prs.that will win-3sg.fut. the prize Nobel

'The whole world believes that he will win the Nobel Prize.'

The next two conditions examine the position of subjects with intransitive verbs in various contexts. Each condition contains 5 items with unergatives and 5 with unaccusatives. The fourth condition tests the unergative/unaccusative distinction that allows the anteposition of unergative subjects and the postposition of unaccusative subjects (see also Lozano, 2006a, b). This distinction is examined in direct question-answer pairs in which the informational focus is neutral, so the syntactic-lexical-semantic properties of verbs constrain the position of their subjects. In the contextualized examples (69) and (70), the broad focus questions *¿Qué ocurrió en la fiesta?* ('What happened at the party?') and *¿Qué ha pasado?* ('What has happened?') trigger as new information the entire answer, allowing the SV order with the unergative *bailar* ('dance') in (69a) and the VS order with the unaccusative *venir* ('come') in (70a). On the other hand, the second word order option is not acceptable in the neutral contexts in (69b) and (70b).

- (69) Anoche estuviste en una fiesta y te sorprendiste al ver a un profesor bailando sin parar. Hoy tu amiga Mercedes te pregunta: ¿*Qué* ocurrió en la fiesta? Tú dices: _____.

last night were-2sg.pst. in a party and you-refl. were surprised-2sg.pst. to see-inf. a professor dancing-ger. without stop-inf. today your friend Mercedes you-acc. asks-3sg.prs.: what happened-3sg.pst. in the party? you-nom. say-2sg.prs.: _____

‘Last night you were at a party and were surprised to see a professor dancing without stopping. Today your friend Mercedes asks you: What happened at the party? You say: _____.’

- (a) *Un profesor* estuvo bailando toda la noche. -2 -1 0 1 2
a professor was dancing-3sg.pst.cont. all the night
‘A professor was dancing all night.’

- (b) Estuvo bailando *un profesor* toda la noche. -2 -1 0 1 2
was dancing-3sg.pst.cont. a professor all the night
‘A professor was dancing all night.’

- (70) Tu amigo Juan sale de la cafetería y en ese preciso momento llega la policía. Cuando vuelve Juan, te pregunta: ¿*Qué* ha pasado? Tú contestas: _____.
your friend Juan leaves-3sg.prs. of the cafe and in that precise moment arrives-3sg.prs. the police. when returns-3sg.prs. Juan, you-acc. asks-3sg.prs.: what has happened-3sg.prs.prf.? you-nom. answer-2sg.prs.: _____

‘Your friend Juan leaves the cafe and at that precise moment the police arrive. When Juan comes back, he asks you: What has happened? You answer: _____.’

- (a) Ha venido *la policía*. -2 -1 0 1 2
has come-3sg.prs.prf. the police
‘The police have come.’

- (b) *La policía* ha venido. -2 -1 0 1 2
the police has come-3sg.prs.prf.
‘The police have come.’

The fifth condition examines the distribution of subjects with unergative/unaccusative verbs in informational focus contexts. In this case, the

syntactic-pragmatic properties of focus constrain the syntactic-lexical-semantic properties of verbs, so the felicitous word order is VS with both unergatives/unaccusatives. The examined contexts contain direct question-answer pairs, as in the fourth condition. But, in this case, the question is with *¿Quién...?* ('Who...?'), triggering a focalized subject that introduces new information into the discourse. In the contextualized examples (71) and (72) the narrow focus question with *¿Quién...?* ('Who...?') receives as answer the VS order with the unergative *dormir* ('sleep') in (71a) and the unaccusative *volver* ('return') in (72a). The anteposition of subjects is infelicitous in informational focus contexts in (71b) and (72b).

- (71) Un grupo de turistas está en Barcelona. La primera noche muchos turistas no han podido dormir porque había mucho ruido en el hotel. Por la mañana el jefe del hotel les pregunta: *¿Quién* ha dormido esta noche? Ellos responden:

_____.

a group of tourists is-3sg.prs. in Barcelona. the first night many tourists not have been-3pl.prs.prf. able to sleep-inf. because was-3sg.pst. much noise in the hotel. in the morning the manage of the hotel them-acc. asks-3sg.prs.: who has slept-3sg.prs.prf. this night? they-nom. answer-3pl.prs.: _____

'A group of tourists is in Barcelona. The first night many of them have not been able to sleep because there was a lot of noise at the hotel. In the morning the manage of the hotel asks them: Who slept last night? They answer: _____.'

- | | | |
|-----|--------------------------------------|-------------|
| (a) | Han dormido <i>pocas personas</i> . | -2 -1 0 1 2 |
| | have slept-3pl. prs.prf. few persons | |
| | 'Few people slept.' | |
| (b) | <i>Pocas personas</i> han dormido. | -2 -1 0 1 2 |
| | few persons have slept-3pl. prs.prf. | |
| | 'Few people slept.' | |

- (72) Tu amigo Manolo está hablando con el director de la empresa, cuando una secretaria sale de la habitación y luego vuelve. Manolo no se ha dado cuenta de lo que ha pasado, así que te pregunta: *¿Quién ha vuelto?* Y tú le dices: _____.

your friend Manolo is speaking-3sg.prs.cont. with the director of the company, when a secretary leaves-3sg.prs. of the room and then returns-3sg.prs. Manolo not himself-refl. has realized-3sg.prs.prf. of what has happened-3sg.prs.prf., so that you-acc. asks-3sg.prs.: who has returned-3sg.prs.prf.? and you-nom. him-acc. say-2sg.prs.: _____

‘Your friend Manolo is speaking with the director of the company when a secretary leaves the room and then returns. Manolo has not realized what has happened, so he asks you: Who has returned? And you tell him: _____.’

- (a) Ha vuelto *una chica*. -2 -1 0 1 2

has returned-3sg.prs.prf. a girl

‘A girl has returned.’

- (b) *Una chica* ha vuelto. -2 -1 0 1 2

a girl has returned-3sg.prs.prf.

‘A girl has returned.’

The full task is detailed in Appendix 1.

4.1.3. Subjects

The subjects of this task were two experimental groups of L1 Greek learners of Spanish and a group of native Spanish speakers. The non-native groups consisted of intermediate and advanced students who were learning Spanish as an L2 at the Instituto Cervantes de Atenas. Both groups had passed the Examination for the Diploma of Spanish as a Foreign Language (*DELE*). Intermediate learners had obtained an average rate of 86% in the B1 Exam, while advanced learners had attained a mean of 89% in the C1 Exam, according to the Common European Framework of Reference for Foreign Languages. Both groups of learners had also taken university subjects in classical languages and psychology and had contact with

other languages such as English, French and Italian. Nonetheless, I assume that these other languages had no influence on their L2 Spanish.

The third group was formed by Spanish native speakers, living in Madrid and doing a degree in Spanish language and literature at the Universidad Autónoma de Madrid. This group served as a control group and established the rate of acceptability of the various types of subjects in Spanish. In Table 27, I present the details for the three groups.

Table 27. *Subjects*

Groups	<i>Intermediate</i>	<i>Advanced</i>	<i>Control</i>
First language	Greek	Greek	Spanish
Number	15	15	15
Age range	30-60	34-62	30-50
Studies in Spanish language	3rd year L2 course	5th year L2 course	university course in Spanish linguistics
Level	B1	C1	native speakers
Average score in <i>DELE</i> exams	86%	89%	—

4.1.4. Procedure

Experiment 1 was administered at the Instituto Cervantes de Atenas, where the classes of L2 Spanish were taught and at the Universidad Autónoma de Madrid, where the native speakers were studying. All groups were instructed to complete the acceptability judgment task and rate all items with two options (null/overt or preverbal/postverbal subjects) on a five-point scale. The five points of the scale were explained, as follows: -2 (fully rejected), -1 (rejected), 0 (neither rejected nor accepted), 1 (accepted) and 2 (fully accepted). The participants were also given a distractor example with two sentences that indicated how to rate the felicitous and infelicitous types of subjects. But this example did not reflect the conditions of the experiment. Prior to beginning the experiments, all questions and doubts were

answered in order to avoid misunderstandings. The nominal duration of the judgment task was 40 minutes, but participants were permitted to continue beyond this deadline if necessary.

4.1.5. Coding of the results and statistical analysis

The ratings of the four types of subjects (null/overt and preverbal/postverbal subjects) on the five-point scale were classified as follows: the accepted (1, 2) and rejected (–2, –1) values were grouped together, while the neither accepted/rejected (0) value was also noted as third category. The types of subjects were also coded in accordance with the context of the five conditions of Experiment 1. In the first condition, null subjects of 1st/2nd person were coded as non-contrastive and overt subjects were coded as contrastive. In the second condition, null subjects of 3rd person were coded as unambiguous (shift)-referential and overt subjects were coded as contrastive. In the third condition, overt subjects of 3rd person were coded as referentially contrastive and null subjects were coded as referentially ambiguous. In the fourth condition, preverbal subjects were coded as neutral and postverbal subjects were coded as non-neutral with unergative verbs, while postverbals were coded as neutral and preverbals as non-neutral with unaccusative verbs. In the fifth condition, postverbal subjects were coded as focused and preverbal subjects were coded as non-focused with both unergative and unaccusative verbs.

Then the Average Function was applied in Excel in order to calculate the mean rating for each type of subjects in the five conditions. The ratings of felicitous and infelicitous subjects were averaged for each (intermediate, advanced, control) group. The means were also calculated individually for each participant in the three groups in order to perform statistical tests using the SPSS Program given that small or medium sample sizes of this sort allow the performance of non-parametric statistical tests. In this experiment, the number of participants (N: 15 per group) allowed the Mann-Whitney test to be performed in order to test for significant differences between paired groups, such as intermediate-advanced, intermediate-control and advanced-control. The differences between groups were regarded as significant below a cutoff value of $p < 0.05$. The specific statistical test examined the significant effect of *Group* on the type of *Subjects* in the five conditions. The effect of *Person* (1st/2nd) on the

distribution of null/overt subjects and *Verb* class (unergative/unaccusative) on preverbal/postverbal subjects was also measured by means of the Wilcoxon test, another non-parametric test for related samples, across the responses of the three groups. The performance of statistical tests facilitated the accurate analysis of the results of Experiment 1.

4.1.6. Results

Experiment 1 yielded a total of 3,240 responses (1,080 from each group) considering the five conditions for subject omission/expression and position with unergative/unaccusative verbs. However, the responses to the distractors were not included in the data analysis because they did not involve the phenomena examined. Prior to analysis, the responses were categorized following the grouping of accepted and rejected values, while the neither accepted/rejected value was dispreferred in the judgments of participants.

In non-contrastive referential contexts, all groups showed a high preference for null subjects of 1st/2nd person, while they avoided the non-target values, as seen in Table 28, which shows raw responses and percentages. On the other hand, the three groups tended to reject overt subjects, but they also showed variation with regard to the expression of subjects. The non-native groups followed the patterns of the control group. However, the intermediate group rejected the infelicitous option more often than the advanced group.

Table 28. Null and overt subjects of 1st/2nd person in non-contrastive referential contexts

	Raw Responses (Percent in Parentheses)					
	Null			#Overt		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	87/90	3/90	0/90	25/90	65/90	0/90
	(96.67%)	(3.33%)	(0%)	(27.78%)	(72.22%)	(0%)
Advanced	89/90	1/90	0/90	38/90	52/90	0/90
	(98.89%)	(1.11%)	(0%)	(42.22%)	(57.78%)	(0%)
Control	90/90	0/90	0/90	32/90	58/90	0/90
	(100%)	(0%)	(0%)	(35.56%)	(64.44%)	(0%)

The overall means of the results are shown in Table 29. The intermediate (1.84/2) and advanced groups (1.85/2) allowed null subjects more often in non-contrastive referential contexts, approximating the higher rate of the control group (1.95/2). However, none of the three groups rejected overt subjects (-0.78/2, -0.31/2, -0.58/2) completely, showing an alternation towards overt pronouns, even though this was not their first choice in the contexts examined.

Table 29. Null and overt subjects of 1st/2nd person in non-contrastive referential contexts

	Means	
	Null	#Overt
Intermediate	1.84/2	-0.78/2
Advanced	1.85/2	-0.31/2
Control	1.95/2	-0.58/2

The Mann-Whitney test did not reveal significant differences between the intermediate and advanced groups ($p = .539$, $p = .359$), the intermediate and control groups ($p = .378$, $p = .677$) and the advanced and control groups ($p = .112$, $p = .454$). The effect for *Group* was not statistically significant for either pair group, as seen in Table 30.

Table 30. Mann-Whitney test between two groups

	Null and overt subjects of 1st/2nd person in non-contrastive referential contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Mann-Whitney U	99.500	90.500	96.000	102.500	80.500	94.500
asymptotic significance	.539	.359	.378	.677	.112	.454

The effect of the type of *Person* on the distribution of subjects was also analyzed. The raw responses and percentages for the 1st person indicated that all groups preferred null subjects more often, while they disallowed the infelicitous

values, as seen in Table 31. The intermediate and control groups tended to reject overt pronouns of 1st person, while the advanced group presented a higher degree of variation between accepting and rejecting this type of subject.

Table 31. Null and overt subjects of 1st person in non-contrastive referential contexts

	Raw Responses (Percent in Parentheses)					
	Null			#Overt		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	44/45 (97.78%)	1/45 (2.22%)	0/45 (0%)	8/45 (17.78%)	37/45 (82.22%)	0/45 (0%)
Advanced	45/45 (100%)	0/45 (0%)	0/45 (0%)	19/45 (42.22%)	26/45 (57.78%)	0/45 (0%)
Control	45/45 (100%)	0/45 (0%)	0/45 (0%)	10/45 (22.22%)	35/45 (77.78%)	0/45 (0%)

Regarding the distribution of 2nd person, all groups also accepted null subjects more often with this person, while they avoided the non-target values, as displayed in Table 32. However, the three groups alternated between accepting and rejecting overt subjects of 2nd person, although the non-native groups showed a greater tendency to reject overt pronouns than the control group.

Table 32. Null and overt subjects of 2nd person in non-contrastive referential contexts

	Raw Responses (Percent in Parentheses)					
	Null			#Overt		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	43/45 (95.56%)	2/45 (4.44%)	0/45 (0%)	17/45 (37.78%)	28/45 (62.22%)	0/45 (0%)
Advanced	44/45 (97.78%)	1/45 (2.22%)	0/45 (0%)	19/45 (42.22%)	26/45 (57.78%)	0/45 (0%)
Control	45/45 (100%)	0/45 (0%)	0/45 (0%)	22/45 (48.89%)	23/45 (51.11%)	0/45 (0%)

The means of 1st/2nd person for the three groups are shown in Table 33. The results indicate that all groups preferred null subjects of 1st (1.91/2, 1.91/2, 2/2) and 2nd person (1.77/2, 1.8/2, 1.91/2), though they tended to express a higher rate of 1st person null subjects. However, the three groups showed variation between accepting and rejecting overt pronouns of 1st/2nd person, although the intermediate and control groups had a tendency to reject overt subjects of 1st person (-1.06/2, -0.97/2) more often than 2nd person (-0.51/2, -0.2/2), while the advanced group presented more similar rates (-0.44/2, -0.17/2) in both cases.

Table 33. Null and overt subjects in non-contrastive referential contexts

	Means			
	1st Person		2nd Person	
	Null	#Overt	Null	#Overt
Intermediate	1.91/2	-1.06/2	1.77/2	-0.51/2
Advanced	1.91/2	-0.44/2	1.8/2	-0.17/2
Control	2/2	-0.97/2	1.91/2	-0.2/2

The Wilcoxon test did not confirm significant differences between 1st and 2nd person considering the null subject option for the three groups ($p = .157$, $p = .102$, $p = .102$), as shown in Table 34. Regarding overt subjects, the rate of the intermediate group approached the statistical limit ($p = .058$). The differences between 1st and 2nd person were significant for the control group ($p = .015$), but not for the advanced group ($p = .310$).

Table 34. Wilcoxon test between related samples

Null and overt subjects in non-contrastive referential contexts						
	1st vs. 2nd Person					
	Intermediate		Advanced		Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Wilcoxon Z	-1.414	-1.892	-1.635	-1.016	-1.633	-2.442
asymptotic significance	.157	.058	.102	.310	.102	.015

In referential contexts the 3rd person was also examined. All groups preferred null subjects of 3rd person more often in unambiguous referential shift contexts, as seen in Table 35 for the raw responses and percentages. The non-native groups admitted the felicitous subject option, but they did not reach the maximum rates of the control group. On the other hand, all groups alternated between accepting and rejecting overt subjects. The intermediate group presented higher variation, while the advanced group tended to accept overt subjects compared to the control group, which rejected this type of subject more often.

Table 35. Null and overt subjects of 3rd person in unambiguous referential shift contexts

	Raw Responses (Percent in Parentheses)					
	Null			#Overt		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	69/75	6/75	0/75	36/75	39/75	0/75
	(92%)	(8%)	(0%)	(48%)	(52%)	(0%)
Advanced	66/75	9/75	0/75	45/75	30/75	0/75
	(88%)	(12%)	(0%)	(60%)	(40%)	(0%)
Control	73/75	2/75	0/75	25/75	50/75	0/75
	(97.33%)	(2.67%)	(0%)	(33.33%)	(66.67%)	(0%)

Means for the three groups are shown in Table 36. The results also showed that all groups accepted 3rd person null subjects more often in unambiguous referential contexts. Both intermediate (1.54/2) and advanced groups (1.46/2) preferred null subjects, approaching the rates of the control group (1.89/2), though they did not perform at ceiling. However, the three groups did not avoid overt subjects in referential shift contexts of 3rd person. The intermediate and advanced groups presented variation in their rejection (-0.16/2) and acceptance rates for overt pronouns (0.24/2). The control group tended to reject this type of subject (-0.72/2) more often.

Table 36. Null and overt subjects of 3rd person in unambiguous referential shift contexts

	Means	
	Null	#Overt
Intermediate	1.54/2	-0.16/2
Advanced	1.46/2	0.24/2
Control	1.89/2	-0.72/2

The Mann-Whitney test indicated significant differences between the advanced and control groups ($p = .003$, $p = .023$), as seen in Table 37. The differences between the intermediate and control groups were at the limit for significance ($p = .052$) for the null subject condition and non-significant for the overt subject condition ($p = .269$). The differences between the intermediate and advanced groups were also non-significant ($p = .370$, $p = .454$). Thus, the effect of *Group* was significant for the advanced-control group comparison, but not for the other group pairs, though it approached significance level in the null subject condition for the intermediate-control group comparison.

Table 37. Mann-Whitney test between two groups

	Null and overt subjects of 3rd person in unambiguous referential shift contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Mann-Whitney U	91.500	94.500	72.000	86.000	46.000	58.000
asymptotic significance	.370	.454	.052	.269	.003	.023

The 3rd person was also examined in referential shift contexts of contrast in which the expression of subjects was obligatory. All groups admitted overt subjects more often in contrastive contexts, as shown in Table 38. The two non-native groups presented almost the same rates. On the other hand, the three groups rejected null subjects in the contexts examined. The non-native groups dispreferred the infelicitous option, following the patterns of the control group.

Table 38. Overt and null subjects of 3rd person in referential shift contexts of contrast

	Raw Responses (Percent in Parentheses)					
	Overt			#Null		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	67/75 (89.33%)	8/75 (10.67%)	0/75 (0%)	8/75 (10.67%)	67/75 (89.33%)	0/75 (0%)
Advanced	68/75 (90.67%)	7/75 (9.33%)	0/75 (0%)	11/75 (14.67%)	64/75 (85.33%)	0/75 (0%)
Control	73/75 (97.33%)	2/75 (2.67%)	0/75 (0%)	4/75 (5.33%)	71/75 (94.67%)	0/75 (0%)

The means of the results also indicated that the three groups accepted overt subjects more often in contrastive referential shift contexts, as seen in Table 39. The intermediate (1.53/2) and advanced groups (1.56/2) presented similar rates of overt subjects, having a tendency towards the intuitions of the control group (1.89/2), though they did not perform at ceiling. On the other hand, all groups rejected null subjects in contrastive contexts. The non-native groups avoided the use of this type of subject (-1.42/2, -1.37/2), approaching the rate of the control group (-1.64/2).

Table 39. Overt and null subjects of 3rd person in referential shift contexts of contrast

	Means	
	Overt	#Null
Intermediate	1.53/2	-1.42/2
Advanced	1.56/2	-1.37/2
Control	1.89/2	-1.64/2

The Mann-Whitney test showed non-significant differences between the intermediate and advanced groups ($p = .668$, $p = .480$) and the advanced and control groups ($p = .183$, $p = .690$), as presented in Table 40. The differences between the intermediate and control groups were also non-significant in both conditions ($p = .064$, $p = .221$), but they approached significance in the overt subject option. Thus, the effect

for *Group* was non-significant in all cases. Competence level did not play a significant role in the intermediate and advanced groups.

Table 40. Mann-Whitney test between two groups						
Overt and null subjects of 3rd person in referential shift contexts of contrast						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Overt	#Null	Overt	#Null	Overt	#Null
Mann-Whitney U	103.000	96.000	74.000	84.000	86.500	103.500
asymptotic significance	.668	.480	.064	.221	.183	.690

In neutral focus contexts of direct question-answer pairs, as shown in Table 41, all groups preferred preverbal subjects more often with unergative verbs. The non-native groups presented the same patterns as the control group, so that they achieved target performance. On the other hand, all groups indicated variation between accepting and rejecting postverbal subjects with unergatives. However, both non-native groups tended to reject this word order option, while the control group allowed the relaxation of postverbal subjects.

Table 41. Preverbal and postverbal subjects with unergative verbs in direct neutral contexts						
	Raw Responses (Percent in Parentheses)					
	Preverbal			#Postverbal		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	73/75	2/75	0/75	28/75	47/75	0/75
	(97.33%)	(2.67%)	(0%)	(37.33%)	(62.67%)	(0%)
Advanced	71/75	4/75	0/75	25/75	50/75	0/75
	(94.67%)	(5.33%)	(0%)	(33.33%)	(66.67%)	(0%)
Control	73/75	2/75	0/75	38/75	37/75	0/75
	(97.33%)	(2.67%)	(0%)	(50.67%)	(49.33%)	(0%)

The means also indicated that all groups admitted preverbal subjects with unergatives more often, so that both intermediate (1.82/2) and advanced (1.74/2)

groups presented similar patterns to the control group (1.77/2), as shown in Table 42. However, the three groups did not reject postverbal subjects with unergatives completely. The non-native and native groups alternated between accepting and rejecting the inversion of subjects, though the non-natives tended to reject it more (-0.49/2, -0.62/2), while the natives were closer to the 0 rate (0.10/2).

Table 42. Preverbal and postverbal subjects with unergative verbs
in direct neutral contexts

	Means	
	Preverbal	#Postverbal
Intermediate	1.82/2	-0.49/2
Advanced	1.74/2	-0.62/2
Control	1.77/2	0.10/2

The Mann-Whitney test revealed non-significant differences between paired groups with respect to the preverbal subject condition ($p=1.000$, $p=.286$, $p=.257$), as indicated in Table 43. On the other hand, the intermediate and control groups ($p=.047$) and the advanced and control groups ($p=.008$) showed significant differences in the postverbal subject condition. Only the intermediate and advanced groups did not confirm significant differences ($p=.348$) in the latter condition. The effect of *Group* was significant for the intermediate-control comparison and the advanced-control comparison in the postverbal subject condition, while it was not so for the remaining pairings.

Table 43. Mann-Whitney test between two groups

	Preverbal and postverbal subjects with unergative verbs in direct neutral contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Preverbal	#Postverbal	Preverbal	#Postverbal	Preverbal	#Postverbal
Mann-Whitney U	112.500	90.000	88.500	65.000	87.000	48.500
asymptotic significance	1.000	.348	.286	.047	.257	.008

In neutral focus contexts of direct question-answer pairs, the distribution of subjects with unaccusative verbs was also examined. The raw responses and percentages appear in Table 44. The results indicate that the intermediate and advanced groups accepted postverbal subjects with unaccusatives, even though they did not reach the high rates of the control group. The non-native groups also accepted preverbal subjects in the contexts examined. Their performance showed alternation between SV and VS with this verb class.

Table 44. Preverbal and postverbal subjects with unaccusative verbs
in direct neutral contexts

	Raw Responses (Percent in Parentheses)					
	#Preverbal			Postverbal		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	57/75 (76%)	18/75 (24%)	0/75 (0%)	63/75 (84%)	12/75 (16%)	0/75 (0%)
Advanced	58/75 (77.33%)	17/75 (22.67%)	0/75 (0%)	59/75 (78.67%)	16/75 (21.33%)	0/75 (0%)
Control	43/75 (57.33%)	32/75 (42.67%)	0/75 (0%)	73/75 (97.33%)	2/75 (2.67%)	0/75 (0%)

Means also indicated that the intermediate and advanced groups presented variability between preverbal (0.93/2, 0.97/2) and postverbal (1.14/2, 1.08/2) subject positions with unaccusative verbs, as displayed in Table 45. On the other hand, the control group preferred postverbal subjects (1.85/2) more often with unaccusatives. However, they did not reject preverbal subjects (0.10/2) completely.

Table 45. Preverbal and postverbal subjects with unaccusative verbs
in direct neutral contexts

	Means	
	#Preverbal	Postverbal
Intermediate	0.93/2	1.14/2
Advanced	0.97/2	1.08/2
Control	0.10/2	1.85/2

In the Mann-Whitney test, as seen in Table 46, the differences between the intermediate and control groups ($p = .021$, $p = .000$) and the advanced and control groups ($p = .007$, $p = .000$) were significant. Only the intermediate and advanced groups did not show significant differences ($p = .901$, $p = .967$). Thus, the effect for *Group* was significant for the intermediate-control groups and the advanced-control groups, but not for the intermediate-advanced groups.

Table 46. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unaccusative verbs in direct neutral contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	109.500	111.500	57.000	25.500	48.000	31.000
asymptotic significance	.901	.967	.021	.000	.007	.000

The effect of *Verb* class on subject position was also checked by means of a Wilcoxon test. This test confirmed that the unergative vs. unaccusative distinction was statistically significant for both preverbal and postverbal subject conditions in the responses of the intermediate ($p = .004$, $p = .001$), advanced ($p = .007$, $p = .001$) and control groups ($p = .001$, $p = .001$), as shown in Table 47.

Table 47. Wilcoxon test between related samples						
Preverbal and postverbal subjects in direct neutral contexts						
	Unergative vs. Unaccusative Verbs					
	Intermediate		Advanced		Control	
	Preverbal	Postverbal	Preverbal	Postverbal	Preverbal	Postverbal
Wilcoxon Z	-2.906	-3.415	-2.704	-3.304	-3.414	-3.419
asymptotic significance	.004	.001	.007	.001	.001	.001

In informational focus contexts of direct question-answer pairs, as seen in Table 48, the intermediate and advanced groups preferred preverbal subjects more

often with unergative verbs, while they showed variation between accepting and rejecting postverbal subjects, though they tended to accept subject inversion. On the other hand, the control group presented a higher rate of postverbal subjects in informational contexts, while they did not disallow preverbal subjects due to the verb class.

Table 48. Preverbal and postverbal subjects with unergative verbs
in direct informational contexts

	Raw Responses (Percent in Parentheses)					
	#Preverbal			Postverbal		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	64/75 (85.33%)	11/75 (14.67%)	0/75 (0%)	47/75 (62.67%)	28/75 (37.33%)	0/75 (0%)
Advanced	67/75 (89.33%)	8/75 (10.67%)	0/75 (0%)	41/75 (54.67%)	34/75 (45.33%)	0/75 (0%)
Control	36/75 (48%)	39/75 (52%)	0/75 (0%)	71/75 (94.67%)	4/75 (5.33%)	0/75 (0%)

Table 49 shows the means for the same rates. These results show that the intermediate and advanced groups accepted the SV order more often with unergative verbs in informational contexts, while the control group preferred the inversion of focalized subjects more often in discourse-marked contexts. The non-native groups diverged from target patterns, as they showed variation between accepting and rejecting the felicitous VS order (0.45/2, 0.09/2). However, even the control group did not reject the anteposition of subjects (-0.01/2) completely, but tolerated SV in informational contexts.

Table 49. Preverbal and postverbal subjects with unergative verbs in direct information contexts		
	Means	
	#Preverbal	Postverbal
Intermediate	1.33/2	0.45/2
Advanced	1.53/2	0.09/2
Control	-0.01/2	1.56/2

The Mann-Whitney test indicated that the differences between the intermediate and control groups and the advanced and control groups were significant, as presented in Table 50. Only the differences between the intermediate and advanced groups were not significant. Thus, the effect for *Group* was significant for the intermediate-control groups and the advanced-control groups, but not for the intermediate-advanced groups.

Table 50. Mann-Whitney test between two groups						
	Preverbal and postverbal subjects with unergative verbs in direct informational contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	88.500	86.500	37.500	33.000	30.000	27.500
asymptotic significance	.298	.280	.002	.001	.001	.000

In informational focus contexts of direct question-answer pairs, as shown in Table 51, the intermediate group presented a similar distribution of preverbal and postverbal subjects with unaccusative verbs. The advanced group followed the behaviour of the intermediate group with preverbal subjects, but they showed higher alternation between accepting and rejecting postverbal subjects, although they also expressed a tendency to favour the inversion of subjects. On the other hand, the control group had a very high rate of acceptance of postverbal subjects with

unaccusatives, while they rejected preverbal subjects more often in informational contexts, even though they did not avoid SV completely.

Table 51. Preverbal and postverbal subjects with unaccusative verbs in direct informational contexts						
	Raw Responses (Percent in Parentheses)					
	#Preverbal			Postverbal		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	61/75 (81.33%)	14/75 (18.67%)	0/75 (0%)	59/75 (78.67%)	16/75 (21.33%)	0/75 (0%)
Advanced	65/75 (86.67%)	10/75 (13.33%)	0/75 (0%)	49/75 (65.33%)	26/75 (34.67%)	0/75 (0%)
Control	24/75 (32%)	51/75 (68%)	0/75 (0%)	73/75 (97.33%)	2/75 (2.67%)	0/75 (0%)

The means also demonstrated that the intermediate group did not distinguish between infelicitous SV and felicitous VS with unaccusative verbs in direct informational contexts, as displayed in Table 52. The advanced group also showed a similar distribution of the SV order (1.29/2), but they presented higher variation with postverbal subjects (0.6/2) compared to the intermediate group. On the other hand, the control group preferred the informational VS more often with unaccusatives, but they did not always reject the SV order.

Table 52. Preverbal and postverbal subjects with unaccusative verbs in direct information contexts		
	Means	
	#Preverbal	Postverbal
Intermediate	1.16/2	0.92/2
Advanced	1.29/2	0.6/2
Control	-0.53/2	1.76/2

The Mann-Whitney test showed significant differences between the intermediate and control groups and the advanced and control groups, as presented in Table 53. On the other hand, the intermediate and advanced groups did not show

significant differences. Therefore, the effect for *Group* was significant in the intermediate-control groups and the advanced-control groups, but not in the intermediate-advanced groups.

Table 53. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unaccusative verbs in direct informational contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	110.000	97.000	47.500	47.500	36.500	35.500
asymptotic significance	.916	.518	.007	.004	.002	.001

The effect of *Verb* class on subject distribution was also tested by the Wilcoxon test, as shown in Table 54. The statistical analysis demonstrated that the unergative vs. unaccusative distinction was significant for the postverbal subject condition in the responses of the intermediate and advanced groups and for the preverbal subject condition for the control group. The remaining comparisons did not reveal significant differences between the two verb classes.

Table 54. Wilcoxon test between related samples						
Preverbal and postverbal subjects in direct informational contexts						
Unergative vs. Unaccusative Verbs						
	Intermediate		Advanced		Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Wilcoxon Z	-.536	-2.032	-1.384	-2.370	-2.500	-1.581
asymptotic significance	.592	.042	.166	.018	.012	.114

4.1.7. Discussion of the results

In this judgment task, I have analyzed the distribution of null/overt and preverbal/postverbal subjects in L1 and L2 Spanish in order to examine the performance of intermediate and advanced learners whose L1 was Greek in comparison with the performance of Spanish native speakers.

In non-contrastive referential contexts, all native and non-native groups indicated a clear preference for null subjects of 1st/2nd person. The intermediate and advanced groups presented a high rate of null subjects, confirming non-significant differences from the control group. The behaviour of non-native groups revealed that they were sensitive to the acceptance of 1st/2nd person null subjects in contexts in which verbal inflection identified the person, showing the referent of the structure. In this case, their performance did not fulfil Prediction 1 for the two versions of the Interface Hypothesis (IH-1 and IH-2), as they showed mastery of the morphosyntactic-pragmatic properties, allowing null subjects with both types of person in non-contrastive contexts (differently from Sorace and Filiaci, 2006 and Tsimpli and Sorace, 2006).

Regarding the infelicitous option, the three groups tended to reject overt pronouns in non-contrastive referential contexts, but they also showed variation in the expression of subjects. The type of person allowed the acceptance of overt subjects in this judgment task, and the three groups did not avoid 1st/2nd person pronouns completely. The overall judgments of L2 groups did not differ statistically from the control group. The means of the two groups did not fulfil Prediction 1 (for IH-1 and IH-2), since their performance was not different from the target distribution of overt subjects, showing acceptance of pronouns at the morphosyntax-pragmatics interfaces.

In unambiguous referential shift contexts of 3rd person, both native and non-native groups also accepted null subjects. However, compared to the 1st/2nd person, in this case the L2 groups allowed null subjects less often. This was due to the variable behaviour of 3rd person between admitting null subjects in referent shift contexts and requiring overt subjects in contrastive shift contexts. The type of context (i.e. distance of the antecedent) also affected the performance of L2 groups. However, the intermediate group did not differ statistically from the control group, while the advanced group showed significant divergence from native rates. Therefore, the

performance of the intermediate learners did not fulfil Prediction 1 (for IH-1 and IH-2), as they showed target patterns of null subject acceptance, dealing with the problems of acquiring the morphosyntax-pragmatics interfaces. On the other hand, the behaviour of the advanced group was consistent with Prediction 1 (for IH-1 and IH-2) because they did not attain the high rates of native speakers.

Regarding the infelicitous option in unambiguous referential contexts, the three groups did not reject the expression of overt subjects of 3rd person completely, compared to the 1st/2nd person. All groups showed variation between accepting and rejecting the infelicitous type of subject. However, the control group tended to reject overt subjects more often than the other groups, even though the intermediate group did not present significant differences from this group, while the advanced group diverged from native patterns. The performance of the advanced learners was consistent with Prediction 1 (for IH-1 and IH-2), as they presented non-target mastery of overt subject functions at the morphosyntax-pragmatics interfaces. Competence level did not play a crucial role, as the intermediate group followed native preferences more often than the advanced group. The behaviour of the intermediate learners was not consistent with Prediction 1 (for IH-1 and IH-2) because they adopted the patterns of the control group.

In referential shift contexts, the expression of overt subjects of 3rd person is obligatory in order to avoid ambiguity between two antecedent referents in the discourse. In this type of context, the three groups clearly preferred overt subjects. The intermediate and advanced groups showed non-significant differences with the control group. Therefore, the performance of the two experimental groups was inconsistent with Prediction 1 (for IH-1 and IH-2), as they did not diverge from target-like distribution of pronouns of 3rd person.

With respect to the infelicitous option in referential shift contexts, the three groups dispreferred null subjects of 3rd person, thus avoiding the ambiguity between the two antecedent referents in the structure. The two non-native groups followed the patterns of the control group, as they presented non-significant differences. Their performance did not fulfil Prediction 1 (for IH-1 and IH-2), since they showed target-like knowledge of the referential constraints. In Lozano's (2018) findings the intermediate and lower-advanced groups rejected the infelicitous null subject option less often, so that they diverged significantly from the control group. Only the upper-

advanced group attained the patterns of the L2 intermediate and advanced groups of this experiment. Thus, competence level played a higher role in Lozano's (2018) study than in this experiment.

Regarding the position of subjects with unergative verbs, all groups accepted preverbal subjects in neutral contexts. The intermediate and advanced groups presented similar rates to the control group, showing non-significant differences. The performance of the two L2 groups fulfilled Prediction 5 for IH-2, as they showed command of the syntactic-lexical-semantic properties. On the other hand, the behaviour of the L2 groups did not fulfil Prediction 5 for IH-1 because they presented a high preference for preverbal subjects, suggesting that they did not confront difficulties in coordinating the interface domains of grammar, which determine the target distribution of unergative verbs. (L1 influence might explain why these L2 learners admitted preverbal subjects from the early stages of acquisition. However, Lozano's (2006a) findings supported the idea that competence level played a role, since the L1 Greek intermediate and lower-advanced groups in that study preferred preverbal subjects less often than the upper-advanced. Still, L2 learners of both studies were sensitive to the unergative word order at the interfaces.)

As for the infelicitous option, the three groups accepted the VS order less often than the SV order in neutral contexts. The two L2 groups showed sensitivity to the fact that VS was not the first choice with unergative verbs. However, they presented significant differences from the control group, which did not always reject postverbal subjects in question-answer contexts. In this case, the performance of the L2 groups fulfilled Prediction 5 for IH-1, as they did not achieve target command of word order properties. This divergent behaviour did not fulfil Prediction 5 for IH-2 because the L2 learners had not yet acquired the syntax-lexicon-semantics interfaces, which allow the inversion of subjects.

Regarding the position of subjects with unaccusative verbs, the intermediate and advanced groups presented indeterminacy between SV and VS in neutral contexts of direct question-answer pairs. The two L2 groups did not show a strong preference for the unaccusative VS (in contrast to Lozano's (2006a) results), so that they diverged from the control. However, the control group did not reject the SV order completely. In this case, the non-native groups did not distinguish the unaccusative from the unergative word order, fulfilling Prediction 5 for IH-1, as they showed

incomplete command of subject inversion at the syntax-lexicon-semantics interfaces. This behaviour does not support Prediction 5 for IH-2 because the L2 learners encountered problems with the setting of formal properties.

In informational contexts of direct question-answer pairs, the intermediate and advanced groups showed variability between accepting and rejecting the felicitous VS order with unergative verbs. The two L2 groups diverged from the control group, which admitted the inversion of subjects in informational contexts. The behaviour of the L2 learners fulfilled Prediction 6 (for IH-1 and IH-2), as they accepted the infelicitous SV more often than the felicitous VS with unergative verbs, indicating that they had not yet acquired the syntactic-pragmatic properties of informational focus. Thus, the L2 groups had set the internal interface properties of unergatives, but they had not yet mastered the mappings onto the external pragmatic properties (see also Lozano, 2006a). A factor that may have affected the performance of the L2 learners is the influence of their L1, since Greek allows the SV order in the respective informational contexts of direct speech. Therefore, the non-native groups were likely to have transferred the knowledge of the syntactic-pragmatic properties from their L1 Greek.

In informational contexts of direct speech, the L2 groups also presented variation with unaccusative subjects in preverbal or postverbal position, while the control group expressed a clear preference for the felicitous VS. In this case, the experimental groups did not follow native-like patterns, so that they differed statistically from the control group. The attested performance fulfilled Prediction 6 (for IH-1 and IH-2). The preference for the SV order was also affected by the typology of Greek, which allows preverbal subjects in direct informational contexts, so that the L2 learners displayed a tendency towards the value from their L1. The flexibility between SV in direct and VS in indirect informational contexts of Greek might have affected the judgments of the L2 groups in Lozano's (2006a) study, as the intermediate group presented complete variability between the two word orders and the lower-advanced group showed a tendency towards the inversion of subjects, while the upper-advanced group followed the patterns of native speakers regarding the informational VS in Spanish. The behaviour of the intermediate group was similar to the intermediate group in this experiment, while his advanced groups performed better

than the advanced group at this task, which had not overcome the complexities at the pragmatic interfaces.

4.2. Experiment 2 on preverbal/postverbal subjects in various contexts

In Experiment 2, I explore the position of subjects with intransitive verbs. This is a follow-up task that also examines the unergative/unaccusative distinction because the results of the previous judgment task showed variable distribution of postverbal subjects in neutral and informational contexts. In order to draw more accurate conclusions, I conducted an additional type of task, a word order selection task that includes different types of sentences, declarative or embedded questions-answers, triggering preverbal or postverbal subjects, to see if changing the method would affect the performance of L2 learners regarding the unergative/unaccusative distinction.

4.2.1. Predictions

The main aim of Experiment 2 is to examine whether Greek learners of Spanish show mastery of the felicitous SV/VS orders with the two classes of intransitive verbs in various neutral and non-neutral contexts. In so doing, I test Predictions 5 and 6 for the two versions of the Interface Hypothesis (IH-1 and IH-2), as in the previous experiment.

(20) Prediction 5 for IH-1:

Greek learners of Spanish are expected to produce subjects in erroneous positions with unergative/unaccusative verbs in declarative sentences with neutral focus due to the complexities involved in mapping the syntactic-lexical-semantic properties that distinguish the two classes of intransitive verbs at the interface levels, despite the fact that Greek and Spanish share the same distribution of subjects with unergative/unaccusative verbs.

(21) Prediction 5 for IH-2:

L2 learners of Spanish are expected to produce the grammatical word order with unergative/unaccusative verbs in neutral declarative contexts because the formal properties that distinguish the two classes of verbs are acquired early, at the internal syntax-lexicon-semantics interfaces.

(22) Prediction 6 (for IH-1 and IH-2):

Greek learners of Spanish are expected to employ less felicitous word orders in informational contexts of indirect question-answer pairs due to the difficulty involved in acquiring the syntactic-pragmatic properties of focus, which neutralize the unergative/unaccusative distinction at the external interface levels.

Therefore, the IH-1 and the IH-2 make different predictions (20, 21) in neutral contexts, but the same prediction (22) in informational contexts.

4.2.2. Experimental design

The selection task, as previously mentioned, tests the position of subjects with intransitive verbs in neutral contexts with declarative sentences and in informational contexts with embedded questions-answers in indirect speech.

The task contains a total number of 25 stimuli: 20 items that test the distribution of subjects with unergative/unaccusative verbs and 5 items that serve as distractors. Two types of conditions are examined for both intransitive verbs. Each condition consists of 10 items: 5 with unergatives and 5 with unaccusatives. The first condition involves the position of subjects with both verb classes in neutral declarative contexts. In examples (73) and (74) with *a* and *b* elements, the neutral focus of the declarative sentence triggers the SV order with the unergative *hablar* ('speak') and the VS order with the unaccusative *entrar* ('enter'), respectively. In this type of sentence, the second word order option is dispreferred for both classes of intransitives.

(73) Estás en la universidad y te das cuenta de que _____ con el Ministro de Educación.

are-2sg.prs. in the university and you-refl. realize-2sg.prs. of that _____ with the Minister of Education

‘You are at the university and realize that _____ with the Minister of Education.’

(a) *el Rector*

the Rector

‘the Rector is speaking’

(b) *está hablando*

is speaking-3sg.prs.cont.

(74) Estás en el banco y te enteras de que _____.

are-2sg.prs. in the bank and you-refl. realize-2sg.prs. of that _____

‘You are at the bank and realize that _____.’

(a) *ha entrado*

has entered-3sg.prs.prf.

‘a thief has entered.’

(b) *un ladrón*

a thief

The second condition involves the distribution of subjects with unergatives/unaccusatives in informational focus contexts of indirect question-answer pairs. In examples (75) and (76) the embedded question with *quién* (‘who’) triggers as its answer the inversion of the focused subjects *María* and *sus abuelos* (‘his grandparents’) with the unergative *trabajar* (‘work’) and the unaccusative *llegar* (‘arrive’), respectively. The informational focus elicits VS with both classes of verbs, as in direct speech. The SV order, on the other hand, is not felicitous in this type of context.

(75) Juan pregunta *quién* trabaja con Luis y Pedro le responde que _____.

Juan asks-3sg.prs. who works-3sg.prs. with Luis and Pedro him-acc. answers-3sg.prs. that _____

‘Juan asks who works with Luis and Pedro answers him that _____.’

- | | | | |
|-----|---------------------------------------------------|-----|-----------------------|
| (a) | <i>trabaja</i>
works-3sg.prs.
'Maria does.' | (b) | <i>María</i>
Maria |
|-----|---------------------------------------------------|-----|-----------------------|

(76) Te encuentras con tu amigo Jorge en el aeropuerto. Le preguntas *quién* ha llegado y él te responde que _____ .

you-refl. meet-2sg.prs. with your friend Jorge in the airport. him-acc. ask-2sg.prs. who has arrived-3sg.prs.prf. and he-nom. you-acc. answers-3sg.prs. that _____

'You meet your friend Jorge at the airport. You ask him who has arrived and he answers you that _____.'

- | | | | |
|-----|-------------------------------------------------------------------------------------|-----|----------------------------------------|
| (a) | <i>han llegado</i>
have arrived-3pl.prs.prf.
'his grandparents have arrived.' | (b) | <i>sus abuelos</i>
his grandparents |
|-----|-------------------------------------------------------------------------------------|-----|----------------------------------------|

The full task is detailed in Appendix 1.

4.2.3. Subjects

The subjects of Experiment 2 were the same as those in Experiment 1 (see section 4.1.3).

4.2.4. Procedure

Experiment 2 was carried out at the Instituto Cervantes de Atenas and the Universidad Autónoma de Madrid, as presented in Experiment 1. Native and non-native groups were asked to complete the task by selecting the appropriate order of two elements (*a* and *b*), a subject and an intransitive (unergative or unaccusative) verb in various contexts. Participants were also given a distractor example of the felicitous order of two elements in order to facilitate the comprehension of the task, but it did not contain the tested conditions. If L2 learners reported difficulty in understanding the instructions, they were provided with additional clarifications. The duration of the task was 20 minutes, but a few more minutes were given if necessary to allow participants to answer all items.

4.2.5. Coding of the results and statistical analysis

The responses consisting of the subject and unergative/unaccusative verb were classified, according to the elicited word order, as SV or VS. In the first condition, SV was coded as neutral and VS as non-neutral with unergative verbs, while VS was coded as neutral and SV as non-neutral with unaccusative verbs. In the second condition, VS was coded as focused, while SV was coded as non-focused with both verb classes. In each condition, the felicitous and infelicitous word orders were averaged for each group of participants. The averages were also calculated for each subject of the groups and coded in SPSS in order to perform the Mann-Whitney statistical test. The goal of the statistical analysis was to check for significant differences between the pairs of groups. This analysis also checked for the effect of the independent factor of *Group* on the dependent factor of *Subject* position with unergative/unaccusative verbs in neutral and informational contexts. The effect of *Verb* class on *Subject* position was calculated with a Wilcoxon test for the three groups.

4.2.6. Results

The word order selection task yielded a total of 900 responses (300 from each group) involving the two conditions for subject position with intransitive verbs. Only the responses to the distractors were not analyzed because they did not involve the phenomenon examined.

In neutral contexts of declarative sentences, all groups produced a high rate of preverbal subjects with unergative verbs. Raw responses and percentages are shown in Table 55. However, the control group presented a lower percentage of preverbal subjects than the experimental groups. Thus, the native speakers did not avoid the inversion of subjects completely. On the other hand, the intermediate group produced very few postverbal subjects, while the advanced group approached the rate of the control group.

Table 55. Preverbal and postverbal subjects with unergative verbs in neutral declarative contexts				
	Preverbal		#Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	71/75	94.67%	4/75	5.33%
Advanced	66/75	88%	9/75	12%
Control	61/75	81.33%	14/75	18.67%

In the Mann-Whitney test, as displayed in Table 56, the differences between the intermediate and control groups ($p = .013$) were significant, but the differences between the intermediate and advanced groups ($p = .392$) and the advanced and control groups ($p = .109$) were not. Therefore, the effect for *Group* was only significant for the intermediate-control group comparison.

Table 56. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unergative verbs in neutral declarative contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	96.500	96.500	59.000	59.000	77.000	77.000
asymptotic significance	.392	.392	.013	.013	.109	.109

Regarding the distribution of the subjects of unaccusative verbs, as detailed in Table 57, both intermediate and advanced groups presented wide variation between preverbal and postverbal subjects in neutral contexts of declarative sentences. On the other hand, the control group produced postverbal subjects with unaccusatives more often than preverbal subjects.

Table 57. Preverbal and postverbal subjects with unaccusative verbs in neutral declarative contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	39/75	52%	36/75	48%
Advanced	37/75	49.33%	38/75	50.67%
Control	11/75	14.67%	64/75	85.33%

As shown in Table 58, the results of the Mann-Whitney test revealed significant differences between the intermediate and control groups ($p = .000$) and the advanced and control groups ($p = .002$). Only the differences between the intermediate and advanced groups ($p = .640$) were not significant. Thus, the effect for *Group* was significant for the intermediate-control and the advanced-control comparisons, but not for the two experimental groups.

Table 58. Mann-Whitney test between two groups Preverbal and postverbal subjects with unaccusative verbs in neutral declarative contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	101.500	101.500	21.500	21.500	41.500	41.500
asymptotic significance	.640	.640	.000	.000	.002	.002

The effect of *Verb* class on *Subject* position was also examined. A Wilcoxon test confirmed that the differences between unergative and unaccusative verbs were significant for both types of subjects in the responses of all three groups ($p = .001$, $p = .002$, $p = .001$), as presented in Table 59.

Table 59. Wilcoxon test between related samples						
Preverbal and postverbal subjects in neutral declarative contexts						
Unergative vs. Unaccusative Verbs						
	Intermediate		Advanced		Control	
	Preverbal	Postverbal	Preverbal	Postverbal	Preverbal	Postverbal
Wilcoxon Z	-3.446	-3.446	-3.082	-3.082	-3.473	-3.473
asymptotic significance	.001	.001	.002	.002	.001	.001

In informational contexts of indirect speech, shown in Table 60, the results for the intermediate and advanced groups indicated variation between preverbal and postverbal subjects with unergative verbs, although they tended to produce the SV order. On the other hand, the control group preferred the inversion of focused subjects more often than preverbal subjects in discourse-marked contexts.

Table 60. Preverbal and postverbal subjects with unergative verbs in indirect informational contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	45/75	60%	30/75	40%
Advanced	42/75	56%	33/75	44%
Control	13/75	17.33%	62/75	82.67%

The differences between the intermediate and control groups ($p = .001$) and the advanced and control groups ($p = .002$) were significant in the Mann-Whitney test, as seen in Table 61. Only the differences between the intermediate and advanced groups were not significant ($p = .800$). Thus, the effect for *Group* was significant for the intermediate-control and advanced-control comparisons and not for the intermediate-advanced comparison.

Table 61. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unergative verbs in indirect informational contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	106.500	106.500	32.000	32.000	40.000	40.000
asymptotic significance	.800	.800	.001	.001	.002	.002

With respect to unaccusative verbs in informational contexts, the raw responses and percentages appear in Table 62. The results indicate that the intermediate and advanced groups presented variation between preverbal and postverbal subject positions, even though they tended to produce the felicitous VS more often. However, the experimental groups did not achieve the rate of the control group, which strongly dispreferred preverbal subjects.

Table 62. Preverbal and postverbal subjects with unaccusative verbs in indirect informational contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	26/75	34.67%	49/75	65.33%
Advanced	27/75	36%	48/75	64%
Control	1/75	1.33%	74/75	98.67%

The Mann-Whitney test revealed significant differences between the intermediate and control groups ($p = .002$) and the advanced and control groups ($p = .002$), as seen in Table 63. However, the differences between the intermediate and advanced groups were not significant ($p = .897$). Thus, the effect for *Group* was significant for the intermediate-control and the advanced-control pairs, but not for the intermediate-advanced comparison.

Table 63. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unaccusative verbs in indirect informational contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	109.500	109.500	49.000	49.000	49.000	49.000
asymptotic significance	.897	.897	.002	.002	.002	.002

The effect of *Verb* class on *Subject* position was also considered. A Wilcoxon test confirmed that the differences between unergative and unaccusative verbs were significant for both preverbal/postverbal subjects in the responses of all groups ($p = .002$, $p = .008$, $p = .016$), as presented in Table 64.

Table 64. Wilcoxon test between related samples						
Preverbal and postverbal subjects in indirect informational contexts						
Unergative vs. Unaccusative Verbs						
	Intermediate		Advanced		Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Wilcoxon Z	-3.165	-3.165	-2.646	-2.646	-2.401	-2.401
asymptotic significance	.002	.002	.008	.008	.016	.016

4.2.7. Discussion of the results

In the word order selection task, I have also considered the distribution of preverbal and postverbal subjects in L1 and L2 Spanish in order to examine the performance of the experimental groups in relation to the performance of the control group.

In neutral contexts of declarative sentences, both native and non-native speakers chose the SV order with unergative verbs more often than the VS order. However, the intermediate group presented significant differences from the control

group, while the advanced group approached native-like patterns. Only the behaviour of the intermediate group fulfilled Prediction 5 for IH-1. This performance did not support Prediction 5 for IH-2 because the intermediate learners did not follow native-like preferences for SV/VS, consistently with incomplete command of the syntax-lexicon-semantics interfaces. On the other hand, the performance of the advanced group fulfilled Prediction 5 for IH-2, indicating that they had acquired the interface properties, which trigger target distribution with unergative verbs. Their behaviour did not favour Prediction 5 for IH-1 (contra Sorace and Filiaci, 2006). In Lozano's (2006a) study, the intermediate and lower-advanced groups also presented non-target behaviour, like the intermediate group in this experiment, while the upper-advanced group followed native-like patterns, as in this case. Thus, in both studies the lower groups differed in their preferences from the control groups.

Regarding unaccusative verbs in neutral declarative contexts, the intermediate and advanced groups showed variability between SV and VS, as they did not achieve a high rate of the felicitous VS. In this case, the two experimental groups presented statistical differences from the control group, which expressed a clearer preference for VS with unaccusatives. The performance of the L2 groups fulfilled Prediction 5 for IH-1, since they had not yet acquired the unaccusative constraints in neutral contexts. Their variable behaviour went against Prediction 5 for IH-2 because they did not yet seem to have set the formal interface properties which distinguish the unaccusative VS from the unergative SV. Therefore, the L2 groups did not follow the target word order patterns with unaccusative verbs, demonstrating incomplete command of the syntax-lexicon-semantics interfaces. In Domínguez and Arche's (2014) study, the intermediate and advanced groups also showed variability between SV and VS with unaccusatives, but in their case the control group allowed a more flexible word order distribution due to the type of context targeted in their task.

In informational contexts of indirect question-answer pairs, the L2 intermediate and advanced groups also presented variation between SV and VS with unergative verbs, diverging from the control group, which preferred the felicitous VS in discourse-marked contexts. In this case, the L2 groups overgeneralized the distribution of unergative verbs from neutral to informational contexts, employing the SV order, irrespective of the type of context. Their behaviour fulfilled Prediction 6 (for IH-1 and IH-2). The preference for SV might also be due to the L1 Greek

typology in direct contexts, while the tendency towards VS may be due to the distribution of Greek in indirect contexts. The non-native groups seemed to transfer their L1 knowledge for the syntax-pragmatics domains. In Lozano's (2006a) study, the L2 groups of all levels also preferred the SV order, transferring the L1 Greek typology. However, the control group in that study did not present a very high rate of postverbal subjects, indicating flexible patterns of subject inversion, contrary to this control group, which clearly preferred the informational VS in discourse-marked contexts.

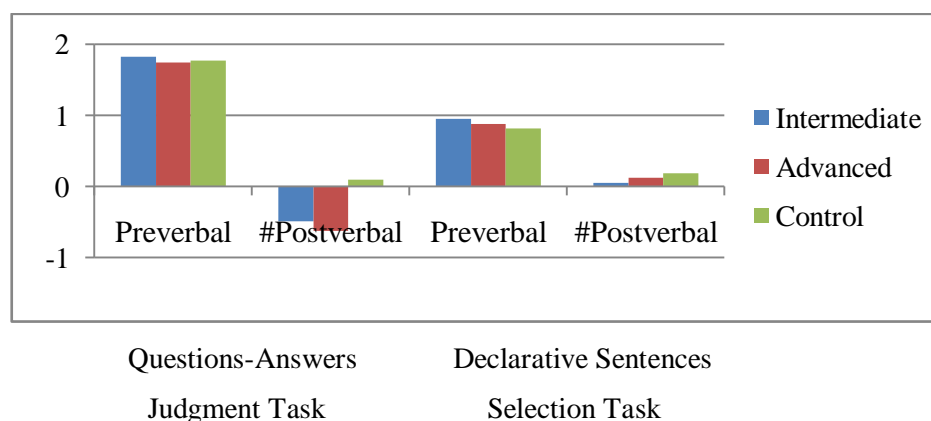
Regarding unaccusative verbs, the intermediate and advanced groups also showed variation between SV and VS in indirect informational contexts, but they tended to produce postverbal subjects. However, the two L2 groups diverged from the control group, as they did not reach the rate of the felicitous VS in discourse, showing that they had not acquired the syntactic-pragmatic properties constraining the informational word order. The performance of the L2 groups supported Prediction 6 (for IH-1 and IH-2). The influence of the L1 Greek (SV in direct and VS in indirect informational contexts) might also explain the performance of the L2 groups. Still, full transfer from the L1 was not attested, as the L2 groups did not attain target VS distribution in indirect contexts. Competence level played a more crucial role in Lozano's (2006a) study, as the intermediate group showed complete variability between SV and VS with unaccusatives in informational contexts, while the lower-advanced group indicated a preference for the VS order and the upper-advanced group achieved the same rates of subject inversion as native speakers. The intermediate group of this task indicated a higher preference for the VS order than the intermediate group of Lozano's (2006a) study. However, competence level did not affect the performance of the L2 groups in this experiment, as the advanced group did not show a better distribution of postverbal subjects than the intermediate group, in contrast with Lozano's lower- and upper-advanced groups.

4.3. Comparison of the results of the two tasks

Here I examine the role of the type of experiment on the distribution of subjects with unergative/unaccusative verbs. The sentences in the two tasks, an acceptability judgment task and a word order selection task, were not identical. The first task considered direct question-answer pairs in neutral and informational contexts, while the second task involved declarative sentences in neutral contexts and embedded questions-answers in indirect speech in informational contexts.

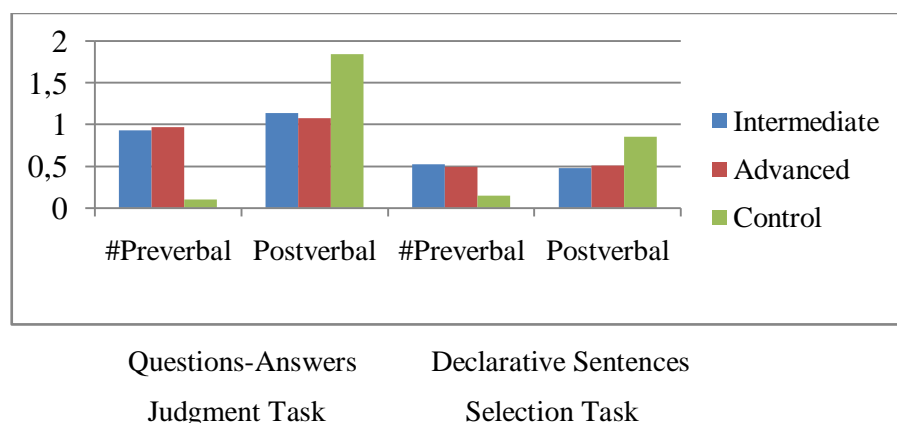
In both tasks, the experimental groups presented a higher rate of the felicitous SV with unergative verbs, independently of the type of sentence, showing that the VS order was not the first choice in neutral contexts. Both L2 groups approached target distribution of SV in the judgment task with direct question-answer pairs, while the intermediate group showed significant differences from the control group in the selection task with declarative sentences; the advanced group followed native-like patterns. See Graph 1 for the rates of native and non-native groups in the two tasks. (The rates are calculated on a point scale in the judgment task and in percentages converted into scale numbers in the selection task.)

Graph 1. Subject distributions with unergative verbs in neutral contexts



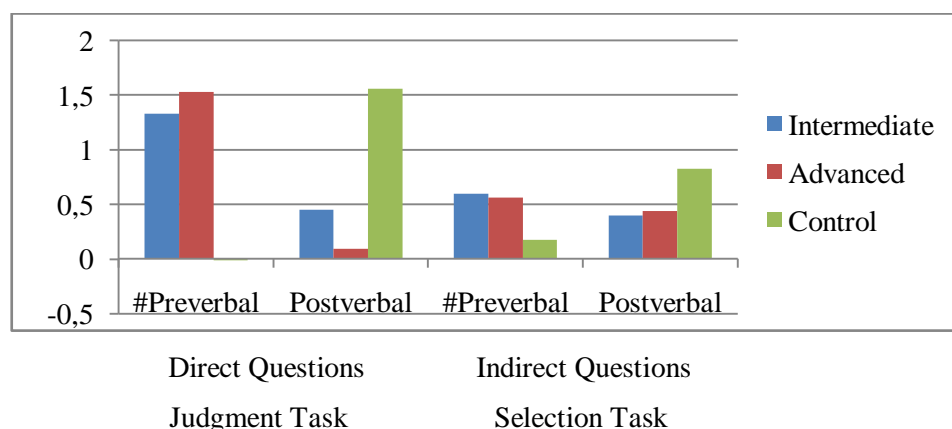
In neutral contexts, as displayed in Graph 2, the experimental groups showed variation between SV and VS with unaccusative verbs, regardless of the type of sentence. In this case, the L2 groups did not achieve the rates of the control group with respect to the felicitous VS, indicating that they had problems with the distribution of unaccusative subjects, independently of the type of task.

Graph 2. Subject distributions with unaccusative verbs in neutral contexts



In informational contexts, as detailed in Graph 3, the L2 groups diverged from target-like distribution of unergatives in both tasks, as they preferred the SV order. However, they accepted SV more often than VS in the acceptability judgment task with direct questions-answers, and they presented higher variation in the selection task with indirect sentences. The advanced group showed higher differences between the two tasks. The type of sentence in their L1 Greek might have affected learners' preferences, as they allowed SV more often in direct and VS in indirect question contexts.

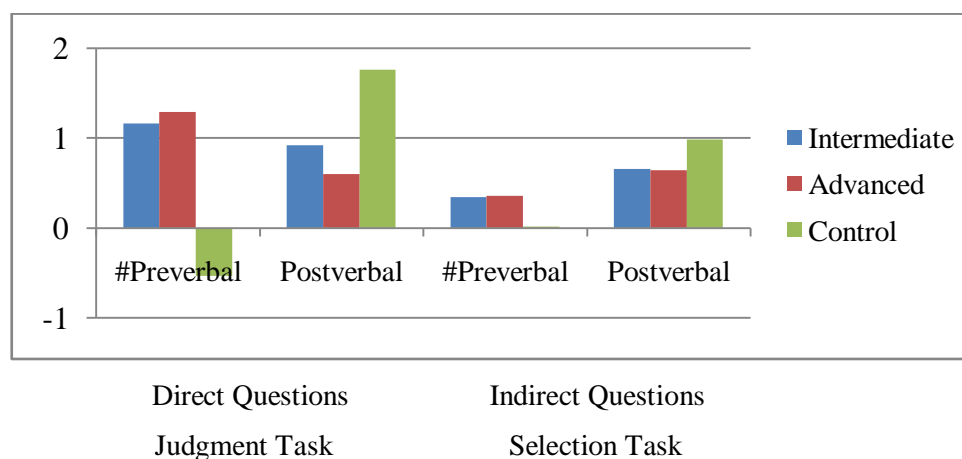
Graph 3. Subject distributions with unergative verbs in informational contexts



In informational contexts, as seen in Graph 4, the L2 groups presented variation in their preferences, but they tended to acceptance of preverbal subjects with unaccusative verbs in the judgment task with direct questions, while they allowed postverbal subjects more often in the selection task with indirect questions. The

distribution of their L1 Greek also seemed to determine the position of unaccusative subjects in informational contexts, as in the previous condition.

Graph 4. Subject distributions with unaccusative verbs in informational contexts



In general terms, the type of task did not seem to have a categorical effect on the preferences of the L2 groups with respect to the unergative/unaccusative distribution, but the influence of the L1 Greek seemed to play a role in direct and indirect question-answer contexts.

5. Study 2: The acquisition of subjects in L2 Spanish

Study 2 is the second study that examines the uses of subjects in L2 Spanish. This is a more expanded study intended to investigate subject distribution from all corners, explaining the preference for one or another type of subjects in relation to referential structure, verb class and sentence context. It involves a more advanced methodology than that applied in Study 1. First, in contrast to the judgment task of the first study, Study 2 includes a multiple choice task, targeting the expression/omission of subjects. This study also contains an acceptability judgment task for the position of subjects with transitive verbs in order to analyze word order with new verb classes. And the third experiment is a replication of the previous selection task that tests the distribution of subjects with unergative/unaccusative verbs in a wider array of contexts.

5.1. Experiment 1 on null/overt subjects in various contexts

In Experiment 1, I explore the production of null/overt subjects in Spanish, as I did in the first experiment of Study 1. Taking into account the results of the previous experiment, I also examine the contexts of variable distribution of overt subjects in non-contrastive contexts and the type of person that may affect the rates of null subjects in referential contexts of unambiguous antecedents as well as the obligatory overt subjects in referential contexts of contrastive antecedents. In this case, I have included a different type of task, a multiple choice task with a larger range of null/overt subjects, in order to test the above conditions in referential (maintenance and shift) contexts, and I have added a condition for the pure emphatic/contrastive contexts with new referents. A methodological change from the previous experiment is also the higher number of participants completing the multiple choice task. This change is expected to contribute to increased reliability in the results.

5.1.1. Prediction

In Experiment 1, the main aim is to explore whether Greek learners of Spanish have mastered the distribution of overt/null subjects in contrastive/non-contrastive and ambiguous/unambiguous referential contexts. In order to check the behaviour of L2 learners of Spanish, I test the following prediction of the two versions of the Interface Hypothesis (IH-1, IH-2), as in Study 1.

(23) Prediction 1 (for IH-1 and IH-2):

Greek learners of Spanish are expected to confront difficulties in employing null and overt subjects in referential contexts due to complexities involved in coordinating the modules of morphosyntax with pragmatics at the interface levels, even though Greek and Spanish share the null subject value.

Therefore, the IH-1 and the IH-2 make the same prediction (23) in pragmatic contexts.

5.1.2. Experimental design

The first experiment is a multiple choice task, designed to test the type of subject, null or overt, that L2 learners select in various pragmatic contexts, as previously mentioned. In the target language, Spanish, the null subject is preferred in non-contrastive and unambiguous referential contexts, while the overt subject is felicitous in emphatic/contrastive and referential shift contexts (with two potential antecedents).

The task consists of a total number of 45 stimuli: 40 items that test the production of null/overt subjects in referential contexts and 5 fillers that serve as distractors and are not further analyzed. In this case, four conditions are examined, with each condition containing 10 items of two subject options, a null and an overt subject. The first condition explores the use of subjects in non-contrastive referential contexts. The type of person is also observed, so that 5 items with subjects of 1st person and 5 items of 2nd person are employed. The two types of person are examined in the same condition, since they both allow the omission of subjects in non-contrastive sentences. In examples (77) and (78), the production of null subjects is felicitous in referent introduction contexts, as the inflection of the verbs *dar* ('give')

and *estar* ('be') shows the 1st and 2nd person, respectively, without creating referential ambiguity. Still, an overt pronoun *yo* ('I') or *tú* ('you') would be acceptable with emphatic/contrastive interpretation, which is nonetheless not the first choice in the following sentences.

(77) Los fines de semana _____ *doy* un paseo por el parque de la ciudad.

the ends of week _____ give-1sg.prs. a walk by the park of the city

'At weekends I go for a walk in the city park.'

- | | | | |
|-----|--------------|-----|-----------|
| (a) | Ø | (b) | <i>yo</i> |
| | null subject | | 'I' |

(78) Cuando _____ *estás* en la universidad, no me llamas por teléfono.

when _____ are-2sg.prs. in the university, not me-acc. call-2sg.prs. by phone

'When you are at the university, you don't call me.'

- | | | | |
|-----|--------------|-----|-----------|
| (a) | Ø | (b) | <i>tú</i> |
| | null subject | | 'you' |

The second and third conditions examine the omission/expression of 3rd person subjects in various referential contexts. The second condition consists of 10 items in which the 3rd person null subject is unambiguous due to the rich verbal inflection, which allows the identification of the antecedent referent. The second condition tests two types of contexts, so 5 items for referent maintenance and 5 items for shift contexts are employed. In examples (79) and (80), the inflection of the verbs *hacer* ('do') and *precisar* ('need') shows the third person singular, so that it admits the omission of the subjects that maintain the antecedent *Rosa* or recover the more distant referent *Ángela*, respectively. In line with this, the expression of the pronominal subject *ella* ('she') would be redundant or carry an emphatic/contrastive interpretation.

(79) Primero, *Rosa* prepara la comida y luego _____ *hace* los deberes del colegio.

first, Rosa prepares-3sg.prs. the meal and then _____ does-3sg.prs. the homework of the school

'First, Rosa prepares the meal and then she does her homework.'

- | | |
|-----------------|-----------------|
| (a) \emptyset | (b) <i>ella</i> |
| null subject | ‘she’ |

- (80) *Ángela* quiere publicar un libro y los editores nos explican que ____ *precisa* completar un manuscrito de su obra.

Angela wants-3sg.prs. to publish-inf. a book and the editors us-acc. explain-3pl.prs. that ____ needs-3sg.prs. to complete-inf. a manuscript of her work
 ‘Angela wants to publish a book and the editors have explained to us that she has to complete a manuscript of her work.’

- | | |
|-----------------|-----------------|
| (a) \emptyset | (b) <i>ella</i> |
| null subject | ‘she’ |

On the other hand, the third condition consists of 10 items that require the expression of the subject in order to recover one of two antecedent referents in shift contexts. In this case, verbal inflection is not sufficient to show the 3rd person of a more distant referent. In example (81), the verb *asistir* (‘attend’) requires the expression of the pronominal subject *ella* (‘she’) in order to avoid the ambiguity between the two contrastive referents *María* and *Jorge*. However, the null subject can be possible if it refers to the antecedent that is closer (*Jorge*) in the discourse.

- (81) Pese a que *María* y Jorge fueron a la universidad, el profesor se enteró de que ____ no asistió a la clase de filosofía.

although Maria and Jorge went-3pl.pst. to the university, the professor himself-refl. realized-3sg.pst. of that ____ not attended-3sg.pst. to the class of philosophy

‘Although Maria and Jorge went to the university, the professor realized that she did not attend the class of philosophy.’

- | | |
|-----------------|-----------------|
| (a) <i>ella</i> | (b) \emptyset |
| ‘she’ | null subject |

The fourth condition also consists of 10 items that require the expression of the subject, but in this case all grammatical persons are possible in emphatic/contrastive contexts. The structure of the sentence presents two new referents that are opposed in different discourse situations. For instance, in examples

(82) and (83) the production of the pair pronouns *tú-yo* ('you-I') and *ella-tú* ('she-you') is obligatory in order to contrast the referents of 2nd/1st person and 3rd/2nd person in the respective contexts. The overt inflection of the verbs *quedarse* ('stay') in (82) and *realizar* ('make') in (83) shows the person and number of the subjects, but it is not sufficient in order to express the emphatic contrasts between the two referents of the sentence. Therefore, the production of the pronominal subjects is obligatory, as their omission would violate the pragmatic conditions of emphasis/contrast.

- (82) *Tú sales para comer con tus amigos, en cambio _____ me quedo en casa.*
 you-nom. go-2sg.prs. out for eat-inf. with your friends, while _____ me-refl.
 stay-1sg.prs. at home
 'You go out to eat with your friends, while I stay at home.'
- (a) *yo* (b) \emptyset
 'I' null subject
- (83) *Estás en la agencia de viajes con tu amiga Carmen.*
 are-2sg.prs. in the agency of travels with your friend Carmen
 'You are at the travel agency with your friend Carmen.'
- _____ *realiza* una reserva de un billete, *tú no*.
 _____ makes-3sg.prs. a reservation of a ticket, you-nom. not
 'She makes a ticket reservation, you don't.'
- (a) *Ella* (b) \emptyset
 'she' null subject

The full task is presented in Appendix 2.

5.1.3. Subjects

Three groups of native and non-native speakers took part in Experiment 1. As in the experiments comprising Study 1, the two Greek L1-Spanish L2 groups consisted of intermediate and advanced students, but in this experiment the groups contained a larger sample of participants who were studying Spanish as a second language. In particular, intermediate and advanced learners were attending a Spanish language course for four hours per week at the Panepistimio Athinon's Institute of Foreign

Languages. Both experimental groups had taken the official examination towards a Diploma in Spanish as Foreign Language (*DELE*). Intermediate learners had achieved an average score of 83% in the B1 Exam, while advanced learners had achieved an average score of 88% in the C1 Exam, according to the Common European Framework of Reference for Foreign Languages. All the L2 learners were also in the process of doing university degrees in philosophy or pedagogy and had contact with other languages such as English, French and German, though it is assumed that this had no significant effect on their performance in L2 Spanish.

The third group consisted of native speakers of Spanish living in Madrid and doing a degree in linguistics at the Universidad Autónoma de Madrid. This group determined the range of felicitous subjects in various pragmatic contexts in Spanish and thus served as control. In Table 65, I provide details for the three groups of subjects.

Table 65. *Subjects*

Groups	<i>Intermediate</i>	<i>Advanced</i>	<i>Control</i>
First language	Greek	Greek	Spanish
Number	30	30	30
Age range	21-58	24-56	21-30
Studies in Spanish language	3rd year L2 course	5th year L2 course	university course in Spanish linguistics
Level	B1	C1	native speakers
Average score in <i>DELE</i> exams	83%	88%	—

5.1.4. Procedure

Experiment 1 was administered at the Panepistimio Athinon's Institute of Foreign Languages, where the L2 learners were taking Spanish language classes, and at the Universidad Autónoma de Madrid, where the Spanish natives were studying linguistics. All participants were instructed to complete the multiple choice task by

selecting one of two options, null or overt subjects, in various pragmatic contexts. The symbol \emptyset corresponded to the null subject value, while the second option was a pronoun that served as overt subject in the structure. Participants were given a distractor example with the correct use of subjects in order to ensure full comprehension of the task, but it did not involve the conditions of the experiment. L2 learners were also given clarifications in their L1 Greek to make sure they understood the instructions fully. However, all stimuli were written in Spanish. The duration of the task was 30 minutes, but subjects were given a few more minutes if necessary to answer any unanswered items.

5.1.5. Coding of the results and statistical analysis

The responses were coded for the type of subject in the four conditions. In the first condition, null subjects of 1st/2nd person were coded as non-contrastive and overt subjects as contrastive. In the second condition, null subjects of 3rd person were coded as unambiguous (maintenance/shift)-referential and overt subjects as contrastive. In the third condition, overt subjects of 3rd person were coded as referentially contrastive and null subjects as referentially ambiguous. In the fourth condition, overt subjects of all persons were coded as emphatic/contrastive and null subjects as non-emphatic/non-contrastive. All felicitous and infelicitous subjects were averaged for each (intermediate, advanced, control) group of participants (N: 30) in order to make comparisons between the levels of proficiency. The distribution of subjects was also averaged for each participant of the three groups and coded in SPSS to perform the Mann-Whitney test. This statistical analysis checked for significant differences between paired groups (intermediate-advanced, intermediate-control and advanced-control groups). The application of this test aimed at determining precisely the effect of the independent factor of *Group* on the dependent factor of *Subject* distribution (i.e. command of null/overt subjects) in the four conditions. The effects of the type of *Context* (i.e. referent maintenance/shift) and *Person* (i.e. 1st/2nd) on the use of *Subjects* were also calculated in the Wilcoxon test for the three groups.

5.1.6. Results

The multiple choice task yielded a total of 3,600 responses (1,200 responses from each group) including the four conditions for subject omission/expression in pragmatic contexts. Responses to the distractors were excluded from the analysis, as they did not concern the phenomenon examined.

In non-contrastive referential contexts of 1st/2nd person, as seen in Table 66 for the raw responses, the L2 groups produced felicitous null subjects. However, the intermediate group employed null subjects less often than the advanced and control groups. In this case, the intermediate learners showed a tendency to express the subject, diverging from native-like patterns of pronoun rejection. On the other hand, the advanced group employed fewer overt subjects, even though they did not reach the rate of the control group.

Table 66. Null and overt subjects of 1st/2nd person in non-contrastive referential contexts

	Null		#Overt	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	231/300	77%	69/300	23%
Advanced	278/300	92.67%	22/300	7.33%
Control	298/300	99.33%	2/300	0.67%

The differences between the intermediate and advanced groups ($p = .003$), the intermediate and control groups ($p = .000$) and the advanced and control groups ($p = .000$) were significant in the Mann-Whitney test, as shown in Table 67. Thus, the effect for *Group* was significant in all cases. Similarly, *Competence* level played a significant role in the performance of the non-native groups.

Table 67. Mann-Whitney test between two groups						
Null and overt subjects of 1st/2nd person in non-contrastive referential contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Mann-Whitney U	257.000	257.000	107.000	107.000	263.000	263.000
asymptotic significance	.003	.003	.000	.000	.000	.000

The type of *Person* was also tested in non-contrastive referential contexts. All groups omitted subjects more often with both 1st/2nd persons, as displayed in Table 68. However, the non-native groups produced null subjects of 1st (87.33%, 97.33%) more often than 2nd person (66.67%, 88%), compared to the control group, which indicated the same preferences with both persons (100%, 98.67%). In this case, the intermediate group employed overt subjects of both 1st and 2nd persons more often than the advanced group, while the control group presented the same patterns of rejection of pronouns in both cases. Still, the advanced group was closer to the rates of native speakers for both types of subjects of 1st vs. 2nd person, while the intermediate group was more divergent.

Table 68. Null and overt subjects in non-contrastive referential contexts				
	1st Person		2nd Person	
	Null	#Overt	Null	#Overt
	Percent (Raw Responses)		Percent (Raw Responses)	
Intermediate	87.33%	12.67%	66.67%	33.33%
	(131/150)	(19/150)	(100/150)	(50/150)
Advanced	97.33%	2.67%	88%	12%
	(146/150)	(4/150)	(132/150)	(18/150)
Control	100%	0%	98.67%	1.33%
	(150/150)	(0/150)	(148/150)	(2/150)

As can be seen in Table 69, the Wilcoxon test showed that the effect of the type of *Person* on the use of null/overt subjects was significant in the responses of the

intermediate ($p = .000$) and advanced groups ($p = .013$), while this was not in the case for the control group ($p = .157$).

Table 69. Wilcoxon test between related samples						
Null and overt subjects in non-contrastive referential contexts						
	1st vs. 2nd Person					
	Intermediate		Advanced		Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Wilcoxon Z	-4.103	-4.103	-2.491	-2.491	-1.414	-1.414
asymptotic significance	.000	.000	.013	.013	.157	.157

In unambiguous referential contexts of 3rd person, as shown in Table 70, all groups also produced null subjects more often, but the intermediate and advanced groups did not perform at ceiling.

Table 70. Null and overt subjects of 3rd person in unambiguous referential contexts				
	Raw Responses	Null	Raw Responses	#Overt
Intermediate	212/300	70.67%	88/300	29.33%
Advanced	237/300	79%	63/300	21%
Control	268/300	89.33%	32/300	10.67%

The differences between the intermediate and control groups ($p = .000$) and the advanced and control groups ($p = .001$) were significant in the Mann-Whitney test, while the difference between the intermediate and advanced groups approached significance ($p = .059$), as seen in Table 71. Thus, the effect for *Group* was significant for the intermediate-control and advanced-control groups and close to the statistical significance for the intermediate-advanced groups.

Table 71. Mann-Whitney test between two groups						
Null and overt subjects of 3rd person in unambiguous referential contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Mann-Whitney U	324.500	324.500	186.000	186.000	232.500	232.500
asymptotic significance	.059	.059	.000	.000	.001	.001

Context was also examined in the case of unambiguous referents of 3rd person, as detailed in Table 72. All native and non-native groups produced null subjects more often in referent maintenance than shift contexts. The three groups reached a high rate of the felicitous option in maintenance contexts, although the intermediate group did not perform at ceiling when compared to the advanced and control groups. On the other hand, the two experimental groups showed similar alternations between null (54.67%, 59.33%) and overt subjects (45.33%, 40.67%) in shift contexts, diverging from the control group, which tended to omit subjects (78.67%), even though they did not exclude overt subjects altogether (21.33%) in the sentences examined.

Table 72. Null and overt subjects of 3rd person in unambiguous referential contexts				
	Referent Maintenance Contexts		Referent Shift Contexts	
	Null	#Overt	Null	#Overt
	Percent (Raw Responses)		Percent (Raw Responses)	
Intermediate	86.67%	13.33%	54.67%	45.33%
	(130/150)	(20/150)	(82/150)	(68/150)
Advanced	98.67%	1.33%	59.33%	40.67%
	(148/150)	(2/150)	(89/150)	(61/150)
Control	100%	0%	78.67%	21.33%
	(150/150)	(0/150)	(118/150)	(32/150)

The Wilcoxon test also indicated that the differences between the two types of contexts were significant ($p = .000$) in the results of the intermediate, advanced and control groups, as presented in Table 73.

Table 73. Wilcoxon test between related samples						
Null and overt subjects of 3rd person in unambiguous referential contexts						
Referent Maintenance vs. Shift Contexts						
	Intermediate		Advanced		Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Wilcoxon Z	-3.763	-3.763	-4.587	-4.587	-3.896	-3.896
asymptotic significance	.000	.000	.000	.000	.000	.000

In referential shift contexts, on the other hand, all groups produced a high rate of overt 3rd person subjects, as shown in Table 74. However, the intermediate group expressed overt pronouns less often than the advanced group, which approached the rate of the control group.

Table 74. Overt and null subjects of 3rd person in referential shift contexts of contrast				
	Overt		#Null	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	217/300	72.33%	83/300	27.67%
Advanced	255/300	85%	45/300	15%
Control	272/300	90.67%	28/300	9.33%

As seen in Table 75, the Mann-Whitney test showed significant differences between the intermediate and control groups ($p = .000$) and the intermediate and advanced groups ($p = .009$). Only the differences between the advanced and control groups ($p = .164$) were not significant in this test. Therefore, the effect for *Group* was significant for the intermediate-control groups and not for the advanced-control groups. The role of *Competence* level was also significant for the intermediate-advanced groups.

Table 75. Mann-Whitney test between two groups						
Overt and null subjects of 3rd person in referential shift contexts of contrast						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Overt	#Null	Overt	#Null	Overt	#Null
Mann-Whitney U	276.500	276.500	200.500	200.500	361.500	361.500
asymptotic significance	.009	.009	.000	.000	.164	.164

In emphatic/contrastive contexts, as seen in Table 76, all groups also showed a high preference for the felicitous overt subjects, irrespective of the grammatical person. In this case, the intermediate group yielded a higher rate of the target option, though they did not attain the rates of the advanced and control groups.

Table 76. Overt and null subjects in emphatic/contrastive contexts				
	Overt		#Null	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	261/300	87%	39/300	13%
Advanced	291/300	97%	9/300	3%
Control	296/300	98.67%	4/300	1.33%

The Mann-Whitney test revealed that the differences between the intermediate and advanced groups ($p = .010$) and the intermediate and control groups ($p = .000$) were significant, as seen in Table 77. However, the differences between the advanced and control groups ($p = .175$) were not significant. The effect for *Group* was significant for the intermediate-control groups, but not for the advanced-control groups. *Competence* level was also significant in the case of the intermediate-advanced groups.

Table 77. Mann-Whitney test between two groups						
Overt and null subjects in emphatic/contrastive contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Overt	#Null	Overt	#Null	Overt	#Null
Mann-Whitney U	298.000	298.000	248.500	248.500	390.500	390.500
asymptotic significance	.010	.010	.000	.000	.175	.175

5.1.7. Discussion of the results

In the multiple choice task, I have analyzed the omission/expression of subjects in various contexts in order to examine the performance of L2 learners in comparison with the performance of native speakers of Spanish.

In non-contrastive referential contexts, the non-native groups produced more null than overt subjects, showing that they were sensitive to the possibility of omitting subjects of 1st/2nd person. However, the intermediate group employed null subjects less often than the advanced group, indicating that competence level played a role in the use of subjects in pragmatic contexts. In this case, the intermediate learners expressed some overt subjects that were redundant in non-contrastive contexts. The type of person determined the divergence from native performance, as the intermediate group preferred overt subjects more often with 2nd than 1st person, while the control group avoided the expression of subjects, irrespective of the person. The non-target performance of the intermediate learners fulfilled Prediction 1 of the two versions of the Interface Hypothesis (IH-1 and IH-2), as they did not present full command of the morphosyntactic-pragmatic properties. On the other hand, the advanced group performed better, showing a higher preference for the production of null subjects. However, this group also presented significant differences from native speakers, because they allowed a few overt subjects of 2nd person. The performance of the advanced learners thus fulfilled Prediction 1 (for IH-1 and IH-2), since they did not achieve full target distribution of null subjects, showing that they did not always

avoid the complexities of the pragmatic interfaces. In Margaza and Bel's (2006) findings, the advanced group did not achieve complete native-like performance either.

In unambiguous referential contexts of 3rd person, both native and non-native groups also preferred the omission of subjects, compared to 1st/2nd person. The intermediate and advanced groups showed a tendency towards null subjects with 3rd person, but they did not achieve the high rate for 1st person. The two groups diverged from target-like distribution of null subjects by employing overt subjects of 3rd person with a contrastive interpretation. The type of context also played a role in the performance of the three groups, as they all produced null subjects more often in referent maintenance than shift contexts. The distance of the referent allowed the expression of overt subjects in shift contexts, but the L2 groups showed higher alternation between null and overt subjects, differing from the preferences of the control group. The divergent performance of the L2 groups fulfilled Prediction 1 (for IH-1 and IH-2), as they showed inadequate command of null subject properties regulating the uses of 3rd person in the appropriate referent shift contexts. The influence of their L1 Greek intuitions was also possible, as native speakers allowed flexible distribution of both null/overt subjects of 3rd person in the equivalent unambiguous referential shift contexts.

In referential shift contexts of contrast, both native and non-native groups produced overt subjects of 3rd person often in order to avoid ambiguity between two possible antecedents. However, competence level appeared to determine the performance of the L2 learners, as the intermediate group employed overt subjects of 3rd person less often than the other groups, diverging from the target behaviour of the control group. The performance of the intermediate group fulfilled Prediction 1 (for IH-1 and IH-2) by showing that they did not always distinguish the felicitous option in relation to the appropriate antecedents. This suggests that they had problems with the acquisition of the referential structure at the pragmatics interfaces. On the other hand, the advanced group presented a higher rate of overt subjects of 3rd person, following the patterns of native speakers. The performance of the advanced learners did not support Prediction 1 (for IH-1 and IH-2) (differently from Sorace and Filiaci, 2006 and Tsimpli and Sorace, 2006), as they attained target command of the contrastive referential properties that regulated subject distribution in relation to the type of person in discourse-marked contexts. Thus, the higher competence level

reduced the effects of the Interface Hypothesis with respect to the pragmatics vulnerability (Rothman and Slabakova, 2011; White, 2011). In Lozano's (2018) findings, competence level also affected the distribution of subjects in contrastive contexts, so that the intermediate group indicated higher variation between overt and null subjects, while the lower-advanced group accepted more overt subjects and the upper-advanced group approached the rates of the control group. However, the intermediate and advanced groups in this experiment performed better than the respective groups in Lozano's (2018) study, though this could be attributed to the type of task, this experiment having used a multiple choice task as opposed to Lozano's acceptability judgment task.

In emphatic/contrastive contexts of new referents, all groups produced a higher rate of overt subjects, compared to the previous referent shift contexts. Both native and non-native speakers expressed subjects more often when they introduced a new referent into the discourse. The intermediate and advanced groups showed a clear preference for overt subjects, irrespective of the grammatical person, though the former group showed statistical differences from the control group, while the latter group achieved the rates of the control group. The behaviour of the intermediate learners fulfilled Prediction 1 (for IH-1 and IH-2), since they did not achieve native-like distribution of overt subjects, showing no mastery of the syntactic-pragmatic properties. On the other hand, the advanced group presented a performance that was indistinguishable from that of the control group, as they followed target patterns of overt subjects, against Prediction 1 (for IH-1 and IH-2). Therefore, competence level determined the fulfilment (or not) of the two versions of the Interface Hypothesis.

5.2. Experiment 2 on subject position with transitive verbs

In Experiment 2, I examine the position of subjects with transitive verbs in Spanish. This extends the previous Study 1 by focusing on a new verb class.

5.2.1. Predictions

The main goal here is to observe whether Greek learners of Spanish have achieved target distribution of subjects with transitive verbs in neutral and pragmatic contexts.

In order to do this, I test Predictions 2, 3 and 4 for the two versions of the Interface Hypothesis (IH-1, IH-2).

Prediction 2 deals with the distribution of preverbal/postverbal subjects with transitive verbs in neutral contexts.

(24) Prediction 2 for IH-1:

L2 learners of Spanish are expected to produce less often the felicitous word order with transitive verbs in neutral contexts due to the difficulty involved in acquiring the syntactic-lexical-semantic properties that restrict the position of subjects at the interface levels, even though Greek and Spanish display the same default SVO order with transitives in neutral contexts.

(25) Prediction 2 for IH-2:

L2 learners of Spanish are expected to have command of the target word order with transitive verbs, as the formal properties that regulate the position of subjects are easier to acquire at the internal syntax-lexicon-semantics interfaces.

Prediction 3 tests the position of transitive subjects with adverbial phrases in neutral and contrastive contexts.

(26) Prediction 3 for IH-1:

L2 learners of Spanish are not expected to command the felicitous word order with transitive verbs in sentences with adverbial phrases due to the difficulties involved in coordinating syntactic with lexical-semantic properties in neutral adverbial contexts and syntactic with pragmatic properties in contrastive adverbial contexts.

(27) Prediction 3 for IH-2:

L2 learners of Spanish are expected to be on target with respect to the word order with transitive verbs preceded by adverbial phrases in neutral contexts, as the formal properties of these elements are determined by the internal syntax-lexicon-semantics interfaces, while they are likely to have problems with the felicitous word order with adverbial phrases in contrastive contexts

due to the difficulties involved in integrating the internal modules with the external pragmatic module.

Prediction 4 tests the default and non-default word orders in transitive contexts.

(28) Prediction 4 for IH-1:

L2 learners of Spanish are not expected to have acquired the target distribution of the default SVO and non-default VOS/OVS orders due to the difficulties involved in setting the syntactic-lexical-semantic properties of verbs and the morphosyntactic properties of subjects/objects in transitive SVO contexts in Spanish and Greek.

(29) Prediction 4 for IH-2:

L2 learners of Spanish are expected to show mastery of the default SVO and the non-default VOS/OVS orders, as the formal properties of transitive verbs and subjects/objects are acquired easily at the internal morphosyntax-lexicon-semantics interfaces.

Therefore, the IH-1 and the IH-2 make different predictions for neutral and pragmatic contexts.

5.2.2. Experimental design

In Experiment 2 an acceptability judgment task that examines the position of subjects is employed. This task focuses on the distribution of preverbal and postverbal subjects with transitive verbs. A five-point scale from –2 (fully rejected) to 2 (fully accepted) is also used in order to investigate the grade of acceptance or rejection of the felicitous and infelicitous word orders in the responses of native and non-native speakers (see also Lozano, 2006a, b; Domínguez and Arche, 2014).

The task contains a total number of 55 stimuli, 50 items that test the acceptance (or not) of preverbal/postverbal subjects with transitive verbs and 5 items that function as distractors. In particular, five conditions are tested, with each condition consisting of 10 items of two word order options. The first condition concerns the position of subjects with transitive verbs in neutral contexts. Each item is

formed by a matrix and a subordinate clause containing the transitive structure that requires the default SVO order. For instance, in (84a) SVO is more acceptable with the process-type transitive *escribir* ('write'), while VSO is less natural in pragmatically neutral contexts like (84b).

- (84) El jefe volvió al despacho, cuando _____.
 the boss returned-3sg.pst. to the office, when _____
 'The boss returned to the office when _____.'
- (a) la secretaria *escribía* una carta. -2 -1 0 1 2
 the secretary was writing-3sg.pst.cont. a letter
 'the secretary was writing a letter.'
- (b) *escribía* la secretaria una carta. -2 -1 0 1 2
 was writing-3sg.pst.cont. the secretary a letter
 'the secretary was writing a letter.'

The second and third conditions involve the distribution of transitive structures with adverbial phrases in neutral and contrastive contexts. As in the previous case, each condition contains 10 items of two word order options. In the second condition, the SVO is the preferable order with a non-contrastive adverbial phrase in initial position. For example, the clause in (85) consists of the preceding temporal adverbial *a la hora de la pausa* ('at the hour of the break'), which triggers the SVO order with the process-type transitive verb *comer* ('eat') in neutral contexts (85a). In this case, VSO is a dispreferred choice, as the adverbial phrase does not affect the default word order with transitive verb (85b).

- (85) A la hora de la pausa _____.
 at the hour of the break _____
 'At break time _____.'
- (a) las niñas *comen* patatas bravas. -2 -1 0 1 2
 the girls eat-3pl.prs. potatoes spicy
 'the girls eat fried potatoes with hot sauce.'

- (b) *comen* las niñas patatas bravas. -2 -1 0 1 2
 eat-3pl.prs. the girls potatoes spicy
 ‘the girls eat fried potatoes with hot sauce.’

However, in the third condition the VSO order is more natural, since the contrast between two adverbial phrases allows the inversion of subjects with transitive verbs. For instance, in clause (86) the initial temporal adverbial *a la hora de la pausa* (‘at the hour of the break’) and the final *durante la clase* (‘during the class’) are contrasted in the discourse, triggering VSO with the transitive *comer* (‘eat’) in (86a). On the other hand, SVO is not the first choice (86b), even though the contrastive context does not disallow the default transitive word order.

- (86) A la hora de la pausa _____, y no durante la clase.
 at the hour of the break _____, and not during the class
 ‘At break time _____, and not during the class.’
- (a) *comen* las niñas patatas bravas -2 -1 0 1 2
 eat-3pl.prs. the girls potatoes spicy
 ‘the girls eat fried potatoes with hot sauce’
- (b) las niñas *comen* patatas bravas -2 -1 0 1 2
 the girls eat-3pl.prs. potatoes spicy
 ‘the girls eat fried potatoes with hot sauce’

The next two conditions test the position of subjects with transitive verbs in non-default VOS and OVS contexts. Each condition consists of 10 items of complex matrix-subordinate clauses. This type of structures triggers the default SVO with transitive verbs. On the other hand, VOS and OVS are not basic word orders, so they are not the first choice in pragmatically neutral contexts. For instance, SVO is more felicitous with the transitives *cancelar* (‘cancel’) and *preparar* (‘prepare’) in the respective subordinates (87a) and (88a). By contrast, VOS in (87b) and OVS in (88b) are not acceptable, as the neutral focus context disallows these non-default word orders. The subject does not receive the focus of the sentence, so that word orders with postverbal subjects are infelicitous in the contexts examined.

- (87) Los invitados se enteraron de que _____.
 the guests themselves-refl. realized-3pl.pst. that _____
 ‘The guests realized that _____.’
- (a) la novia *canceló* la boda. -2 -1 0 1 2
 the fiancée cancelled-3sg.pst. the wedding
 ‘the fiancée cancelled the wedding.’
- (b) *canceló* la boda la novia. -2 -1 0 1 2
 cancelled-3sg.pst. the wedding the fiancée
 ‘the fiancée cancelled the wedding.’
- (88) Mi padre me comunicó que _____.
 my father me-acc. informed-3sg.pst. that _____
 ‘My father informed me that _____.’
- (a) la cocinera *preparaba* la comida. -2 -1 0 1 2
 the cook was preparing-3sg.pst.cont. the food
 ‘the cook was preparing the food.’
- (b) la comida *preparaba* la cocinera. -2 -1 0 1 2
 the food was preparing-3sg.pst.cont. the cook
 ‘the cook was preparing the food.’

The full task is presented in Appendix 2.

5.2.3. Subjects

The subjects who participated in Experiment 2 were the same as those in Experiment 1 (see section 5.1.3).

5.2.4. Procedure

Experiment 2 was administered at the institutions where Spanish language courses were being taught. Subjects were instructed to complete the acceptability judgment task and rate all the stimuli with two word order conditions on the five-point scale. The points of the scale were explained, as follows: -2 (fully rejected), -1 (rejected), 0 (neither rejected nor accepted), 1 (accepted) and 2 (fully accepted). In order to

enhance their comprehension of the task, participants were also given a distractor example that indicated how to judge two sentences with preverbal/postverbal subjects. If L2 learners had difficulty in understanding the task, they were provided with appropriate clarifications. The duration of the task was 40 minutes, but subjects were given a few more minutes if necessary to complete the task.

5.2.5. Coding of the results and statistical analysis

The ratings of preverbal/postverbal subjects on the five-point scale were categorized: the accepted (1, 2) and rejected (-2, -1) values were grouped together and the *neither* accepted/rejected (0) value was also recorded. The types of word orders (SVO/VSO, SVO/VOS, SVO/OVS) were coded for the five conditions of Experiment 2. In the first condition, SVO was coded as neutral and VSO as non-neutral with transitive verbs. In the second condition, SVO was coded as neutral adverbial and VSO as non-neutral adverbial. In the third condition, VSO was coded as contrastive adverbial and SVO as non-contrastive adverbial. In the fourth and fifth conditions, SVO was coded as neutral and VOS/OVS as non-neutral. The ratings of felicitous and infelicitous word orders were averaged for each (intermediate, advanced and control) group and each subject of the groups. The overall means were coded in SPSS in order to apply the Mann-Whitney statistical test. The aim of performing this test was to calculate the significant differences between pairs groups (intermediate-advanced, intermediate-control and advanced-control groups). This test would also indicate the significance of the effect of the independent variable of *Group* on the dependent variable of *Word Order* with transitive verbs in various contexts.

5.2.6. Results

The judgment task yielded a total of 9,000 responses (3,000 from each group) including the five conditions for subject distribution with transitive verbs. The responses to the distractors were not included in the analysis because they did not involve the phenomenon examined. As for the classification of the responses, they were rated on the scale of accepted, rejected and neither accepted/nor rejected values.

In neutral contexts, as shown in Table 78, all groups preferred the default SVO order with transitive verbs, even though the intermediate group did not display completely native-like behaviour, which the advanced group did. Regarding the non-default VSO order, all groups rejected it, although the control group showed a strong tendency to accept this word order. As for the undecided option, the advanced and control groups presented the same rates of the *neither* value, while the intermediate group disallowed it more often.

Table 78. Preverbal and postverbal subjects with transitive verbs in neutral contexts

	Raw Responses (Percent in Parentheses)					
	SVO			#VSO		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	275/300 (91.67%)	21/300 (7%)	4/300 (1.33%)	58/300 (19.33%)	236/300 (78.67%)	6/300 (2%)
Advanced	292/300 (97.33%)	6/300 (2%)	2/300 (0.67%)	42/300 (14%)	236/300 (78.67%)	22/300 (7.33%)
Control	292/300 (97.33%)	5/300 (1.67%)	3/300 (1%)	103/300 (34.33%)	175/300 (58.33%)	22/300 (7.33%)

The means of subjects' responses also confirmed that all groups preferred the default SVO order in neutral focus contexts. However, the intermediate group (1.62/2) did not reach the rates of the advanced (1.86/2) and control groups (1.89/2), as seen in Table 79. On the other hand, both intermediate (-1.10/2) and advanced groups (-1.18/2) presented similar patterns of rejection of the non-default VSO, while the control group tended to reject this word order (-0.48/2) less often.

Table 79. Preverbal and postverbal subjects with transitive verbs in neutral contexts

	Means	
	SVO	#VSO
Intermediate	1.62/2	-1.10/2
Advanced	1.86/2	-1.18/2
Control	1.89/2	-0.48/2

The Mann-Whitney test demonstrated significant differences between the intermediate and control groups ($p = .005$), while the advanced and control groups did not show significant differences for the SVO option ($p = .751$), but only for VSO ($p = .004$), as displayed in Table 80. On the other hand, the intermediate and advanced groups presented significant differences for SVO ($p = .012$), but not for VSO ($p = .888$). The effect of *Group* was significant for the intermediate-control comparison, but not for the SVO option in the case of the advanced-control comparison and the VSO option in the intermediate-advanced comparison.

Table 80. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with transitive verbs in neutral contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	SVO	#VSO	SVO	#VSO	SVO	#VSO
Mann-Whitney U	292.000	440.500	271.000	262.000	431.500	255.000
asymptotic significance	.012	.888	.005	.005	.751	.004

In neutral adverbial contexts, as seen in Table 81, all groups also preferred the default SVO order with transitives, but the intermediate group did not perform at ceiling, which the advanced and control groups did. This implies that the intermediate learners did not avoid the non-target values completely, while the advanced group followed the patterns of native speakers. Regarding the non-default VSO order, all groups rejected it to some extent, but the control group tended to accept it more often than the other groups.

Table 81. Preverbal and postverbal subjects with transitive verbs in neutral adverbial contexts						
	Raw Responses (Percent in Parentheses)					
	SVO			#VSO		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	282/300 (94%)	15/300 (5%)	3/300 (1%)	59/300 (19.67%)	233/300 (77.67%)	8/300 (2.66%)
Advanced	297/300 (99%)	3/300 (1%)	0/300 (0%)	65/300 (21.67%)	213/300 (71%)	22/300 (7.33%)
Control	300/300 (100%)	0/300 (0%)	0/300 (0%)	114/300 (38%)	160/300 (53.33%)	26/300 (8.67%)

The overall results also indicated that all groups preferred the default SVO order in neutral adverbial contexts, though the intermediate group did not achieve the full rates of the advanced and control groups, as displayed in Table 82. In this case, the native speakers showed a homogeneous preference for the default SVO order, but they rejected the secondary VSO option less often. On the other hand, the intermediate and advanced groups tended to reject the non-default word order more often than the control group.

Table 82. Preverbal and postverbal subjects with transitive verbs in neutral adverbial contexts		
	Means	
	SVO	#VSO
Intermediate	1.72/2	-1.07/2
Advanced	1.93/2	-0.91/2
Control	1.98/2	-0.29/2

The Mann-Whitney test confirmed significant differences between the intermediate and control groups, while the advanced-control groups did not show significant differences for SVO ($p = .379$) but did so for VSO ($p = .019$), as presented in Table 83. On the other hand, the differences between the intermediate and advanced groups were significant for SVO ($p = .000$), but not for VSO ($p = .582$). The effect for *Group* was significant for the intermediate-control groups, but not for VSO

in the case of the intermediate-advanced groups and SVO in the advanced-control groups.

Table 83. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with transitive verbs in neutral adverbial contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	SVO	#VSO	SVO	#VSO	SVO	#VSO
Mann-Whitney U	239.500	413.000	205.500	244.000	419.000	291.000
asymptotic significance	.000	.582	.000	.002	.379	.019

Results are given for contrastive adverbial contexts in Table 84. The intermediate group had a higher rate of rejection of the VSO order than the other groups, which showed a tendency towards subject inversion. As for the default transitive SVO, all groups presented a high preference for this option, irrespective of the contrastive context, though the rates of non-native groups were not equal to those of natives.

Table 84. Preverbal and postverbal subjects with transitive verbs in contrastive adverbial contexts						
	Raw Responses (Percent in Parentheses)					
	#SVO			VSO		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	252/300 (84%)	45/300 (15%)	3/300 (1%)	89/300 (29.67%)	201/300 (67%)	10/300 (3.33%)
Advanced	246/300 (82%)	45/300 (15%)	9/300 (3%)	129/300 (43%)	146/300 (48.67%)	25/300 (8.33%)
Control	265/300 (88.33%)	14/300 (4.67%)	21/300 (7%)	146/300 (48.67%)	137/300 (45.67%)	17/300 (5.66%)

The overall means showed that all groups judged the default transitive SVO better than the VSO order in contrastive adverbial contexts. However, the intermediate and advanced groups did not achieve the rate of the control group with

respect to the SVO order, as displayed in Table 85. On the other hand, all groups accepted the contrastive VSO less often, though the intermediate group tended to reject this word order more often than the other groups.

Table 85. Preverbal and postverbal subjects with transitive verbs
in contrastive adverbial contexts

	Means	
	#SVO	VSO
Intermediate	1.34/2	-0.68/2
Advanced	1.25/2	-0.06/2
Control	1.62/2	0.08/2

The Mann-Whitney test revealed that the differences between the intermediate and control groups approached significance ($p = .065$) in the case of the SVO option, while they were significant for VSO ($p = .010$), as shown in Table 86. On the other hand, the differences between the advanced and control groups were not significant ($p = .229$, $p = .594$). The differences between the intermediate and advanced groups were also non-significant for the SVO option ($p = .697$) and close to the limit level ($p = .074$) for VSO. Thus, the effect for *Group* was not significant for the advanced-control and the intermediate-advanced comparisons, while it was for the VSO option in the intermediate-control comparisons.

Table 86. Mann-Whitney test between two groups

	Preverbal and postverbal subjects with transitive verbs in contrastive adverbial contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#SVO	VSO	#SVO	VSO	#SVO	VSO
Mann-Whitney U	424.500	329.500	331.000	277.000	374.500	414.000
asymptotic significance	.697	.074	.065	.010	.229	.594

Regarding the non-default VOS contexts, the results appear in Table 87. In these contexts, all groups judged better the default SVO order, though the

intermediate group did not perform at ceiling, as opposed to the advanced and control groups. As for the non-default VOS order, the intermediate and advanced groups tended to reject it, while the control group allowed the possibility of inverting a focused subject, though they presented similar rates of acceptance and rejection of this word order.

Table 87. Preverbal and postverbal subjects with transitive verbs in #VOS contexts

	Raw Responses (Percent in Parentheses)					
	SVO			#VOS		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	279/300 (93%)	18/300 (6%)	3/300 (1%)	52/300 (17.33%)	237/300 (79%)	11/300 (3.67%)
Advanced	297/300 (99%)	1/300 (0.33%)	2/300 (0.67%)	69/300 (23%)	213/300 (71%)	18/300 (6%)
Control	297/300 (99%)	1/300 (0.33%)	2/300 (0.67%)	130/300 (43.33%)	146/300 (48.67%)	24/300 (8%)

The overall results also demonstrated that all three groups accepted the default transitive SVO order, though the intermediate group did not achieve the high rates of the advanced and control groups, as detailed in Table 88. On the other hand, both intermediate and advanced groups tended to reject the non-default VOS more often than the control group.

Table 88. Preverbal and postverbal subjects with transitive verbs
in #VOS contexts

	Means	
	SVO	#VOS
Intermediate	1.6/2	-1.12/2
Advanced	1.95/2	-0.97/2
Control	1.97/2	-0.13/2

The Mann-Whitney test confirmed significant differences between the intermediate and control groups ($p = .000$), while the advanced-control comparison did

not show significant differences for the SVO option ($p = .898$), but for VOS ($p = .002$), as shown in Table 89. On the other hand, the intermediate-advanced comparison yielded significant differences for the SVO option ($p = .000$), but not for VOS ($p = .603$). The effect for *Group* was significant for the intermediate-control groups, while it was not for VOS in the case of intermediate-advanced pairing and for SVO in the advanced-control comparison.

Table 89. Mann-Whitney test between two groups

	Preverbal and postverbal subjects with transitive verbs in #VOS contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	SVO	#VOS	SVO	#VOS	SVO	#VOS
Mann-Whitney U	211.500	415.000	192.000	203.000	445.500	243.500
asymptotic significance	.000	.603	.000	.000	.898	.002

In non-default OVS contexts, as seen in Table 90, all groups preferred the default SVO with transitive verbs, though the intermediate group did not achieve the rates of the other groups. Regarding the non-default OVS, all groups rejected it, but the advanced group produced a higher rate of rejection. The advanced and control groups presented almost the same rates of OVS acceptance, while the intermediate group allowed this word order more often.

Table 90. Preverbal and postverbal subjects with transitive verbs in #OVS contexts

	Raw Responses (Percent in Parentheses)					
	SVO			#OVS		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	255/300	28/300	17/300	32/300	251/300	17/300
	(85%)	(9.33%)	(5.67%)	(10.67%)	(83.66%)	(5.67%)
Advanced	289/300	9/300	2/300	13/300	285/300	2/300
	(96.33%)	(3%)	(0.67%)	(4.33%)	(95%)	(0.67%)
Control	298/300	2/300	0/300	16/300	269/300	15/300
	(99.33%)	(0.67%)	(0%)	(5.33%)	(89.67%)	(5%)

The means also confirmed that all groups accepted the default transitive SVO order in non-default OVS contexts, as shown in Table 91. However, the intermediate group presented a lower rate than the advanced group, which in turn approached the control group. As for the non-default OVS, all groups rejected this option, but the advanced group presented the highest rate, while the intermediate group tended to the patterns of the control group.

Table 91. Preverbal and postverbal subjects with transitive verbs

in #OVS contexts		
	Means	
	SVO	#OVS
Intermediate	1.44/2	-1.39/2
Advanced	1.84/2	-1.75/2
Control	1.96/2	-1.53/2

The Mann-Whitney test indicated that the differences between paired groups were not always significant, as seen in Table 92. The intermediate-control pairing showed significant differences for the SVO option ($p = .000$), but not for OVS ($p = .284$), while the advanced-control comparison did not present significant differences for the former word order ($p = .139$), but did for the latter ($p = .036$). Only the differences between the intermediate and advanced groups were significant for both word order options ($p = .000$, $p = .003$). Thus, the effect for *Group* was significant for the intermediate-advanced comparison, but only for the SVO option in the intermediate-control pairing and for OVS in the advanced-control pairing.

Table 92. Mann-Whitney test between two groups

	Preverbal and postverbal subjects with transitive verbs in #OVS contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	SVO	#OVS	SVO	#OVS	SVO	#OVS
Mann-Whitney U	206.500	259.500	131.500	378.500	385.000	316.500
asymptotic significance	.000	.003	.000	.284	.139	.036

5.2.7. Discussion of the results

In the acceptability judgment task, I have studied the position of subjects with transitive verbs in various contexts.

In neutral declarative contexts, all groups accepted the default SVO more often with transitive verbs, even though the intermediate group did not reach the rates of the advanced and control groups. Competence level played a role, as the intermediate learners presented significant differences from the control group, while performance of the advanced group was indistinguishable from that of the native groups. The lower mean of the intermediate group fulfilled Prediction 2 for IH-1, as they did not always distinguish the felicitous distribution of transitive subjects at the syntax-lexicon-semantics interfaces. However, the performance of this group did not fulfil Prediction 2 for IH-2, as they did not show full command of the formal properties, which regulate the default word order in neutral contexts. On the other hand, the behaviour of the advanced learners fulfilled Prediction 2 for IH-2 because they presented target SVO distribution at the syntax-lexicon-semantics interfaces. Their native-like patterns went against Prediction 2 for IH-1, since they had no difficulty with the acquisition of the interface domains of transitive sentences.

As for the non-default VSO, both L2 groups tended to disallow this word order, indicating that it was less felicitous in neutral contexts. However the two groups presented statistical differences from the control group, which did not always reject the non-default order. The performance of the L2 groups favoured Prediction 2 for IH-1, since they seemed not to have yet achieved full command of the interface properties, which constrain the target distribution of postverbal subjects. Their behaviour did not support Prediction 2 for IH-2, because they showed non-native-like judgment of word order alternations at the internal interfaces.

In neutral contexts, the native and non-native groups also preferred the default transitive SVO with adverbial phrases in initial position. However, the intermediate group did not reach the rates of the advanced and control groups, differing significantly from their word order patterns. The performance of the intermediate learners fulfilled Prediction 3 for IH-1, as they had not yet acquired target distribution of transitive subjects with neutral adverbials. However, their behaviour did not fulfil Prediction 3 for IH-2 because they had not set properly the formal constraints of the

specific constructions. On the other hand, the advanced group showed native-like command of the felicitous word order, fulfilling Prediction 3 for IH-2. Their performance rejected Prediction 3 for IH-1, as they did not encounter problems in neutral adverbial contexts.

Regarding the non-default VSO, the experimental groups accepted it less often in the above contexts. The two groups presented significant differences from the control group, which showed a tendency to favour the adverbial inversion of subjects. The performance of the L2 groups fulfilled Prediction 3 for IH-1 because they did not present a native-like command of the non-default VSO. Thus, their behaviour did not support Prediction 3 for IH-2, because they showed target-deviant preferences for word order alternations with neutral adverbials.

In contrastive contexts, all groups showed a preference for the transitive SVO, suggesting that the type of adverbial did not affect their judgments. The control group presented a higher rate of SVO with contrastive adverbials than the intermediate and advanced groups, but the differences between the three groups were not statistically significant. The performance of the L2 learners did not fulfil Prediction 3 for IH-1, as they attained non-divergent distribution of contrastive adverbial constructions. Their native-like patterns at the pragmatic interfaces also rejected Prediction 3 for IH-2.

Regarding the VSO order, all groups rejected it more often than SVO, indicating that it was not their first choice with contrastive adverbials. However, the intermediate group rejected subject inversion more often than the advanced and control groups, demonstrating significant differences in the statistical analysis. The judgments of the intermediate learners fulfilled Prediction 3 for IH-1, as they did not present full mastery of the adverbial subject inversion in contrastive contexts. Similarly, their target-deviant behaviour at the syntax-pragmatics interface favoured Prediction 3 for IH-2. On the other hand, the performance of the advanced group did not fulfil Prediction 3 for IH-1 because they approached native-like distribution of the contrastive VSO. Their target acceptance of postverbal subjects also rejected Prediction 3 for IH-2.

In non-default VOS contexts, the three groups also preferred the default SVO with transitive verbs. However, the intermediate group did not achieve the rates of the advanced and control groups, the difference between them being significant. The behaviour of the intermediate learners fulfilled Prediction 4 for IH-1, as they did not

show complete command of transitive subjects in preverbal positions. Nonetheless, their performance did not fulfil Prediction 4 for IH-2, regarding the easier acquisition of formal word order constraints. On the other hand, the patterns of the advanced group supported Prediction 4 for IH-2, since they attained native-like distribution of the transitive SVO. Their behaviour went against Prediction 4 for IH-1, as they did not encounter problems with the setting of the transitive properties at the interface levels.

Regarding the VOS distribution, the two experimental groups rejected it more often than the control group, showing significant differences from native judgments. The performance of the L2 groups fulfilled Prediction 4 for IH-1, as they did not achieve target preferences for VOS. Their behaviour did not support Prediction 4 for IH-2, showing that they had not yet acquired the non-default word order restrictions. Thus, the L2 groups were not so sensitive to the possible word order alternations, despite the influence of their L1, Greek, which displays flexible subject distribution.

In non-default OVS contexts, all groups also preferred the default SVO order with transitive verbs. However, the intermediate group preferred the felicitous SVO less often than the advanced and control groups. This group did not follow the rates of native speakers, presenting significant differences in the statistical analysis. The behaviour of the intermediate group fulfilled Prediction 4 for IH-1, as they did not show full mastery of the transitive properties. By contrast, their preferences did not fulfil Prediction 4 for IH-2, demonstrating that they had problems with the acquisition of the interface word orders. On the other hand, the performance of the advanced group fulfilled Prediction 4 for IH-2, since they had acquired earlier the formal constraints of SVO. The target judgments of this group refuted Prediction 4 for IH-1.

With respect to the infelicitous OVS, all groups rejected this word order more often, showing that the anteposition of objects was a more peripheral option in neutral contexts. In this case, the intermediate group turned to the patterns of native speakers, revealing non-significant differences, while the advanced group reached a higher rate of OVS rejection, diverging from the control group. The performance of the intermediate learners did not fulfil Prediction 4 for IH-1, as they presented target unacceptance of the non-default option. Their native-like attainment supported Prediction 4 for IH-2, showing sensitivity to the transitive word orders. On the other hand, the performance of the advanced group seemed to fulfil Prediction 4 for IH-1,

as they over-rejected OVS, disallowing target patterns at the internal interfaces. Their non-native-like distribution of the infelicitous word order did not confirm Prediction 4 for IH-2.

5.3. Experiment 3 on subject position with unergative/unaccusative verbs

In Experiment 3, I examine the position of subjects with unergative/unaccusative verbs in Spanish, as in Experiment 2 of Study 1. The reason for replicating the previous experiment was to scrutinize the distinction between the two intransitive classes, as the results of the previous experiment indicated variation with respect to the distribution of unaccusative and focused subjects in postverbal positions. In order to explore the consistency of the unergative/unaccusative distribution, I included a higher number of verbs of both classes in a larger array of declarative and interrogative contexts as well as direct and indirect question-answer pairs in informational contexts. The expanded types of contexts were administered to a larger sample of L2 learners, contributing to the robustness of the results of the experiment.

5.3.1. Predictions

The aim of Experiment 3 is to observe whether Greek learners of Spanish have acquired the SV/VS distribution with the two verb classes in neutral and informational contexts. In order to examine the performance of L2 learners, I test Predictions 5 and 6 for the two versions of the Interface Hypothesis (IH-1, IH-2).

Prediction 5 tests the position of subjects with unergative/unaccusative verbs in neutral contexts.

(30) Prediction 5 for IH-1:

L2 learners of Spanish are expected to produce subjects in erroneous positions with unergative/unaccusative verbs in neutral contexts of declarative and interrogative sentences due to the complexities involved in mapping the syntactic-lexical-semantic properties that distinguish the two classes of intransitive verbs at the interface levels, despite the fact that Greek and

Spanish share the same distribution of subjects with unergative/unaccusative verbs.

(31) Prediction 5 for IH-2:

L2 learners of Spanish are expected to select the grammatical word order with unergative/unaccusative verbs in neutral contexts because the formal properties that distinguish the two classes of verbs are acquired early at the internal syntax-lexicon-semantics interfaces.

Prediction 6 tests the position of subjects with unergative/unaccusative verbs in informational contexts.

(32) Prediction 6 (for IH-1 and IH-2):

L2 learners of Spanish are expected to employ less felicitous word orders in informational contexts of direct and indirect question-answer pairs due to the difficulty involved in acquiring the syntactic-pragmatic properties that neutralize the unergative/unaccusative distinction at the external interface levels.

Therefore, the IH-1 and the IH-2 make different predictions (30, 31) in neutral contexts, but the same prediction (32) in informational contexts.

5.3.2. *Experimental design*

As in Experiment 2 of Study 1, a word order selection task is employed, but this experiment consists of a larger amount of items in order to examine the position of unergative/unaccusative subjects in relation to the context at the syntax-lexicon-semantics-pragmatics interfaces.

This task contains a total number of 65 stimuli, 60 items that test the distribution of subjects with the two classes of intransitive verbs and 5 items that serve as distractors. Three conditions are tested for both verb classes, with each condition consisting of 10 items with unergative and 10 items with unaccusative verbs. The first condition examines the distribution of unergative/unaccusative verbs with their subjects in neutral focus contexts. Each verb class is included in 5

declarative and 5 interrogative structures. For example, the unergative verbs *caminar* ('walk') and *nadar* ('swim') are preceded by the subjects *Juan* and *tu hermana* ('your sister') in the declarative (89) and interrogative (90) sentences, respectively. The contexts of the sentences are pragmatically neutral, so that they do not affect the order of the elements (*a* and *b*), but allow SV with both unergatives in accordance with their syntactic-lexical-semantic properties. On the other hand, the VS order is dispreferred with unergatives in the neutral contexts of the structures examined.

- (89) Cuando _____, ve a ancianos que cruzan la calle.
 when _____, sees-3sg.prs. elderly people that cross-3pl.prs. the road
 'When _____, he sees elderly people crossing the road.'
- | | | | |
|-----|--------------|-----|----------------|
| (a) | <i>Juan</i> | (b) | <i>camina</i> |
| | Juan | | walks-3sg.prs. |
| | 'Juan walks' | | |
- (90) ¿Te has dado cuenta de que _____ en la piscina?
 you-refl. have realized-2sg.prs.prf. of that _____ in the pool
 'Have you realized that _____ in the pool?'
- | | | | |
|-----|---------------------------|-----|---------------------------|
| (a) | <i>tu hermana</i> | (b) | <i>está nadando</i> |
| | your sister | | is swimming-3sg.prs.cont. |
| | 'your sister is swimming' | | |

In 'non-pragmatic' contexts, the VS order is grammatical with unaccusative verbs. In the declarative (91) and interrogative (92) sentences, the unaccusatives *faltar* ('miss') and *desaparecer* ('disappear') receive the subjects *Miguel* and *unos niños* ('some children') in postverbal position. However, this verb class disallows the SV order in the neutral contexts of these sentences.

- (91) La profesora se dio cuenta de que _____ en la clase de biología.
 the teacher herself-refl. realized of that _____ in the class of biology
 'The teacher realized that _____ from the biology class.'

- | | | | |
|-----|---------------------------------------------------------------------|-----|-------------------------|
| (a) | <i>faltaba</i>
was missing-3sg.pst.cont.
'Miguel was missing' | (b) | <i>Miguel</i>
Miguel |
|-----|---------------------------------------------------------------------|-----|-------------------------|

(92) ¿Te diste cuenta de que _____, cuando estábamos en el restaurante?
you-refl. realized-2sg.pst. of that _____, when were-1pl.pst.cont. in
the restaurant

'Did you realize that _____ when we were at the restaurant?'

- | | | | |
|-----|------------------------------------------------------------------------------|-----|------------------------------------|
| (a) | <i>desaparecieron</i>
disappeared-3pl.pst.
'some children disappeared' | (b) | <i>unos niños</i>
some children |
|-----|------------------------------------------------------------------------------|-----|------------------------------------|

The second condition consists of 10 items with unergatives and 10 items with unaccusatives in informational contexts of direct speech. In this type of context, both verb classes are constrained by the discursive properties, triggering the VS order. For instance, the direct questions with *¿Quién?* ('Who?') elicit as answers the inversion of the focused subjects *los compañeros del gimnasio* ('the classmates from the gymnasium') and *el director del banco* ('the director of the bank') with the unergative *correr* ('run') and the unaccusative *salir* ('leave') in items (93) and (94), respectively. Thus, the direct question-answer pairs trigger the VS order, while they disallow the SV order, regardless of verb class in the informational contexts examined.

(93) No te das cuenta de quién está en la escuela y preguntas: *¿Quién* está corriendo en el patio? Y tus amigos te responden: _____.
not you-refl. realize-2sg.prs. of who is-3sg.prs. in the school and ask-2sg.prs.:
who is running-3sg.prs.cont. in the playground? and your friends you-acc.
answer-3pl.prs.: _____

'You don't realize who is at school and ask: Who is running in the playground? And your friends answer you: _____.'

- | | | | |
|-----|---------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------|
| (a) | <i>están corriendo</i>
are running-3pl.prs.cont.
'The classmates from the gymnasium are running.' | (b) | <i>los compañeros del gimnasio</i>
the classmates of the gymnasium |
|-----|---------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------|

- (94) Cuando entras en el banco, te das cuenta de que alguien no está, por eso preguntas: *¿Quién ha salido?* Y una señora te dice: _____.
- when enter-2sg.prs. in the bank, you-refl. realize-2sg.prs. of that someone not is-3sg.prs., so that ask-2sg.prs.: who has left-3sg.prs.prf.? and a lady you-acc. says-3sg.prs.: _____
- ‘When you enter the bank, you realize that someone is not present, so you ask: Who has left? And a lady tells you: _____.’
- | | | | |
|-----|-----------------------|-----|------------------------------|
| (a) | <i>ha salido</i> | (b) | <i>el director del banco</i> |
| | has left-3sg.prs.prf. | | the director of the bank |
- ‘The director of the bank has left.’

The third condition includes 10 items with unergatives and 10 items with unaccusatives in informational contexts of indirect speech. In these contexts, the VS order is also felicitous with both verb classes. In examples (95) and (96) the indirect questions with *quién* (‘who’) introduced by the verb *preguntar* (‘ask’) trigger as embedded answers the postverbal subjects *un atleta francés* (‘a French athlete’) and *sus clientes* (‘his clients’) with the unergative *jugar* (‘play’) and the unaccusative *pasar* (‘pass’), respectively. The *quién*-questions elicit the focalization of postverbal subjects, regardless of the type of speech and class of verbs. On the other hand, the SV order is infelicitous in indirect informational contexts.

- (95) Estás en el estadio y preguntas *quién* está jugando al fútbol y tus amigos te responden que _____.
- are-2sg.prs. in the stadium and ask-2sg.prs. who is playing-3sg.prs.cont. football and your friends you-acc. answer-3pl.prs. that _____
- ‘You are at the stadium and ask who is playing football and your friends answer that _____.’
- | | | | |
|-----|--------------------------|-----|--------------------------|
| (a) | <i>está jugando</i> | (b) | <i>un atleta francés</i> |
| | is playing-3sg.prs.cont. | | an athlete French |
- ‘a French athlete is playing.’

(96) El coordinador pregunta *quién* ha pasado por su despacho y la secretaria le responde que _____ .

the coordinator asks-3sg.prs. who has passed-3sg.prs.prf. by his office and the secretary him-acc. answers-3sg.prs. that _____

‘The coordinator asks who has dropped by his office and the secretary answers him that _____.’

- | | | | |
|-----|--------------------------------|-----|---------------------|
| (a) | <i>han pasado</i> | (b) | <i>sus clientes</i> |
| | have passed-3pl.prs.prf. | | his clients |
| | ‘his clients have dropped by.’ | | |

The full task is detailed in Appendix 2.

5.3.3. Subjects

The subjects of Experiment 3 were the same as those in Experiment 1 of Study 3 (see section 5.1.3).

5.3.4. Procedure

Experiment 3 was also administered in the above-mentioned institutions. All participants were asked to complete this experiment by selecting the appropriate order of two elements (*ab* or *ba*), a subject and an unergative or unaccusative verb in various contexts. They were also given a distractor example of the felicitous order of two elements (a subject and a verb) in order to ensure full comprehension of the task, but it did not contain the conditions examined. If L2 learners had trouble understanding the task, they were provided with additional instructions. The nominal duration of the task was 40 minutes, but participants were given a few extra minutes if necessary.

5.3.5. Coding of the results and statistical analysis

The responses consisting of the subject and unergative/unaccusative verb were classified according to the elicited word order, as SV or VS. In the first condition, SV was coded as neutral and VS as non-neutral with unergative verbs, while VS was coded as neutral and SV as non-neutral with unaccusative verbs. In the second condition, VS was coded as direct-question focused, while SV was coded as direct-question non-focused with both verb classes. In the third condition, VS was coded as indirect-question focused, while SV was coded as indirect-question non-focused with both verb classes. In each condition, the felicitous and infelicitous word orders were averaged for each group of participants. The averages of word orders were also calculated for each subject in the three groups and coded in SPSS for statistical analyses. The Mann-Whitney test was performed in order to check for significant differences between the pairs of groups. This test checked for the effect of the independent factor *Group* on the dependent factor *Subject* position with unergative/unaccusative verbs in neutral and informational contexts. The Wilcoxon test also calculated the effect of *Verb* class on *Subject* position in the contexts examined.

5.3.6. Results

The word order selection task yielded a total of 5,400 responses (1,800 from each group) involving the three conditions for subject distribution with unergative/unaccusative verbs. The responses to the distractors were excluded from the analysis as they did not involve the phenomenon examined.

In neutral contexts, as seen in Table 93, all groups employed preverbal subjects with unergative verbs, but the intermediate group did not reach native-like distribution, while the advanced group approached the rate of the control group. However, the L2 groups did not always disallow the inversion of subjects, while the control group (4.33%) employed very few.

Table 93. Preverbal and postverbal subjects with unergative verbs in neutral contexts				
	Preverbal		#Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	238/300	79.33%	62/300	20.67%
Advanced	269/300	89.67%	31/300	10.33%
Control	287/300	95.67%	13/300	4.33%

In Table 94, the Mann-Whitney statistical analysis is detailed. This test confirmed that the differences between the intermediate and advanced groups ($p = .041$), the intermediate and control groups ($p = .000$) and the advanced and control groups ($p = .010$) were all significant. Therefore, the effect for *Group* was significant for all pair groups.

Table 94. Mann-Whitney test between two groups						
	Preverbal and postverbal subjects with unergative verbs in neutral contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Preverbal	#Postverbal	Preverbal	#Postverbal	Preverbal	#Postverbal
Mann-Whitney U	316.000	316.000	213.000	213.000	291.000	291.000
asymptotic significance	.041	.041	.000	.000	.010	.010

The effect of the type of *Sentence* was also examined, as seen in Table 95. All groups produced a high rate of preverbal subjects with both declarative and interrogative sentences, considering the inversion of subjects with unergatives less felicitous in the respective neutral contexts. However, the intermediate group preferred postverbal subjects more often in interrogative than in declarative sentences. The advanced group employed postverbal subjects in interrogatives less often than the intermediate L2 learners, approaching the rates of the control group. Still, both non-native groups presented similar rates in the case of declarative sentences. On the other hand, the control group rejected the inversion of subjects in declaratives and produced a few postverbal subjects in interrogatives.

Table 95. Preverbal and postverbal subjects with unergative verbs in neutral contexts (Raw Responses)				
	Declarative Sentences		Interrogative Sentences	
	Preverbal	#Postverbal	Preverbal	#Postverbal
Intermediate	88.67% (133/150)	11.33% (17/150)	70% (105/150)	30% (45/150)
Advanced	90.67% (136/150)	9.33% (14/150)	88.67% (133/150)	11.33% (17/150)
Control	98.67% (148/150)	1.33% (2/150)	92.67% (139/150)	7.33% (11/150)

The Wilcoxon test corroborated that the effect of the type of *Sentence* on the position of *Subjects* with unergatives was statistically significant for the intermediate ($p = .003$) and control groups ($p = .020$), while it was not so for the advanced group ($p = .804$), as can be seen in Table 96.

Table 96. Wilcoxon test between related samples						
Preverbal and postverbal subjects with unergative verbs in neutral contexts						
	Declarative vs. Interrogative Sentences					
	Intermediate		Advanced		Control	
	Preverbal	#Postverbal	Preverbal	#Postverbal	Preverbal	#Postverbal
Wilcoxon Z	-2.933	-2.933	-.248	-.248	-2.324	-2.324
asymptotic significance	.003	.003	.804	.804	.020	.020

Regarding the position of subjects with unaccusative verbs, the raw responses and percentages are displayed in Table 97. In particular, all groups showed variation between SV and VS in neutral contexts. However, the intermediate and advanced groups favoured the anteposition (63.33%, 57%) more often than the postposition of subjects (36.67%, 43%). On the other hand, the control group presented similar rates with both word orders, though they resorted to postverbal (52.33%) more often than preverbal subjects (47.67%).

Table 97. Preverbal and postverbal subjects with unaccusatives in neutral contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	190/300	63.33%	110/300	36.67%
Advanced	171/300	57%	129/300	43%
Control	143/300	47.67%	157/300	52.33%

The Mann-Whitney results appear in Table 98. Specifically, the differences between the intermediate and control groups ($p = .006$) were significant, while the advanced-control differences approached significance ($p = .066$) and the intermediate-advanced pairing ($p = .321$) did not reveal significant differences. Thus, the effect of *Group* was significant for the intermediate-control comparison, but not for the advanced-control groups or intermediate-advanced comparisons.

Table 98. Mann-Whitney test between two groups						
	Preverbal and postverbal subjects with unaccusatives in neutral contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	383.500	383.500	265.500	265.500	327.000	327.000
asymptotic significance	.321	.321	.006	.006	.066	.066

In Table 99, subject distribution is also considered with unaccusative verbs. All groups indicated variation between preverbal and postverbal subjects with declarative and interrogative sentences. However, the intermediate and advanced groups showed an inclination to favour SV order in both cases. On the other hand, the control group allowed postverbal subjects more often in declarative sentences, while they tended to produce a few more preverbal subjects in interrogative sentences.

Table 99. Preverbal and postverbal subjects with unaccusatives in neutral contexts (Raw Responses)				
	Declarative Sentences		Interrogative Sentences	
	#Preverbal	Postverbal	#Preverbal	Postverbal
Intermediate	65.33% (98/150)	34.67% (52/150)	61.33% (92/150)	38.67% (58/150)
Advanced	60% (90/150)	40% (60/150)	54% (81/150)	46% (69/150)
Control	42% (63/150)	58% (87/150)	53.33% (80/150)	46.67% (70/150)

The Wilcoxon statistical test confirmed that the effect of *Sentence* type on *Subject* position was significant for the control group ($p = .016$), but not for the non-native groups ($p = .413$, $p = .116$), as seen in Table 100.

Table 100. Wilcoxon test between related samples						
Preverbal and postverbal subjects with unaccusatives in neutral contexts						
	Declarative vs. Interrogative Sentences					
	Intermediate		Advanced		Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Wilcoxon Z	-.818	-.818	-1.572	-1.572	-2.400	-2.400
asymptotic significance	.413	.413	.116	.116	.016	.016

The effect of *Verb* class is also displayed in Table 101. The Wilcoxon test indicated that the differences between unergative and unaccusative verbs were significant for the three groups ($p = .001$, $p = .000$, $p = .000$) in the contexts examined.

Table 101. Wilcoxon test between related samples						
Preverbal and postverbal subjects in neutral contexts						
Unergative vs. Unaccusative Verbs						
	Intermediate		Advanced		Control	
	Preverbal	Postverbal	Preverbal	Postverbal	Preverbal	Postverbal
Wilcoxon Z	-3.292	-3.292	-4.719	-4.719	-4.806	-4.806
asymptotic significance	.001	.001	.000	.000	.000	.000

In direct informational contexts, as observed in Table 102, the intermediate and advanced groups presented the same performance, alternating between preverbal (59.67%, 60.33%) and postverbal subjects (40.33%, 39.67%), though they showed a preference for the SV order with unergatives. On the other hand, the control group produced postverbal subjects (84.67%) more often than preverbal subjects (15.33%) in this type of informational context.

Table 102. Preverbal and postverbal subjects with unergative verbs in direct informational contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	179/300	59.67%	121/300	40.33%
Advanced	181/300	60.33%	119/300	39.67%
Control	46/300	15.33%	254/300	84.67%

The Mann-Whitney test indicated significant differences between the intermediate and control groups ($p = .000$) and the advanced and control groups ($p = .000$), as seen in Table 103. Only the differences between the two experimental groups were non-significant ($p = .935$). Therefore, the effect for *Group* was significant for the intermediate-control and advanced-control comparisons, but not for the intermediate-advanced comparison.

Table 103. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unergative verbs in direct informational contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	444.500	444.500	126.000	126.000	133.500	133.500
asymptotic significance	.935	.935	.000	.000	.000	.000

As in the case of unergative verbs, intermediate and advanced groups presented similar behaviour with unaccusative verbs in direct informational contexts. However, in this case they showed higher variability between preverbal (52%, 53.67%) and postverbal subjects (48%, 46.33%), as depicted in Table 104. By contrast, the control group indicated a clear preference for postverbal subjects (90.33%) against preverbal subjects (9.67%).

Table 104. Preverbal and postverbal subjects with unaccusative verbs in direct informational contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	156/300	52%	144/300	48%
Advanced	161/300	53.67%	139/300	46.33%
Control	29/300	9.67%	271/300	90.33%

In Table 105, the Mann-Whitney analysis is detailed. It is seen that the differences between the intermediate and control groups ($p = .000$) and the advanced and control groups ($p = .000$) were significant in this test. On the other hand, the differences between the intermediate and advanced groups were not statistically significant ($p = .760$). Thus, the effect for *Group* was significant for the intermediate-control and advanced-control comparisons, but not for the intermediate-advanced comparison.

Table 105. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unaccusative verbs in direct informational contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	429.500	429.500	140.500	140.500	150.000	150.000
asymptotic significance	.760	.760	.000	.000	.000	.000

The effect of *Verb* class was also considered in direct informational contexts, as indicated in Table 106. The Wilcoxon test corroborated that the differences between unergative and unaccusative verbs were significant for the advanced group ($p = .004$) and non-significant for the intermediate group ($p = .079$).

Table 106. Wilcoxon test between related samples						
Preverbal and postverbal subjects in direct informational contexts						
Unergative vs. Unaccusative Verbs						
	Intermediate		Advanced		Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Wilcoxon Z	-1.757	-1.757	-2.862	-2.862	-1.957	-1.957
asymptotic significance	.079	.079	.004	.004	.050	.050

The results for indirect informational contexts appear in Table 107. In this case, the intermediate group showed complete variability between preverbal and postverbal subjects with unergative verbs. On the other hand, the advanced group produced postverbal subjects more often than preverbal subjects. The control group presented a clearer preference for the informational VS, while they avoided the anteposition of subjects in discourse-marked contexts.

Table 107. Preverbal and postverbal subjects with unergative verbs in indirect informational contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	154/300	51.33%	146/300	48.67%
Advanced	86/300	28.67%	214/300	71.33%
Control	27/300	9%	273/300	91%

The Mann-Whitney test indicated significant differences between the intermediate and control groups ($p = .000$), the advanced and control groups ($p = .000$) and the intermediate and advanced groups ($p = .001$), as illustrated in Table 108. Thus, the effect of *Group* was significant for all pair groups.

Table 108. Mann-Whitney test between two groups						
	Preverbal and postverbal subjects with unergative verbs in indirect informational contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	228.500	228.500	92.500	92.500	206.500	206.500
asymptotic significance	.001	.001	.000	.000	.000	.000

For indirect informational contexts, the results for unaccusative verbs are detailed in Table 109. In this case, all groups presented word order patterns that were similar to those for unergative verbs. Specifically, the intermediate group showed variability between preverbal and postverbal subjects, though they leaned towards the inversion of subjects with unaccusatives. On the other hand, the advanced group produced a higher rate of postverbal than preverbal subjects. The control group mostly preferred subjects in postverbal positions and disallowed preverbal subjects (9.67%) in indirect informational contexts.

Table 109. Preverbal and postverbal subjects with unaccusative verbs in indirect informational contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	141/300	47%	159/300	53%
Advanced	89/300	29.67%	211/300	70.33%
Control	29/300	9.67%	271/300	90.33%

Here the Mann-Whitney test demonstrated significant differences between the intermediate and control groups ($p = .000$), the advanced and control groups ($p = .006$) and the intermediate and advanced groups ($p = .017$), as presented in Table 110. Therefore, the effect for *Group* was significant for all pairs of participants.

Table 110. Mann-Whitney test between two groups						
	Preverbal and postverbal subjects with unaccusative verbs in indirect informational contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	289.500	289.500	103.000	103.000	271.500	271.500
asymptotic significance	.017	.017	.000	.000	.006	.006

Results of the Wilcoxon test are given in Table 111. This analysis indicated that *Verb* class was not determinant for subject position in indirect informational contexts. Therefore, the three groups did not show significant differences ($p = .279$, $p = .880$, $p = .471$) between unergative and unaccusative verbs.

Table 111. Wilcoxon test between related samples						
Preverbal and postverbal subjects in indirect informational contexts						
Unergative vs. Unaccusative Verbs						
	Intermediate		Advanced		Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Wilcoxon Z	-1.083	-1.083	-.151	-.151	-.721	-.721
asymptotic	.279	.279	.880	.880	.471	.471
significance						

5.3.7. Discussion of the results

In this word order selection task, I have also explored the distribution of subjects with unergative/unaccusative verbs.

In neutral contexts, all native and non-native groups employed the felicitous SV more often than the infelicitous VS with unergative verbs. Both experimental groups produced the default word order in declarative and interrogative sentences. However, the intermediate and advanced groups differed statistically from the control group because they did not achieve target rates of the SV option. Still, competence level played a role, as the intermediate group showed higher variability in interrogative sentences. Their behaviour therefore fulfilled Prediction 5 for IH-1, since they tended to invert subjects in questions, neutralizing unergative properties, regardless of the non-pragmatic contexts. This performance did not support Prediction 5 for IH-2 because the intermediate learners did not show command of the internal syntax-lexicon-semantics interfaces, that regulate the felicitous order of grammatical elements with unergative verbs. On the other hand, the advanced group presented a better distribution of unergative subjects, but they did not perform at ceiling. Their behaviour fulfilled Prediction 5 for IH-1, as they did not attain native-like patterns. This performance also went against Prediction 5 for IH-2 because the advanced learners did not avoid the inversion of subjects. In Lozano's (2006a) study, on the other hand, the upper-advanced group reached almost identical rates to the control group, achieving target performance of unergative distribution, while the intermediate and lower groups presented divergent behaviour, accepting the felicitous word order

less often. The lower levels in that study showed incomplete knowledge of unergative patterns, like the intermediate group in this experiment, while the upper-advanced group presented better performance than the advanced group in this task.

Regarding the distribution of unaccusative subjects in neutral contexts, all groups presented flexibility between SV and VS in declarative and interrogative sentences. However, the overall rates of the intermediate group showed statistical differences from the control group. The performance of the intermediate learners fulfilled Prediction 5 for IH-1, as they mainly presented non-target distribution of SV with unaccusative verbs in neutral declarative contexts. Their behaviour refuted Prediction 5 for IH-2 because they did not attain native-like preferences for postverbal subjects, suggesting that they had not attained full mastery of the syntactic-lexical-semantic properties. On the other hand, the advanced group did not differ significantly from the control group, displaying target-like flexibility between the two word orders, since they followed the patterns of native speakers in interrogative sentences. Thus, the performance of the advanced learners did not fulfil Prediction 5 for IH-1, as they had achieved mastery of the interface constraints, allowing native-like distribution of unaccusative subjects in neutral sentential contexts. Nevertheless, this behaviour did fulfil Prediction 5 for IH-2 because the advanced group had no difficulty with the word order patterns of unaccusative verbs at the internal interfaces. My results contrast with those of Domínguez and Arche (2014), in which both intermediate and advanced groups diverged from the control group and presented non-target SV/VS alternations with unaccusatives in non-pragmatic contexts.

In direct informational contexts, the intermediate and advanced groups showed variation between SV and VS with unergative and unaccusative verbs, differing significantly from the control group, which preferred the inversion of focused subjects. The performance of the L2 groups fulfilled Prediction 6 (for IH-1 and IH-2), as they did not always employ the felicitous VS and occasionally resorted to the infelicitous SV, showing incomplete command of the syntactic-pragmatic properties constraining the informational word order. Given that Greek accepts SV in direct and VS in indirect informational contexts, the L2 learners may have transferred the direct SV order from their L1.

In indirect informational contexts, the intermediate group also presented variability between SV and VS with both verb classes, even though they showed a

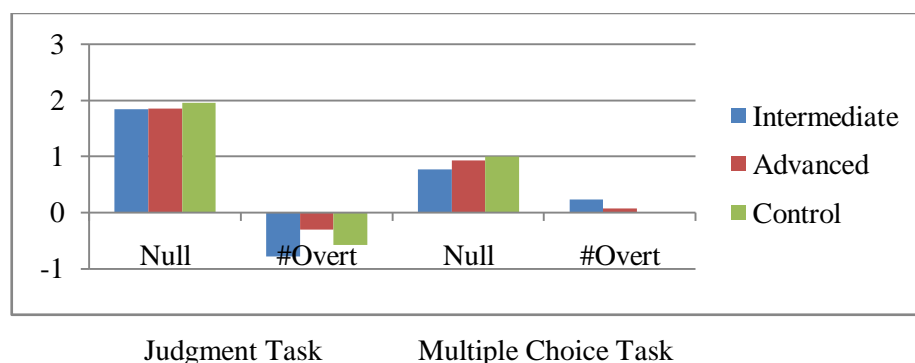
tendency to favour SV with unergatives and VS with unaccusatives. This group presented significant differences from the control group. Thus, the performance of the intermediate learners fulfilled Prediction 6 (for IH-1 and IH-2) because they diverged from target distribution of the felicitous VS with both verb classes, showing incomplete command of the mappings between syntax and pragmatics, regardless of the type of speech. On the other hand, the advanced group presented more target-like behaviour, inverting focused subjects more often than the intermediate group. However, this group had not achieved target word order patterns either, as they differed statistically from the control group. The performance of the advanced learners also fulfilled Prediction 6 (for IH-1 and IH-2), since they had not fully acquired the syntactic-pragmatic properties in indirect informational contexts.

5.4. Comparison of the results of Studies 1 and 2

Here I consider the differences between the two Spanish studies with respect to the distribution of null/overt and preverbal/postverbal subjects with intransitive verbs. I have examined the expression of subjects in different types of tasks, an acceptability judgment task in Study 1 and a multiple choice task in Study 2. The word order selection tasks—a follow-up task in Study 1 and a more advanced task with a larger range of verbs and contexts in Study 2—are also compared.

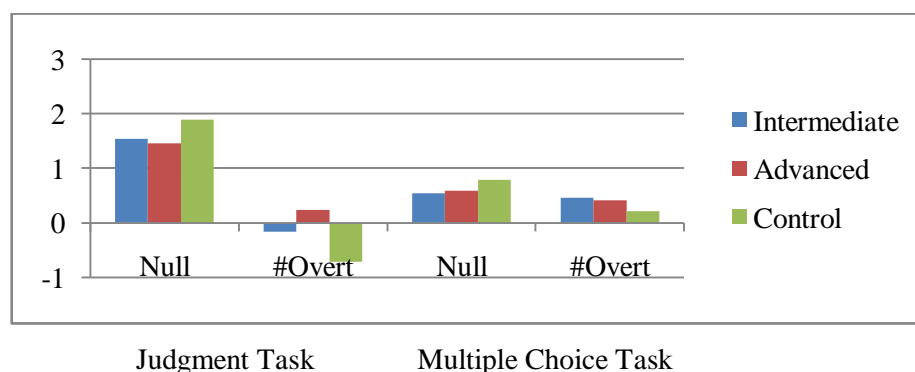
In non-contrastive referential contexts, as seen in Graph 5, the type of task had an effect on the performance of the experimental groups, as they converged with native-like patterns of null/overt subjects in the judgment task in Study 1, while they presented significant differences from the control group in the multiple choice task in Study 2. The L2 learners presented target-deviant use of null/overt subjects in the second task. The role of competence level was not categorical, since the L2 groups showed non-distinguishable rates of null subjects in the first task, contrary to what seen in the second task. (The rates are calculated on a point scale in the judgment task and as percentages converted into scale numbers in the multiple choice task.)

Graph 5. Subjects of 1st/2nd person in non-contrastive referential contexts



In unambiguous referential shift contexts, as shown in Graph 6, the performance of the intermediate group was affected by the type of task, as they presented non-significant differences from the control group in the first task, while they diverged from it in the second task. On the other hand, the advanced group showed target-deviant patterns in both tasks. In any case, the experimental groups indicated higher variation between null and overt subjects in the multiple choice task, while they presented a clearer preference for the omission of subjects in the judgment task.

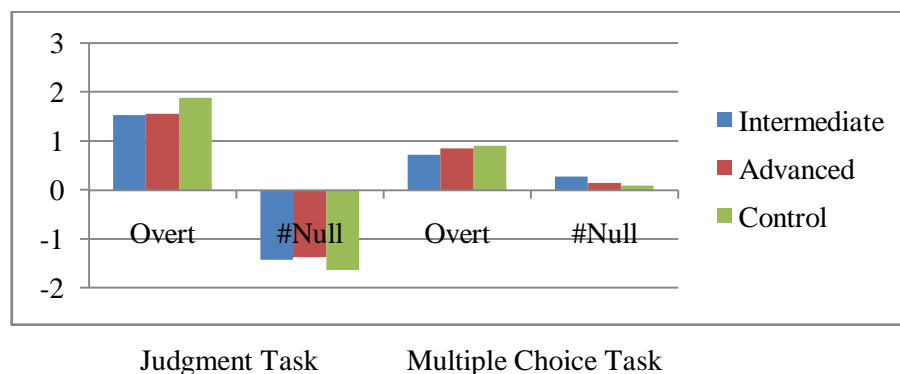
Graph 6. Subjects of 3rd person in unambiguous referential shift contexts



In referential shift contexts, the type of task also played a role, as the L2 groups showed non-significant differences from the control group in the judgment task, while the intermediate group differed from the other groups in the multiple choice task. The production of null subjects was more target-deviant for intermediates in the second task, but this was not categorical because the distribution of subjects

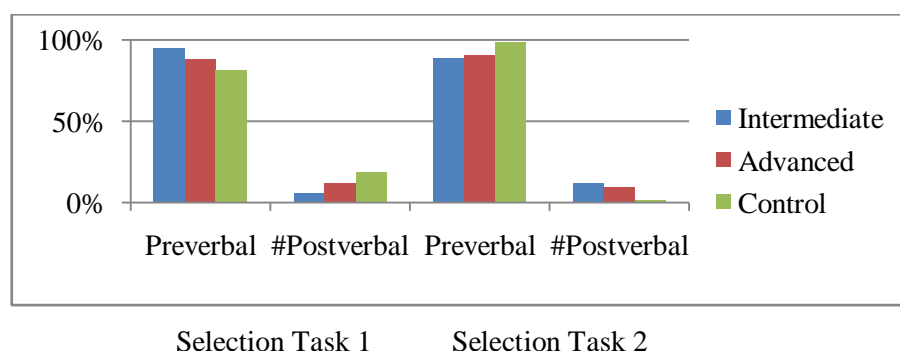
was indistinguishable for both experimental groups in the first task, regardless of their competence level. Rates produced in the two tasks are illustrated in Graph 7.

Graph 7. Subjects of 3rd person in referential shift contexts of contrast



In neutral declarative contexts, the experimental groups clearly preferred SV with unergative verbs in the two word order selection tasks. However, the intermediate group diverged from native-like performance in both tasks. On the other hand, the advanced group showed non-significant differences from the control group in the first task, while they did not achieve complete native-like patterns in the second task. Still, the rates of advanced learners were similar in the two tasks. See Graph 8 for the rates produced in these tasks by the groups examined.

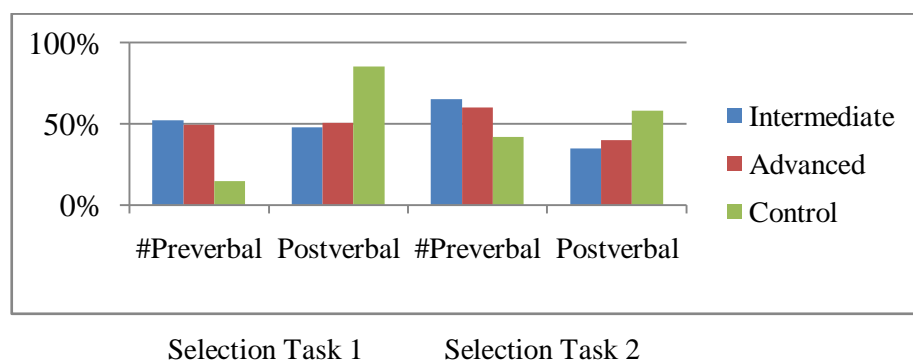
Graph 8. Subjects with unergatives in neutral declarative contexts



In declarative contexts, the verb class played a role, as the L2 groups presented variation between SV and VS with unaccusatives in both tasks. Their performance differed from target patterns, since they did not achieve a high rate of VS in the first task, while they had a tendency, unlike the control group, to favour SV in the second

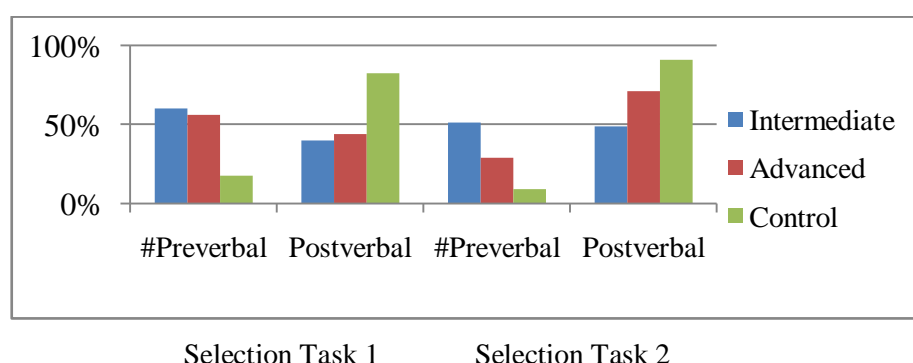
task. In Graph 9, the rates produced in these tasks by native and non-native speakers are displayed.

Graph 9. Subjects with unaccusatives in neutral declarative contexts



In informational contexts of indirect speech, as shown in Graph 10, the L2 learners also alternated between SV and VS with unergatives, diverging from the VS patterns of the native speakers. The verb class had an impact on the performance of the L2 groups, but the advanced group presented a higher rate of the felicitous VS in the discourse-marked contexts of the second task. However, the task did not affect the preferences of the intermediate group. The L1 Greek could also have played a role in the L2 tendencies, as it allows flexibility between SV in direct and VS in indirect informational contexts.

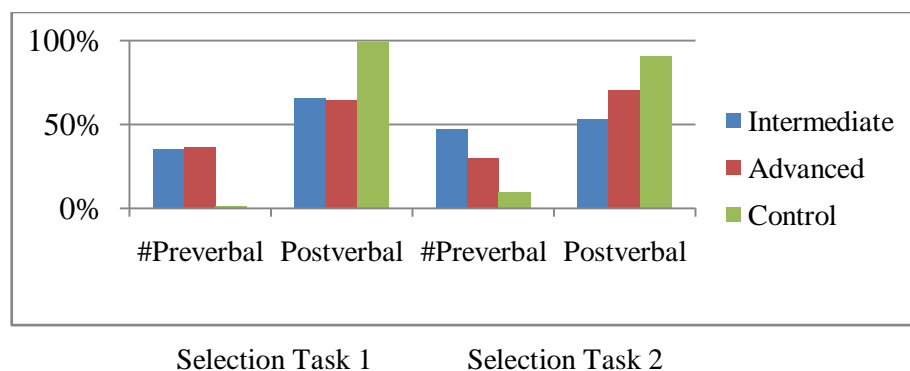
Graph 10. Subjects with unergatives in indirect informational contexts



In indirect informational contexts, the L2 learners also presented variation between the two word orders with unaccusatives, but they resorted to the VS order in both tasks. However, the L2 groups did not achieve native-like patterns of subject

inversion, showing incomplete command of the discourse conditions that regulate the informational structure. Still, the advanced group presented a better performance than the intermediate group in the second task. See Graph 11 for the word order preferences of all groups.

Graph 11. Subjects with unaccusatives in indirect informational contexts



Overall, the type of task affected the outcome, with grammaticality /acceptability judgments yielding better results than a multiple choice task.

6. Study 3: The acquisition of subjects in L2 Greek

Study 3 examines the distribution of subjects in L2 Greek. This study consists of three experiments parallel to those of Study 2. The first task is the multiple choice task that observes the expression or omission of subjects in various contexts. The second task is the acceptability judgment task that examines the position of subjects with transitive verbs. And the last task is the word order selection task that tests the distribution of preverbal/postverbal subjects with unergative/unaccusative verbs.

6.1. Experiment 1 on null/overt subjects in various contexts

In Experiment 1, I examine the alternation between null and overt subjects in pragmatic contexts in order to test if the distribution of these types of subjects is different in Greek, compared to the Spanish contexts seen in Study 2.

6.1.1. Prediction

The main objective of this experiment is to observe the degree to which Spanish learners of Greek show mastery of the expression and omission of subjects in contrastive/non-contrastive and ambiguous/unambiguous referential contexts. For this reason, I test Prediction 1 for the two versions of the Interface Hypothesis (IH-1 and IH-2), as in Study 2.

(33) Prediction 1 (for IH-1 and IH-2):

Spanish learners of Greek are expected to confront difficulties in producing null and overt subjects in referential contexts due to complexities in coordinating morphosyntax and pragmatics at the interface levels, even though Greek and Spanish share the null subject value.

Therefore, the IH-1 and the IH-2 make the same prediction (33) in pragmatic contexts.

6.1.2. Experimental design

This experiment is a multiple choice task that examines the distribution of null/overt subjects in various contexts. In Greek, the null subject is felicitous in non-contrastive and unambiguous referential contexts, while the overt subject is required in emphatic/contrastive and referential shift contexts (of two antecedents). The task consists of a total of 45 stimuli: 40 items that test the distribution of null/overt subjects in referential contexts and 5 fillers that serve as distractors. Four conditions are tested with each condition containing 10 items of two subject options, a null and an overt subject.

The first condition involves the distribution of subjects in non-contrastive referential contexts. This condition contains 5 items with subjects of 1st person and 5 items of 2nd person, as the two types of person allow the production of null subjects in non-contrastive sentences. In examples (97) and (98) the referent introduction context accepts null subjects of 1st/2nd person due to the inflection of the respective verbs *kano* ('do') and *ime* ('be'), which identifies the person and number of the referent without causing ambiguity. On the other hand, the expression of an overt pronoun of 1st or 2nd person (*ego* 'I' or *esi* 'you') would receive emphatic/contrastive interpretation, which is not the first choice in these specific referential contexts.

- (97) To savatocirjako ____ *kano* enan peripato sto parko tis polis.
the weekend ____ do-1sg.prs. a-acc. walk in the park the-gen. city
'At the weekend I go for a walk in the city park.'
(a) Ø (b) *ego*
null subject 'I'
- (98) Otan ____ *ise* sto panepistimio, den me pernis telefono.
when ____ are-2sg.prs. in the university, not me-acc. take-2sg.prs. phone
'When you are at the university, you don't call me.'
(a) Ø (b) *esi*
null subject 'you'

The second and third conditions involve the omission/expression of 3rd person subjects in various contexts. The second condition contains 10 items in which the

omission of subjects of 3rd person is natural because rich verbal inflection indicates the person and number, as in the case of 1st/2nd person. This condition also distinguishes the types of context, so 5 items of referent maintenance contexts and 5 items of referent shift contexts are employed. In examples (99) and (100), the inflection of the verbs *djavazo* ('read') and *parusiazō* ('present') shows the third person singular, which allows the production of null subjects that either maintain the adjacent antecedent *Martha* or recover the more distant referent *Agelici*, respectively. On the other hand, the overt pronominal subject *afti* ('she') can be redundant, as in (99), or can receive deictic or emphatic/contrastive interpretation, as in (100).

- (99) *Prota i Martha* etimazi to fagito ce meta _____ *djavazi* ja to metaptixiako.
 first the-nom. Martha prepares-3sg.prs. the-acc. food and then _____reads-3sg.prs. for the master
 'First Martha prepares the food and then she studies for her Master's degree.'
 (a) \emptyset (b) *afti*
 null subject 'she'
- (100) *I Agelici* theli na dimosiefsi ena vivlio, j'afto ce i ekdotes anaferun oti _____
tha parusiasi prota ena xirografo tis meletis tis.
 the-nom. Agelici wants-3sg.prs. na-subj.part. publish-3sg.fin. a-acc. book, for
 this and the-nom. editors mention-3pl.prs. that _____ will present-3sg.fut. first
 a-acc. manuscript the-gen. study hers
 'Agelici wants to publish a book, so the editors have mentioned that she will
 first have to present a manuscript of her study.'
 (a) \emptyset (b) *afti*
 null subject 'she'

The third condition contains 10 items that require the expression of the subject in order to recover one of two antecedent referents in shift contexts in which all referents are 3rd person singular. In example (101), the inflection of the verb *parakolutho* ('attend') does not allow the identification of the appropriate referent of 3rd person *i Meri* or *o Jorgos*, with the result that the expression of the pronominal subject *afti* ('she') is obligatory in order to avoid the ambiguity between the two

contrastive referents. However, the null subject can refer to the closest antecedent in the structure (*o Jorgos*).

- (101) *An ce i Meri ce o Jorgos pigan sti sxoli, o ipeftinos kathigitis emathe oti _____*
 den parakoluthise to mathima tis filosofias.
 even though the-nom. Meri and the-nom. Jorgos went-3pl.pst. to the faculty,
 the-nom. responsible professor learned-3sg.pst. that _____ not attended-3sg.pst.
 the-acc. class the-gen. philosophy
 ‘Even though Meri and Jorgos went to the faculty, their supervisor found out
 that she did not attend the philosophy class.’
- | | |
|--------------------------|---------------------------------|
| (a) <i>afti</i>
‘she’ | (b) \emptyset
null subject |
|--------------------------|---------------------------------|

The fourth condition also contains 10 items that require the production of overt subjects, but in these contexts all grammatical persons are possible with emphatic/contrastive interpretations. In this type of sentence, the structure presents two new referents that are opposed in different discourse situations. In examples (102) and (103) the expression of the pair pronouns *esi-ego* (‘you-I’) and *aftos-esi* (‘he-you’) is obligatory in order to contrast the referents of 1st/2nd person and 3rd/2nd person in the respective situations. The overt inflection of the verbs *kathome* (‘sit’) in (102) and *paragelno* (‘order’) in (103) indicates the person and number of the subjects, but it is not sufficient to show the emphatic contrasts between the two referents of the context. Thus, the production of a null subject is not acceptable as it violates the pragmatic conditions of emphasis/contrast.

- (102) *Esi vgenis vradi me tus filus su, eno _____ kathome sto spiti.*
 you-nom. go-2sg.prs. out night with the friends yours, while _____ sit-
 1sg.prs. at home
 ‘At night you go out with your friends, while I stay at home.’
- | | |
|-----------------------|---------------------------------|
| (a) <i>ego</i>
‘I’ | (b) \emptyset
null subject |
|-----------------------|---------------------------------|

- (103) Ise sto estiatorio me to filo su to Xristo.
 are-2sg.prs. in the restaurant with the friend yours the Xristo
 ‘You are at the restaurant with your friend Xristo.’
 ____ *paragelni makaronada ce oxi esi.*
 ____ orders-3sg.prs. spaghetti-acc. and not you-nom.
 ‘He orders spaghetti and you don’t.’
- | | | | |
|-----|--------------|-----|--------------|
| (a) | <i>Aftos</i> | (b) | \emptyset |
| | ‘He’ | | null subject |

The full task is detailed in Appendix 3.

6.1.3. Subjects

In this experiment, three groups of native and non-native speakers were tested. The first two groups were intermediate and advanced level students of Greek as a second language who were all native Spanish speakers. Specifically, at the time of the experiment they were taking classes in Greek language for four hours per week at the Sxolio Elinikon in Madrid. The two groups had taken the official examination for the Pistopiitiko Eparcias tis Elinomathias (Certificate of Attainment in Greek Language). The intermediate learners had an average score of 81% in the B1 Exam, while the advanced learners had an average score of 86% in the C1 Exam, following the European Framework for Foreign Languages. Members of both groups were all currently enrolled in university, pursuing degrees in language and literature, and had contact with other languages such as English, French and Italian, whose influence, however, did not seem to determine their performance in L2 Greek.

The third group consisted of native speakers of Greek living in Patras and studying linguistics there at the Tmima Logotherapias (Department of Speech Therapy). This group was used to establish the range of felicitous null/overt subjects in Greek, and thus served as control. In Table 112, I provide information on the three groups of subjects.

Table 112. *Subjects*

Groups	<i>Intermediate</i>	<i>Advanced</i>	<i>Control</i>
First language	Spanish	Spanish	Greek
Number	30	30	30
Age range	20-66	23-69	22-27
Studies in Greek language	3rd year of L2 course	5th year of L2 course	university course in Greek linguistics
Level	B1	C1	native speakers
Average score in CAGL exams	81%	86%	—

6.1.4. Procedure

Experiment 1 was administered at the Sxolio Elinikon in Madrid, where the L2 learners were attending classes in Greek, and at the Tmima Logotherapias in Patras, where Greek native speakers were studying linguistics. All participants were instructed to complete the multiple choice task by selecting one of the two options, a null (\emptyset) or overt subject in a contextualized sentence. They were also given a distractor example with the felicitous use of subjects in order to facilitate comprehension of the task, though the example did not involve the conditions examined. All stimuli were written in Greek. The duration of the task was 30 minutes, but participants were given a few more minutes if necessary.

6.1.5. Coding of the results and statistical analysis

The responses were coded for the type of subject in the four conditions. In the first condition, null subjects of 1st/2nd person were coded as non-contrastive and overt subjects as contrastive. In the second condition, null subjects of 3rd person were coded as unambiguous (maintenance/shift)-referential and overt subjects as contrastive. In the third condition, overt subjects of 3rd person were coded as referentially contrastive and null subjects as referentially ambiguous. In the fourth condition, overt subjects of all persons were coded as emphatic/contrastive and null

subjects as non-emphatic/non-contrastive. All felicitous and infelicitous subjects were averaged for each group of participants in order to make comparisons between the groups. The values of subjects were also averaged for each participant in the three groups and coded in SPSS to perform the Mann-Whitney test. As in the previous experiments, the statistical analysis checked the significant differences between paired groups (intermediate-advanced, intermediate-control and advanced-control groups). The aim of this test was to determine the effect of the independent factor of *Group* on the dependent factor of *Subject* distribution (i.e. null/overt subjects) in the four conditions. The effect of the type of *Context* and *Person* on the production of *Subjects* was also measured by means of the Wilcoxon test for the three groups.

6.1.6. Results

The multiple choice task yielded a total of 3,600 responses (1,200 from each group) regarding the four conditions of null/overt subjects in pragmatic contexts. The responses to the distractors were not analyzed because they did not involve the phenomenon examined.

In non-contrastive referential contexts, as seen in Table 113, the average percentages of subject responses indicated that all groups produced a high rate of null subjects against overt subjects. The two experimental groups approximated the patterns produced by the control group regarding null (84.67%, 88.33%, 93.67%) and overt subjects (15.33%, 11.67%, 6.33%). However, they produced a few overt subjects more often than the control group did.

Table 113. Null and overt subjects of 1st/2nd person in non-contrastive referential contexts				
	Null		#Overt	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	254/300	84.67%	46/300	15.33%
Advanced	265/300	88.33%	35/300	11.67%
Control	281/300	93.67%	19/300	6.33%

The differences between the intermediate and advanced groups ($p = .214$) and the advanced and control groups ($p = .771$) were not found to be statistically significant by the Mann-Whitney test, as shown in Table 114. The effect of *Group* was non-significant for all paired groups, but very close to significance for the intermediate-control comparison ($p = .053$).

Table 114. Mann-Whitney test between two groups						
Null and overt subjects of 1st/2nd person in non-contrastive referential contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Mann-Whitney U	373.500	373.500	329.000	329.000	433.000	433.000
asymptotic significance	.214	.214	.053	.053	.771	.771

The role of the type of *Person* was also examined in these contexts. Results for the three groups appear in Table 115. In this case, all groups produced a higher percentage of null than overt subjects for both 1st/2nd persons. However, their rates were not always identical for the two persons, since they had a greater tendency to omit 1st person (89.33%, 91.33%, 96.67%) than 2nd person subjects (80%, 85.33%, 90.67%). The intermediate and advanced groups favoured overt pronouns for 2nd person, while the control group almost never expressed overt subjects for 1st person.

Table 115. Null and overt subjects in non-contrastive referential contexts (Raw Responses)				
	1st Person		2nd Person	
	Null	#Overt	Null	#Overt
Intermediate	89.33% (134/150)	10.67% (16/150)	80% (120/150)	20% (30/150)
Advanced	91.33% (137/150)	8.67% (13/150)	85.33% (128/150)	14.67% (22/150)
Control	96.67% (145/150)	3.33% (5/150)	90.67% (136/150)	9.33% (14/150)

In the Wilcoxon test, as shown in Table 116, the effect of the type of *Person* on the production of null/overt subjects was significant for the intermediate ($p = .024$) and control groups ($p = .038$) and close to the limit rate ($p = .056$) for the advanced group.

Table 116. Wilcoxon test between related samples						
Null and overt subjects in non-contrastive referential contexts						
1st vs. 2nd Person						
	Intermediate		Advanced		Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Wilcoxon Z	-2.257	-2.257	-1.913	-1.913	-2.070	-2.070
asymptotic significance	.024	.024	.056	.056	.038	.038

In unambiguous referential contexts, as observed in Table 117, the intermediate group presented indeterminacy between null and overt subjects of 3rd person, while the advanced and control groups produced a higher rate of null subjects in their responses. However, neither advanced nor control group rejected the expression of pronominal subjects of 3rd person completely.

Table 117. Null and overt subjects of 3rd person in unambiguous referential contexts				
	Null		#Overt	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	171/300	57%	129/300	43%
Advanced	214/300	71.33%	86/300	28.67%
Control	218/300	72.67%	82/300	27.33%

In the Mann-Whitney test the statistical differences were significant for the intermediate and control groups ($p = .019$), while they were not for the advanced and control groups ($p = .684$), as detailed in Table 118. Only the differences between the intermediate and advanced groups were marginally significant ($p = .052$). Thus, the

effect for *Group* was significant for the intermediate-control comparison, but not for the advanced-control comparison.

Table 118. Mann-Whitney test between two groups

Null and overt subjects of 3rd person in unambiguous referential contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Mann-Whitney U	321.000	321.000	293.500	293.500	423.000	423.000
asymptotic significance	.052	.052	.019	.019	.684	.684

Context also played a role in the distribution of null/overt subjects in referent maintenance vs. shift contexts. All groups produced null (78.67%, 93.33%, 89.33%) more often than overt subjects (21.33%, 6.67%, 10.67%) of 3rd person in maintenance contexts, as displayed in Table 119. On the other hand, the intermediate learners tended to produce overt subjects more often than null subjects, while the advanced and control groups presented higher flexibility between null (49.33%, 56%) and overt subjects (50.67%, 44%) in referent shift contexts.

Table 119. Null and overt subjects of 3rd person in unambiguous referential contexts (Raw Responses)

	Referent Maintenance Contexts		Referent Shift Contexts	
	Null	#Overt	Null	#Overt
Intermediate	78.67%	21.33%	35.33%	64.67%
	(118/150)	(32/150)	(53/150)	(97/150)
Advanced	93.33%	6.67%	49.33%	50.67%
	(140/150)	(10/150)	(74/150)	(76/150)
Control	89.33%	10.67%	56%	44%
	(134/150)	(16/150)	(84/150)	(66/150)

The differences between the two types of *Context* were significant in the responses of the intermediate ($p = .000$), advanced ($p = .001$) and control groups ($p = .000$), as seen in the Wilcoxon test results in Table 120.

Table 120. Wilcoxon test between related samples						
Null and overt subjects of 3rd person in unambiguous referential contexts						
Referent Maintenance vs. Shift Contexts						
	Intermediate		Advanced		Control	
	Null	#Overt	Null	#Overt	Null	#Overt
Wilcoxon Z	-3.796	-3.796	-3.341	-3.341	-4.055	-4.055
asymptotic significance	.000	.000	.001	.001	.000	.000

Regarding the referential shift contexts, the results appear in Table 121. All groups produced a high rate of the preferable 3rd person overt subject, recovering the more distant of two antecedent referents. The intermediate group approached the rates of the advanced and control groups. In this case, all groups presented lower rates of the infelicitous null subject, though the intermediate group produced a few more null subjects than the advanced and control groups.

Table 121. Overt and null subjects of 3rd person in referential shift contexts of contrast				
	Overt		#Null	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	251/300	83.67%	49/300	16.33%
Advanced	277/300	92.33%	23/300	7.67%
Control	282/300	94%	18/300	6%

The differences between the intermediate and advanced groups ($p = .189$), the intermediate and control groups ($p = .387$) and the advanced and control groups ($p = .596$) were not significant in the Mann-Whitney test; see Table 122. Thus, the effect for *Group* was non-significant for all pairwise comparisons.

Table 122. Mann-Whitney test between two groups						
Overt and null subjects of 3rd person in referential shift contexts of contrast						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Overt	#Null	Overt	#Null	Overt	#Null
Mann-Whitney U	374.500	374.500	398.500	398.500	420.500	420.500
asymptotic significance	.189	.189	.387	.387	.596	.596

For emphatic/contrastive contexts, the results are detailed in Table 123. In these contexts, the three groups also produced a high rate of felicitous overt subjects of all persons. The intermediate and advanced groups approached the rate of the control group. On the other hand, all groups dispreferred null subjects in emphatic/contrastive contexts.

Table 123. Overt and null subjects in emphatic/contrastive contexts				
	Overt		#Null	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	280/300	93.33%	20/300	6.67%
Advanced	290/300	96.67%	10/300	3.33%
Control	299/300	99.67%	1/300	0.33%

The differences between the intermediate and control groups ($p = .021$) and the intermediate and advanced groups ($p = .030$) were shown to be significant by the Mann-Whitney test, as seen in Table 124. Only the differences between the advanced and control groups were not significant ($p = .981$). Thus, the effect for *Group* was significant for the intermediate-control and intermediate-advanced comparisons, but not for the advanced-control comparison.

Table 124. Mann-Whitney test between two groups						
Overt and null subjects in emphatic/contrastive contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Overt	#Null	Overt	#Null	Overt	#Null
Mann-Whitney U	363.500	363.500	357.500	357.500	449.500	449.500
asymptotic significance	.030	.030	.021	.021	.981	.981

6.1.7. Discussion of the results

In the multiple choice task, I examined the distribution of subjects in the productions of intermediate and advanced groups in order to detect whether they would follow the patterns of the control group of native Greek speakers in various pragmatic contexts.

In non-contrastive referential contexts, native and non-native groups presented a high rate of 1st/2nd person null subjects, showing that the L2 groups were sensitive to the omission of subjects in contexts of rich verbal morphology. The performance of the L2 groups therefore did not fulfil Prediction 1 (for IH-1 and IH-2) (differently from Sorace and Filiaci, 2006; Tsimpli and Sorace, 2006), as they did not diverge from target distribution of the felicitous null subject, indicating that they did not experience difficulties with the acquisition of the relevant morphosyntactic-pragmatic properties. In Margaza and Bel's (2008) findings, native and non-native groups also produced a high rate of null subjects in the cloze task, but in that study the intermediate group presented a more target-like performance than the analogous group in this experiment, while the advanced group diverged from the control group more often than the analogous group here.

In unambiguous referential contexts, all groups preferred null subjects of 3rd person less often than of 1st/2nd person. The distribution of subjects can be attributed to the variable behaviour of the 3rd person, which allows null subjects when verbal inflection identifies the antecedent referent, while overt pronouns have a deictic interpretation or disambiguate the referent between two antecedent referents. The type of context also affected the behaviour of the three groups, as they employed null

subjects less often in referent shift than maintenance contexts. In particular, the intermediate group presented high variation between null and overt subjects of 3rd person, indicating that they did not distinguish between the types of subjects and their respective interpretations. Rates shown by this group differed significantly from the rates of the control group. Their behaviour fulfilled Prediction 1 (for IH-1 and IH-2), as they did not present a native-like command of the morphosyntactic-pragmatic properties. On the other hand, the advanced group reached the rates of the control group and did not diverge significantly from the latter's patterns for subject distribution. The performance of the advanced learners did not fulfil Prediction 1 (for IH-1 and IH-2), as they attained native-like production of null/overt subjects in referent maintenance and shift contexts, showing that they had acquired the possible uses of subjects of 3rd person in relation to the antecedent referent in the discourse.

In referential shift contexts of contrast, all groups displayed a high rate of the felicitous overt 3rd person subject, thus sidestepping the ambiguity inherent in the two possible antecedents in the discourse. The statistical analysis showed no significant differences between the three groups. The high rate of overt subjects did not favour Prediction 1 (for IH-1 and IH-2), as both non-native groups presented target expression of subjects in referent shift contexts. Their preferences showed that they had no problems with the acquisition of the syntax-pragmatics interface. In this case, the selection of the felicitous subject could also be attributed to the influence of their L1 Spanish, which shares the overt subject value in contrastive shift contexts (see also Lozano, 2018).

In emphatic/contrastive contexts, all groups also employed a very high number of overt subjects that introduced new referents. However, the intermediate group did not reach the higher rates of the control group, producing a few infelicitous null subjects in contrastive contexts. The rates of intermediate learners showed significant differences from the patterns of the control group. Their performance fulfilled Prediction 1 (for IH-1 and IH-2), as they did not present full command of the syntactic-pragmatic properties. On the other hand, the advanced group did not differ significantly from the control group. Their performance refuted Prediction 1 (for IH-1 and IH-2), since they showed a target distribution of overt subjects, confirming that they had acquired the emphatic/contrastive uses of subjects at the pragmatics

interface. Therefore, competence level had an effect on the behaviour of the L2 learners with respect to the distribution of emphatic/contrastive subjects.

6.2. Experiment 2 on subject position with transitive verbs

In Experiment 2, I study the position of subjects with transitive verbs in Greek, as in the previous study for Spanish.

6.2.1. Predictions

The aim of this experiment is to observe whether Spanish learners of Greek attain target distribution of (preverbal or postverbal) subjects with transitive verbs in various contexts. In order to do this, I test Predictions 2, 3 and 4 for the two versions of the Interface Hypothesis (IH-1, IH-2).

Prediction 2 tests the distribution of preverbal/postverbal subjects with transitive verbs in neutral contexts.

(34) Prediction 2 for IH-1:

L2 learners of Greek are expected to experience difficulty with the felicitous word order with transitive verbs in neutral contexts due to the difficulty involved in acquiring the syntactic-lexical-semantic properties that constrain the position of subjects at the interface levels, even though Greek and Spanish display the same default SVO order with transitives in neutral contexts.

(35) Prediction 2 for IH-2:

L2 learners of Greek are expected to show mastery of the target word order with transitive verbs, as the formal properties that constrain the position of subjects are easier to acquire at the internal syntax-lexicon-semantics interfaces.

Prediction 3 tests the position of subjects and transitive verbs with adverbial phrases in neutral and contrastive contexts.

(36) Prediction 3 for IH-1:

L2 learners of Greek are not expected to have mastered the felicitous word order with transitive verbs in sentences with adverbial phrases due to the difficulties involved in coordinating syntactic with lexical-semantic properties in neutral adverbial contexts and syntactic with pragmatic properties in contrastive adverbial contexts.

(37) Prediction 3 for IH-2:

L2 learners of Greek show native-like behaviour with respect to the word order with transitive verbs preceded by adverbial phrases in neutral contexts, as the formal properties of these elements are determined by the internal syntax-lexicon-semantics interfaces, while they are likely to have difficulty with the felicitous word order with adverbial phrases in contrastive contexts due to the difficulties involved in coordinating the internal modules with the external pragmatic module.

Prediction 4 tests the default and non-default word orders in transitive contexts.

(38) Prediction 4 for IH-1:

L2 learners of Greek are not expected to have acquired the target distribution of the default SVO and non-default VOS/OVS orders due to the difficulties involved in setting the syntactic-lexical-semantic properties of verbs and the morphosyntactic properties of subjects/objects in transitive SVO contexts in Spanish and Greek.

(39) Prediction 4 for IH-2:

L2 learners of Greek are expected to show a good command of the default SVO and the non-default VOS/OVS orders, as the formal properties of transitive verbs and subjects/objects are acquired easily at the internal morphosyntax-lexicon-semantics interfaces.

Therefore, the IH-1 and the IH-2 make different predictions for neutral and pragmatic contexts.

6.2.2. Experimental design

Experiment 2 was an acceptability judgment task, designed to test the distribution of various types of word orders with transitive verbs in Greek. This type of experiment facilitates the use of a five-point Likert scale from –2 (fully rejected) to 2 (fully acceptable) in order to show the range of optionality between native and non-native speakers of Greek and pinpoint the exact differences in their responses (see also Amvrazis, 2012).

As in the second experiment of Study 2, this task consists of a total of 55 stimuli, 50 items that examine the word order alternations and 5 distractors that are not further analyzed. Specifically, five conditions are tested and each condition contains 10 items of two word order options. The first condition involves the distribution of subjects with transitive verbs in pragmatically neutral contexts. Each item contains a matrix/subordinate structure that does not affect the default distribution of the transitive subject in Greek. Thus, the SVO order is felicitous with the perception verb *akuo* ('hear') in example (104a), while in (104b) VSO is not the first choice in declarative sentences.

- (104) O pateras mu ipe oti _____.
 the-nom. father me-gen. told-3sg.pst. that _____
 'The father told me that _____.'
- (a) o gitonas *akuse* ena thorivo. –2 –1 0 1 2
 the-nom. neighbour heard-3sg.pst. a-acc. noise
 'the neighbour heard a noise.'
- (b) *akuse* o gitonas ena thorivo. –2 –1 0 1 2
 heard-3sg.pst. the-nom. neighbour a-acc. noise
 'the neighbour heard a noise.'

The second and third conditions involve the distribution of transitive subjects with adverbial phrases in neutral and contrastive contexts. Each condition includes 10 items of two tested word order options. In the second condition, the preceding adverbial phrase does not affect the default word order with transitive verbs in neutral contexts. Thus, the SVO order is acceptable with the verb *plirono* ('pay') in structure

(105a), irrespective of the temporal adverbial *sto telos tu mina* ('at the end of the month'). On the other hand, in (105b) VSO is dispreferred with a preceding adverbial phrase.

(105) *Sto telos tu mina* _____.

at the end the-gen. month _____

'At the end of the month _____.'

(a) *i ergodotes plironun tus misthus.* -2 -1 0 1 2

the-nom. bosses pay-3pl.prs. the-acc. salaries

'the bosses pay the salaries.'

(b) *plironun i ergodotes tus misthus.* -2 -1 0 1 2

pay-3pl.prs. the-nom. bosses the-acc. salaries

'the bosses pay the salaries.'

In the third condition, the contrast between an initial (i.e. *sto telos tu mina*) and a final adverbial (i.e. *ce oxi stis arxes tis evdomadas* 'and not at the beginnings of the week') allows the VSO order with the *plirono*-type transitive, as seen in example (106a). In sentence (106b) the transitive SVO is infelicitous, constrained by the pragmatic condition of contrast. Therefore, the type of adverbial phrase plays a role, since the contrastive adverbials require the VSO order, while the neutral adverbial admits the default transitive SVO.

(106) *Sto telos tu mina* _____ *ce oxi stis arxes tis evdomadas.*

at the end the-gen. month _____ and not at the beginnings the-gen. week

'At the end of the month _____ and not at the beginning of the week.'

(a) *plironun i ergodotes tus misthus* -2 -1 0 1 2

pay-3pl.prs. the-nom. bosses the-acc. salaries

'the bosses pay the salaries'

(b) *i ergodotes plironun tus misthus* -2 -1 0 1 2

the-nom. bosses pay-3pl.prs. the-acc. salaries

'the bosses pay the salaries'

The next two conditions involve the distribution of subjects with transitive verbs in non-default VOS and OVS contexts. The default SVO is the first choice in these transitive structures, while the VOS/OVS orders are not pragmatically felicitous, despite the overt case marking regulating the position of subjects and objects (see also Roussou and Tsimpli, 2006). There are 10 test items for each condition, as in the previous cases. Each item contains a preceding matrix and a subordinate clause with transitive structure. For example, in subordinates (107a) and (108a), SVO is the felicitous word order with the transitive verbs *pino* ('drink') and *parusiazō* ('present'). On the other hand, VOS and OVS are not natural in the respective complement structures in (107b) and (108b). The neutral focus of the sentences disallows the non-default word orders with transitive verbs.

- (107) O servitoros paratirise oti _____.
the-nom. waiter observed-3sg.pst. that _____
'The waiter observed that _____.'
- (a) o pelatis *ixe pji* ton kafe tu. -2 -1 0 1 2
the-nom. customer had drunk-3sg.pst.prf. the-acc. coffee his
'the customer had drunk his coffee.'
- (b) *ixe pji* ton kafe tu o pelatis. -2 -1 0 1 2
had drunk-3sg.pst.prf. the-acc. coffee his the-nom. customer
'the customer had drunk his coffee.'
- (108) I fili mu emathan oti _____.
the-nom. friends mine learned-3pl.pst. that _____
'My friends found out that _____.'
- (a) i Maria *parusiase* tin ergasia tis. -2 -1 0 1 2
the-nom. Maria presented-3sg.pst. the-acc. work hers
'Maria presented her work.'
- (b) tin ergasia tis *parusiase* i Maria. -2 -1 0 1 2
the-acc. work hers presented-3sg.pst. the-nom. Maria
'Maria presented her work.'

This full task is detailed in Appendix 3.

6.2.3. Subjects

The subjects of Experiment 2 were the same as those in Experiment 1 (see section 6.1.3).

6.2.4. Procedure

Experiment 2 was administered at the site in Madrid where participants were attending Greek classes, as in Experiment 1. They were instructed to complete the acceptability judgment task and rate carefully all items with two word order options on the five-point scale (from -2 to 2). They were also given a distractor example that showed how to rate the sentences with preverbal/postverbal subjects in order to ensure full comprehension of the task. When L2 learners were not clear about how to rate sentences, some clarifications were provided in their L1 Spanish. The duration of the task was 40 minutes, but extra time was given if needed.

6.2.5. Coding of the results and statistical analysis

As in the judgment task in Study 2, the responses on the five-point scale were classified, with accepted (1, 2) and rejected (-2, -1) values grouped together and the *neither* accepted/rejected (0) value also analyzed. The type of word order was coded in accordance with the context of the five conditions of this experiment. In the first condition, SVO was coded as neutral and VSO as non-neutral with transitive verbs in non-pragmatic contexts. In the second condition, SVO was coded as neutral adverbial and VSO as non-neutral adverbial in non-contrastive contexts. In the third condition, VSO was coded as contrastive adverbial and SVO as non-contrastive adverbial in contrastive contexts. In the fourth and fifth conditions, SVO was coded as neutral and VOS/OVS as non-neutral in non-default VOS/OVS contexts. The ratings of felicitous and infelicitous word orders were averaged for each group and each individual participant. The means were also coded in SPSS in order to perform the Mann-Whitney statistical test. The aim of performing this test was to check for any significant effect of the independent factor *Group* (i.e. intermediate, advanced,

control) on the dependent factor *Word Order* (i.e. SVO/VSO/VOS/OVS) with transitive verbs in various contexts.

6.2.6. Results

As in the second experiment of Study 2, the judgment task yielded a total of 9,000 responses (3,000 from each group) with respect to the five conditions for word order alternations, while the responses to the distractors were excluded from the analysis. The responses were classified, following the rating scale of accepted, rejected and *neither* accepted/rejected values.

In neutral contexts, as shown in Table 125, all groups preferred the default SVO with transitive verbs. In other words, the L2 groups approached target word order patterns. Regarding the non-default VSO option, both intermediate and advanced groups rejected the inversion of subjects more often, diverging from native-like patterns for VSO in neutral contexts.

Table 125. Preverbal and postverbal subjects with transitive verbs in neutral contexts

		Raw Responses (Percentages in Parentheses)				
		SVO			#VSO	
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	270/300	20/300	10/300	67/300	221/300	12/300
	(90%)	(6.67%)	(3.33%)	(23.33%)	(73.67%)	(4%)
Advanced	280/300	16/300	4/300	78/300	212/300	10/300
	(93.33%)	(5.34%)	(1.33%)	(26%)	(70.67%)	(3.33%)
Control	283/300	15/300	2/300	137/300	149/300	14/300
	(94.33%)	(5%)	(0.67%)	(45.67%)	(49.67%)	(4.66%)

Means for responses appear in Table 126. All groups accepted the default SVO order more often with transitive verbs in neutral contexts. That is, the intermediate, advanced and control groups presented similar rates of SVO distribution. However, the intermediate and advanced groups tended to reject the secondary VSO order more often than the control group.

Table 126. Preverbal and postverbal subjects with transitive verbs in neutral contexts		
	Means	
	SVO	#VSO
Intermediate	1.61/2	-0.98/2
Advanced	1.74/2	-0.87/2
Control	1.70/2	-0.08/2

The results of the Mann-Whitney test are detailed in Table 127. The statistical analysis did not reveal significant differences between paired groups ($p = .794$, $p = .356$, $p = .177$) for the SVO option. On the other hand, the differences between the intermediate and control groups ($p = .001$) and the advanced and control groups ($p = .002$) were significant for the VSO option. Only the differences between the intermediate and advanced groups ($p = .512$) were not significant for the second option. Therefore, the statistical effect of *Group* was not significant for either pairwise comparison in the case of the SVO option and for the intermediate-advanced comparison, while it was for the intermediate-control and advanced-control comparisons for the VSO option.

Table 127. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with transitive verbs in neutral contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	SVO	#VSO	SVO	#VSO	SVO	#VSO
Mann-Whitney U	433.500	406.000	389.500	226.500	361.500	244.000
asymptotic significance	.794	.512	.356	.001	.177	.002

In neutral adverbial contexts, as observed in Table 128, all groups also preferred the default SVO more often with transitive verbs, while they avoided the non-target options. Regarding the non-default VSO, both intermediate and advanced groups rejected it more often than the control group.

Table 128. Preverbal and postverbal subjects with transitive verbs in neutral adverbial contexts						
Raw Responses (Percentages in Parentheses)						
	SVO			#VSO		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	277/300 (92.33%)	12/300 (4%)	11/300 (3.67%)	85/300 (28.33%)	188/300 (62.67%)	27/300 (9%)
Advanced	276/300 (92%)	23/300 (7.67%)	1/300 (0.33%)	112/300 (37.33%)	180/300 (60%)	8/300 (2.67%)
Control	281/300 (93.67%)	15/300 (5%)	4/300 (1.33%)	153/300 (51%)	138/300 (46%)	9/300 (3%)

The means for responses are shown in Table 129. In this case, all groups chose the default SVO more often in neutral adverbial contexts. The intermediate and advanced groups presented the same rates, reaching the performance of the control group. On the other hand, both intermediate and advanced groups tended to reject the non-default VSO more often than the control group did.

Table 129. Preverbal and postverbal subjects with transitive verbs in neutral adverbial contexts		
Means		
	SVO	#VSO
Intermediate	1.65/2	-0.7/2
Advanced	1.65/2	-0.52/2
Control	1.75/2	0.02/2

As detailed in Table 130, a Mann-Whitney test revealed non-significant differences between paired groups ($p = .793$, $p = .358$, $p = .524$) for the SVO option. On the other hand, the differences between the intermediate and control groups ($p = .010$) were significant for the VSO option. The differences between the intermediate and advanced groups were non-significant ($p = .655$). Thus, the effect of *Group* was not significant for the SVO option, while it was for the intermediate-control comparison for the VSO option, but not for the advanced-control and the intermediate-advanced pairwise comparisons.

Table 130. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with transitive verbs in neutral adverbial contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	SVO	#VSO	SVO	#VSO	SVO	#VSO
Mann-Whitney U	433.000	420.000	391.500	275.500	410.000	324.000
asymptotic significance	.793	.655	.358	.010	.524	.062

For contrastive adverbial contexts, the raw responses and percentages are displayed in Table 131. In particular, the advanced and control groups preferred the contrastive VSO more often, while the intermediate group tended to reject this option, though they showed variation. Regarding the transitive SVO, the intermediate group accepted preverbal subjects more often than the other groups.

Table 131. Preverbal and postverbal subjects with transitive verbs in contrastive adverbial contexts						
Raw Responses (Percentages in Parentheses)						
	#SVO			VSO		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	259/300	35/300	6/300	100/300	170/300	30/300
	(86.33%)	(11.67%)	(2%)	(33.33%)	(56.67%)	(10%)
Advanced	163/300	117/300	20/300	219/300	76/300	5/300
	(54.33%)	(39%)	(6.67%)	(73%)	(25.33%)	(1.67%)
Control	160/300	126/300	14/300	243/300	50/300	7/300
	(53.33%)	(42%)	(4.67%)	(81%)	(16.67%)	(2.33%)

Means of responses are presented in Table 132. The advanced and control groups indicated a preference for VSO in contrastive adverbial contexts, even though they did not reject the non-contrastive SVO altogether. On the other hand, the intermediate group judged the default SVO to be better, whereas they tended to reject the contrastive VSO, although they did not avoid this word order in all contexts.

Table 132. Preverbal and postverbal subjects with transitive verbs
in contrastive adverbial contexts

	Means	
	#SVO	VSO
Intermediate	1.37/2	-0.44/2
Advanced	0.25/2	0.90/2
Control	0.14/2	1.29/2

A Mann-Whitney test demonstrated significant differences between the intermediate and advanced groups ($p = .001$) and the intermediate and control groups ($p = .000$), as seen in Table 133. On the other hand, the differences between the advanced and control groups were not significant ($p = .609$, $p = .594$). Therefore, the effect of *Group* was significant for the intermediate-control and intermediate-advanced comparisons, while it was not for the advanced-control comparison.

Table 133. Mann-Whitney test between two groups

	Preverbal and postverbal subjects with transitive verbs in contrastive adverbial contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#SVO	VSO	#SVO	VSO	#SVO	VSO
Mann-Whitney U	230.000	218.500	156.000	145.500	415.500	415.000
asymptotic significance	.001	.001	.000	.000	.609	.594

In non-default VOS contexts, as shown in Table 134, all groups favoured the default SVO order with transitive verbs. On the other hand, they rejected the non-default VOS more often, but they also occasionally accepted this option.

Table 134. Preverbal and postverbal subjects with transitive verbs in #VOS contexts

	Raw Responses (Percentages in Parentheses)					
	SVO			#VOS		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	275/300 (91.67%)	17/300 (5.67%)	8/300 (2.66%)	108/300 (36%)	174/300 (58%)	18/300 (6%)
Advanced	281/300 (93.67%)	17/300 (5.67%)	2/300 (0.66%)	101/300 (33.67%)	192/300 (64%)	7/300 (2.33%)
Control	286/300 (95.33%)	11/300 (3.67%)	3/300 (1%)	124/300 (41.33%)	152/300 (50.67%)	24/300 (8%)

The overall results of subjects' responses are displayed in Table 135. In this case, all groups chose the default SVO in non-default VOS contexts. The intermediate group approached the high rates of the advanced and control groups. However, all groups tended to reject the non-default VOS in complement contexts, although they did not disprefer this word order completely.

Table 135. Preverbal and postverbal subjects with transitive verbs in #VOS contexts

	Means	
	SVO	#VOS
Intermediate	1.64/2	-0.48/2
Advanced	1.74/2	-0.58/2
Control	1.79/2	-0.22/2

Results of the Mann-Whitney test are detailed in Table 136. This test corroborated non-significant differences between the intermediate and advanced groups ($p = .326$, $p = .905$), the intermediate and control groups ($p = .629$, $p = .343$) and the advanced and control groups ($p = .513$, $p = .219$). Therefore, the effect of *Group* was non-significant for all pairings.

Table 136. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with transitive verbs in #VOS contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	SVO	#VOS	SVO	#VOS	SVO	#VOS
Mann-Whitney U	390.000	442.000	419.500	386.000	410.000	367.000
asymptotic significance	.326	.905	.629	.343	.513	.219

In non-default OVS contexts, as shown in Table 137, all groups selected the default SVO order with transitive verbs. The intermediate group converged with the rates of the control group, while the advanced group presented the highest rate of SVO. On the other hand, all three groups rejected the non-default OVS, though the L2 groups disallowed this option more often than the control group. Still, all groups tended to accept OVS.

Table 137. Preverbal and postverbal subjects with transitive verbs in #OVS contexts						
Raw Responses (Percentages in Parentheses)						
	SVO			#OVS		
	Accepted	Rejected	Neither	Accepted	Rejected	Neither
Intermediate	277/300 (92.33%)	17/300 (5.67%)	6/300 (2%)	57/300 (19%)	236/300 (78.67%)	7/300 (2.33%)
Advanced	297/300 (99%)	2/300 (0.67%)	1/300 (0.33%)	41/300 (13.67%)	235/300 (78.33%)	24/300 (8%)
Control	280/300 (93.33%)	17/300 (5.67%)	3/300 (1%)	78/300 (26%)	203/300 (67.67%)	19/300 (6.33%)

The overall results are shown in Table 138. All three groups accepted the default SVO order in non-default OVS contexts. The intermediate group achieved the same means as the control group, while the advanced group produced a higher rate of SVO. On the other hand, both experimental groups and the control group tended to reject the non-default OVS. However, the control group rejected OVS less often than did the non-native groups.

Table 138. Preverbal and postverbal subjects with transitive verbs in #OVS contexts		
	Means	
	SVO	#OVS
Intermediate	1.68/2	-1.05/2
Advanced	1.93/2	-1.23/2
Control	1.76/2	-0.73/2

Results for the Mann-Whitney test are displayed in Table 139. This test demonstrated significant differences between the advanced and control groups ($p = .011$, $p = .005$), while the intermediate-control differences were not significant for the SVO option ($p = .564$) and close to significance for the OVS option ($p = .079$). The differences between the intermediate and advanced groups approached significance for the first option ($p = .087$) and were non-significant for the second option ($p = .396$). Thus, the effect of *Group* was significant for the advanced-control comparison, but not for the other comparisons.

Table 139. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with transitive verbs in #OVS contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	SVO	#OVS	SVO	#OVS	SVO	#OVS
Mann-Whitney U	362.000	394.500	415.500	332.000	308.000	263.000
asymptotic significance	.087	.396	.564	.079	.011	.005

6.2.7. Discussion of the results

In the acceptability judgment task, I examined the distribution of subjects with transitive verbs in Greek.

In neutral contexts, all native and non-native groups accepted the default SVO with transitive verbs. The two experimental groups followed native patterns for

subject distribution with this verb class, with non-significant differences between their performance and that of the control group. The performance of the L2 groups thus fulfilled Prediction 2 of IH-2, as they showed a target command of the formal properties that constrain the transitive word order at the internal syntax-lexicon-semantics interfaces. However, this performance was not predicted by the IH-1. All groups accepted the non-default VSO less often than the default SVO, distinguishing the different distribution of these word orders in transitive contexts. However, the L2 groups rejected the non-default VSO more often than the control group did, showing significant differences from native-like patterns. Thus, the behaviour of the L2 groups did not fulfil Prediction 2 of IH-2, as they were not so sensitive to word order alternations in neutral contexts. In this case, performance fulfilled the prediction of IH-1.

In neutral contexts, all groups also preferred the default SVO with preceding adverbial phrases. The intermediate and advanced groups achieved the rates of the control group, so they did not present significant differences from target patterns. The performance of the L2 groups supported Prediction 3 of IH-2 because they showed mastery of the formal constraints regulating the adverbial SVO in neutral contexts. The insertion of an adverbial phrase did not affect the preference of the L2 learners for the default transitive word order. Thus, this native-like behaviour means that Prediction 3 of IH-1 was not fulfilled.

The native and non-native groups also accepted the non-default VSO less often than the default SVO in neutral adverbial contexts. However, the L2 groups tended to reject VSO more often than the control group. The intermediate group showed statistical differences from the control group, while the advanced group did not diverge significantly from native-like patterns. The performance of the intermediate learners fulfilled Prediction 3 of IH-1, as they presented a non-target command of postverbal subjects with adverbial phrases. This behaviour refuted Prediction 3 of IH-2. On the other hand, the performance of the advanced group supported Prediction 3 of IH-2, since they approached native-like acquisition of the interface properties that induce adverbial inversion in the structure. Therefore, their patterns did not favour Prediction 3 of IH-1.

In contrastive adverbial contexts, the intermediate group tended to reject the felicitous VSO, while the advanced group accepted it more often. The intermediate

group presented significant differences from the control group, while the advanced group did not diverge from native patterns. The performance of the intermediate learners fulfilled Prediction 3 of both IH-1 and IH-2, as they did not show mastery of the syntactic-pragmatic properties. On the other hand, the behaviour of the advanced group contradicted Prediction 3 of IH-1 and IH-2 because this group attained a target command of contrastive adverbial alternations at the syntax-pragmatics interface. Regarding the SVO order, the intermediate group also diverged from the control group, while the advanced group approached native-like rates. Thus, the performance of the intermediate learners fulfilled Prediction 3 of both IH-1 and IH-2, as they presented target-deviant subject distribution at the pragmatics interface in L2 Greek. On the other hand, the behaviour of the advanced group did not fulfil Prediction 3 of IH-1 and IH-2, since they achieved native-like patterns of rejection of subject anteposition with adverbial phrases in contrastive constructions.

In non-default VOS contexts, both native and non-native groups preferred SVO with transitive verbs. The two experimental groups did not differ statistically from the rates of the control group. The performance of the L2 groups thus fulfilled Prediction 4 of IH-2, as they showed target mastery of the default transitive word order in neutral contexts. However, this behaviour did not support Prediction 4 of IH-1. With respect to the VOS distribution, the experimental groups detected the non-default nature of this word order, even though they did not reject it fully. The L2 groups followed the VOS patterns of the control group, with no significant differences in the statistical analysis. Their performance fulfilled Prediction 4 of IH-2, as they exhibited target mastery of the morphosyntactic-lexical-semantic properties. Thus, their native-like preferences did not favour Prediction 4 of IH-1.

In non-default OVS contexts, all groups preferred the default SVO with transitive verbs. In particular, the intermediate group did not differ statistically from the control group, while the advanced group diverged from native-like rates. The behaviour of the intermediate group fulfilled Prediction 4 of IH-2 by showing a command of SVO distribution at the internal interfaces. This performance did not support Prediction 4 of IH-1. On the other hand, the advanced group did not present target patterns for word order, though they did accept SVO to a large extent. The behaviour of this group did not fulfil Prediction 4 of IH-2, as they were not so

sensitive to native-like variation in transitive structures in Greek. Their deviant preferences confirmed Prediction 4 of IH-1.

Regarding the non-default OVS order, all groups tended to reject this option in neutral contexts, demonstrating that the anteposition of objects was not their first choice. However, the three groups did not reject the non-default word order completely, though the non-native groups avoided the non-default option more often than did the native speakers. Still, the intermediate group did not present significant differences from the control group. The performance of the intermediate learners supported Prediction 4 of IH-2, as they approached native-like command of the morphosyntactic-lexical-semantic properties. This behaviour did not fulfil Prediction 4 of IH-1. On the other hand, the advanced group diverged statistically from the control group, by showing target-deviant distribution of the non-default word order at the internal interfaces, thus confirming Prediction 4 of IH-1. However, their non-native-like patterns went against Prediction 4 of IH-2.

6.3. Experiment 3 on subject position with unergative/unaccusative verbs

In Experiment 3, I examine the distribution of subjects with unergative/unaccusative verbs in Greek, to be compared to Spanish in the analogous experiment of Study 2.

6.3.1. Predictions

The aim of this experiment is to explore whether Spanish learners of Greek exhibit mastery of preverbal/postverbal subjects with the two classes of intransitive verbs in neutral and informational contexts. I test Predictions 5 and 6 for the two versions of the Interface Hypothesis (IH-1, IH-2), as in Studies 1 and 2.

Prediction 5 tests the position of subjects with unergative/unaccusative verbs in neutral contexts.

(40) Prediction 5 for IH-1:

L2 learners of Greek are expected to produce subjects in erroneous positions with unergative/unaccusative verbs in neutral contexts of declarative and interrogative sentences due to the complexities involved in mapping the

syntactic-lexical-semantic properties that distinguish the two classes of intransitive verbs at the interface levels, despite the fact that Greek and Spanish share the same distribution of unergative/unaccusative verbs.

(41) Prediction 5 for IH-2:

L2 learners of Greek are expected to attain the grammatical word order with unergative/unaccusative verbs in neutral contexts because the formal properties that distinguish the two classes of verbs are acquired early at the internal syntax-lexicon-semantics interfaces.

Prediction 6 tests the position of subjects with unergative/unaccusative verbs in informational contexts.

(42) Prediction 6 (for IH-1 and IH-2):

L2 learners of Greek are expected to employ less felicitous word orders in informational contexts of direct and indirect question-answer pairs due to the difficulty involved in acquiring the syntactic-pragmatic properties that neutralize the unergative/unaccusative distinction at the external interface levels.

Therefore, the IH-1 and the IH-2 make different predictions (40, 41) in neutral contexts, but the same prediction (42) in informational contexts.

6.3.2. Experimental design

As in the experiments of Studies 1 and 2, a word order selection task was designed, but in this case testing the position of subjects with intransitive verbs in L2 Greek. This type of task triggers either SV or VS order, depending on the situation described in the discourse-marked context.

The task consists of a total number of 65 stimuli, 60 items that test the position of subjects with intransitive verbs and 5 distractors that are not further analyzed. Three conditions are tested and each condition contains 10 items with unergative verbs and 10 items with unaccusative verbs. The first condition involves the distribution of unergative/unaccusative verbs with their subjects in pragmatically

neutral contexts. Each verb class is examined in 5 declarative and 5 interrogative structures. For instance, the unergatives *dulevo* ('work') and *kolibao* ('swim') are employed with their subjects *o Kostas* ('the Kostas') and *i aderfi su* ('your sister') in the declarative (109) and interrogative (110) sentences, respectively. The felicitous order of the subject (*a*) and the unergative verb (*b*) is SV with both types of sentences in neutral focus contexts. The VS order, on the other hand, is infelicitous, considering the syntactic-lexical-semantic properties of unergative verbs.

- (109) Kathimerina _____ poli, j'afto to savatocirjako xriazete ksekurasi.
 every day _____ a lot, for this the weekend needs-3sg.prs. rest-acc.
 'Every day _____ a lot, so at the weekend he needs to rest.'
- | | | | |
|-----|-----------------|-----|----------------|
| (a) | <i>o Kostas</i> | (b) | <i>dulevi</i> |
| | the-nom. Kostas | | works-3sg.prs. |
| | 'Kostas works' | | |
- (110) Kseris oti _____ stin pisina, otan exi elefthero xrono?
 know-2sg.prs. that _____ in the pool, when has-3sg.prs. free time-acc.
 'Do you know that _____ in the pool when she has free time?'
- | | | | |
|-----|-----------------------|-----|----------------|
| (a) | <i>i aderfi su</i> | (b) | <i>kolibai</i> |
| | the-nom. sister yours | | swims-3sg.prs. |
| | 'your sister swims' | | |

In the declarative (111) and interrogative (112) sentences, the unaccusatives *erxome* ('come') and *ftano* ('arrive') receive their subjects *i astinomia* ('the police') and *kapji gitones* ('some neighbours') in postverbal position in accordance with the unaccusative restriction. However, the SV order is not possible, as this verb class disallows subject anteposition in neutral contexts.

- (111) Imastan stin trapeza, otan i mitera mu katalave oti _____.
 were-1pl.pst. in the bank, when the-nom. mother mine realized-3sg.pst. that

 'We were at the bank when my mother realized that _____.'

- (a) *ixe erthi* (b) *i astinomia*
 had come-3sg.pst.prf. the-nom. police
 ‘the police had come.’

(112) *Ides oti _____, otan akusan to thorivo?*
 saw-2sg.pst. that _____, when heard-3pl.pst. the-acc. noise
 ‘Did you see that _____ when they heard the noise?’

- (a) *eftasan* (b) *kapji gitones*
 arrived-3pl.pst. some-nom. neighbours
 ‘some neighbours arrived’

The second condition contains 10 items with unergatives and 10 items with unaccusatives in informational contexts of direct speech. In this case, both verb classes are constrained by the discourse properties, triggering the SV order, regardless of their grammatical distinction. For example, the direct questions with *Pjos?* (‘Who?’) elicit the anteposition of the focused subjects *kapjes kopeles* (‘some girls’) and *o kathigitis tis ximias* (‘the professor of chemistry’) with both the unergative *xorevo* (‘dance’) and the unaccusative *beno* (‘enter’) in the answers in items (113) and (114), respectively. On the other hand, the VS order is not acceptable in direct informational contexts.

(113) *Den exis paratirisi pjos exi erthi sto parti, j’afto rotas: Pjos xorevi? O filos su lei: _____.*

not have observed-2sg.prs.prf. who has come-3sg.prs.prf. to the party, for this
 ask-2sg.prs.: who dances-3sg.prs.? the-nom. friend yours says-3sg.prs.: _____

‘You have not observed who has come to the party, so you ask: Who is dancing? Your friend says: _____.’

- (a) *kapjes kopeles* (b) *xorevun*
 some-nom. girls dance-3pl.prs.
 ‘Some girls are dancing.’

(114) Epidi i Meri den exi di pjos ine sto sxolio, rotai: *Pjos exi bi stin ethusa?* I fili tis i Athina apandai: _____ .

because the-nom. Meri not has seen-3sg.prs.prf. who is-3sg.prs. in school, asks-3sg.prs.: who has entered-3sg.prs.prf. into the class.? the-nom. friend hers Athina answers-3sg.prs.: _____

‘As Meri has not seen who is at school, she asks: Who has entered class? Her friend Athina answers: _____ .’

- | | | | |
|-----|----------------------------------------|-----|--------------------------|
| (a) | <i>o kathigitis tis ximias</i> | (b) | <i>exi bi</i> |
| | the-nom. professor the-gen. chemistry | | has entered-3sg.prs.prf. |
| | ‘The chemistry professor has entered.’ | | |

The third condition also contains 10 items with unergatives and 10 items with unaccusatives in informational contexts of indirect speech. In this condition, the indirect question-answer structure triggers the VS order with both unergative/unaccusative verbs. In examples (115) and (116) the embedded questions with *pjos* (‘who’) receive as answers the subordinate sentences containing the respective unergative *tragudao* (‘sing’) and the unaccusative *petheno* (‘die’) with their focused subjects *i xorodia tu panepistimiu* (‘the choir of the university’) and *enas turistis* (‘a tourist’) in postverbal position. However, SV is infelicitous in indirect informational contexts, as discourse constraints disallow this word order in indirect speech.

(115) Vlepis tis simfititries su sto dromo. Tis rotas *pjos* tragudise stin enarksi tu akadimaiku etus ce aftes su apandane oti _____ .

see-2sg.prs. the-acc. classmates yours in the road. them-acc. ask-2sg.prs. who sang-3sg.pst. at the opening the-gen. academic year and they-nom. you-acc. answer-3pl.prs. that _____

‘You see your classmates in the road. You ask them who sang at the opening ceremony of the academic year and they answer you that _____ .’

- | | | | |
|-----|------------------------------|-----|------------------------------------|
| (a) | <i>tragudise</i> | (b) | <i>i xorodia tu panepistimiu</i> |
| | sang-3sg.pst. | | the-nom. choir the-gen. university |
| | ‘the university choir sang.’ | | |

(116) I Ioana rotai *pjos* pethane kata ti djarcia tu sismu ce esi tis apandas oti _____
 _____.

the-nom. Ioana asks-3sg.prs. who died-3sg.pst. during the earthquake and you-
 nom. her-gen. answer-2sg.prs. that _____

‘Ioana asks who died during the earthquake and you answer her that _____
 _____.’

(a) *pethane*

died-3sg.pst.

‘a tourist died.’

(b) *enas turistas*

a-nom. tourist

The sentences of the word order selection task are provided in full in Appendix 3.

6.3.3. Subjects

The subjects of Experiment 3 were the same as those in Experiment 1 (see section 6.1.3).

6.3.4. Procedure

Experiment 3 was also administered at the institution in Madrid where Greek language instruction took place. All groups were instructed to complete the word order task by selecting the appropriate distribution of two elements (*ab* or *ba*), a subject and an intransitive verb, in various contexts. Participants were also given a generic example of correct ordering of two elements (a subject and a verb), which was intended to facilitate their comprehension of the task, but it did not include the conditions examined. If L2 learners reported difficulty in understanding the instructions, they were given additional clarifications. The duration of the task was 40 minutes, but participants were given extra time if necessary.

6.3.5. Coding of the results and statistical analysis

As in the previous word order selection experiments, the responses were classified according to the given SV or VS order in the three conditions. In the first condition, SV was coded as neutral and VS as non-neutral with unergative verbs, while VS as neutral and SV as non-neutral with unaccusative verbs. In the second condition, SV was coded as direct-question focused, while VS was coded as direct-question non-focused with both verb classes. In the third condition, VS was coded as indirect-question focused, while SV was coded as indirect-question non-focused with both verb classes. In each condition, the felicitous and infelicitous word orders were averaged for each (intermediate, advanced and control) group of participants. The averages of word orders were also measured for each individual participant and coded in SPSS to perform the Mann-Whitney statistical test. As in the previous experiments, this test checked the significant differences between the paired groups. The performance of this test aimed at examining the effect of the independent factor *Group* on the dependent factor *Subject* position with unergative/unaccusative verbs in the three conditions. The effect of *Verb* class on *Subject* distribution was also tested using a Wilcoxon test for the three groups.

6.3.6. Results

The word order selection task yielded a total of 5,400 responses (1,800 from each group) for the three conditions considering subject position with unergative/unaccusative verbs. As always, responses to distractors were not analyzed because they did not involve the phenomenon examined.

In neutral contexts, as observed in Table 140, all groups presented a high rate of preverbal subjects with unergative verbs, though the intermediate group tended to produce the SV order more often than the other groups. However, they all found the inversion of subjects less felicitous due to the unergative constraints, so they expressed postverbal subjects less often, even though they did not avoid them completely.

Table 140. Preverbal and postverbal subjects with unergative verbs
in neutral contexts

	Preverbal		#Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	254/300	84.67%	46/300	15.33%
Advanced	221/300	73.67%	79/300	26.33%
Control	236/300	78.67%	64/300	21.33%

According to a Mann-Whitney test, as indicated in Table 141, the differences between the advanced and control groups ($p = .904$) were not significant, while the intermediate-control ($p = .065$) and intermediate-advanced comparisons ($p = .085$) were closer to significance. Still, the effect of *Group* was non-significant for all three pairwise comparisons.

Table 141. Mann-Whitney test between two groups

	Preverbal and postverbal subjects with unergative verbs in neutral contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Preverbal	#Postverbal	Preverbal	#Postverbal	Preverbal	#Postverbal
Mann-Whitney U	336.000	336.000	328.000	328.000	442.000	442.000
asymptotic significance	.085	.085	.065	.065	.904	.904

The role of *Sentence* type in the distribution of subjects with unergative verbs was also examined in neutral contexts. The results for the three groups are displayed in Table 142. In particular, all groups selected SV more often than VS with unergatives in both declarative and interrogative sentences. The advanced group presented almost the same number of preverbal and postverbal subjects in both types of sentences. The advanced and control groups also had identical SV and VS rates in declarative sentences, while the latter group showed a higher preference than the former group for preverbal subjects in interrogative sentences. On the other hand, the intermediate group showed a higher tendency to favour preverbal subjects in declarative than in interrogative sentences.

Table 142. Preverbal and postverbal subjects with unergative verbs in neutral contexts (Raw Responses)

	Declarative Sentences		Interrogative Sentences	
	Preverbal	#Postverbal	Preverbal	#Postverbal
Intermediate	90.67% (136/150)	9.33% (14/150)	78.67% (118/150)	21.33% (32/150)
Advanced	74.67% (112/150)	25.33% (38/150)	72.67% (109/150)	27.33% (41/150)
Control	74.67% (112/150)	25.33% (38/150)	82.67% (124/150)	17.33% (26/150)

The results of the Wilcoxon test are presented in Table 143. The effect of the type of *Sentence* on the distribution of *Subjects* with unergative verbs was significant for the intermediate ($p = .035$) and control groups ($p = .047$), while it was not so for the advanced group ($p = .680$).

Table 143. Wilcoxon test between related samples

Preverbal and postverbal subjects with unergative verbs in neutral contexts						
Declarative vs. Interrogative Sentences						
	Intermediate		Advanced		Control	
	Preverbal	#Postverbal	Preverbal	#Postverbal	Preverbal	#Postverbal
Wilcoxon Z	-2.113	-2.113	-.412	-.412	-1.985	-1.985
asymptotic significance	.035	.035	.680	.680	.047	.047

In neutral contexts, as shown in Table 144, all groups tended to favour the anteposition of subjects with unaccusative verbs, but they also allowed postverbal subjects in the sentences examined. In particular, the intermediate group presented a higher rate of preverbal subjects (75%) without avoiding completely subjects in postverbal position (25%). However, the advanced group alternated between SV (63.33%) and VS (36.67%), approaching native-like patterns. In this case, the control group also showed flexibility between preverbal (59.33%) and postverbal subjects (40.67%) with unaccusatives.

Table 144. Preverbal and postverbal subjects with unaccusatives in neutral contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	225/300	75%	75/300	25%
Advanced	190 /300	63.33%	110/300	36.67%
Control	178/300	59.33%	122/300	40.67%

According to a Mann-Whitney test, as detailed in Table 145, the differences between the intermediate and control groups ($p = .001$) and the intermediate and advanced groups ($p = .047$) were significant, while they were not so for the advanced-control comparison ($p = .276$). Thus, the effect of *Group* was not significant for the advanced-control comparison, while it was so for the other two pairwise comparisons.

Table 145. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unaccusatives in neutral contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	317.500	317.500	227.000	227.000	377.500	377.500
asymptotic significance	.047	.047	.001	.001	.276	.276

The *Sentence* type was also examined with unaccusative verbs. The results for the three groups are shown in Table 146. The intermediate group presented almost the same patterns for preverbal and postverbal subjects in both declarative and interrogative sentences. On the other hand, the advanced and control groups had a tendency to produce the SV order more often in interrogative sentences, while they expressed the VS order more often in declarative sentences.

Table 146. Preverbal and postverbal subjects with unaccusatives in neutral contexts (Raw Responses)				
	Declarative Sentences		Interrogative Sentences	
	#Preverbal	Postverbal	#Preverbal	Postverbal
Intermediate	74% (111/150)	26% (39/150)	76% (114/150)	24% (36/150)
Advanced	55.33% (83/150)	44.67% (67/150)	71.33% (107/150)	28.67% (43/150)
Control	53.33% (80/150)	46.67% (70/150)	65.33% (98/150)	34.67% (52/150)

A Wilcoxon test confirmed that the differences between declarative and interrogative sentences were not significant in the responses of the intermediate group ($p = .635$), while they were for the advanced ($p = .004$) and control ($p = .009$) groups, as seen in Table 147.

Table 147. Wilcoxon test between related samples						
Preverbal and postverbal subjects with unaccusatives in neutral contexts						
	Declarative vs. Interrogative Sentences					
	Intermediate		Advanced		Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Wilcoxon Z	-.474	-.474	-2.853	-2.853	-2.616	-2.616
asymptotic significance	.635	.635	.004	.004	.009	.009

The *Verb* class also played a role in neutral contexts. A Wilcoxon test showed that the differences between unergative and unaccusative verbs were significant in the responses of all groups ($p = .005$, $p = .049$, $p = .000$), as displayed in Table 148.

Table 148. Wilcoxon test between related samples						
Preverbal and postverbal subjects in neutral contexts						
Unergative vs. Unaccusative Verbs						
	Intermediate		Advanced		Control	
	Preverbal	Postverbal	Preverbal	Postverbal	Preverbal	Postverbal
Wilcoxon Z	-2.792	-2.792	-1.965	-1.965	-4.106	-4.106
asymptotic significance	.005	.005	.049	.049	.000	.000

In direct informational contexts, as detailed in Table 149, all groups had a tendency to produce preverbal subjects with unergatives. Still, the advanced group presented the highest variation between SV and VS.

Table 149. Preverbal and postverbal subjects with unergative verbs in direct informational contexts				
	Preverbal		#Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	201/300	67%	99/300	33%
Advanced	165/300	55%	135/300	45%
Control	184/300	61.33%	116/300	38.67%

The results of the Mann-Whitney test are displayed in Table 150. The pairwise differences between neither the intermediate and control groups ($p = .246$), the advanced and control groups ($p = .743$) nor the intermediate and advanced groups ($p = .182$) were significant. Therefore, the effect of *Group* on preverbal and postverbal *Subjects* was not significant in the contexts examined.

Table 150. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unergative verbs in direct informational contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Preverbal	#Postverbal	Preverbal	#Postverbal	Preverbal	#Postverbal
Mann-Whitney U	361.500	361.500	372.500	372.500	428.000	428.000
asymptotic significance	.182	.182	.246	.246	.743	.743

In direct informational contexts, as detailed in Table 151, all groups alternated between preverbal and postverbal subjects with unaccusative verbs. However, the advanced group presented higher variation between SV and VS. The intermediate group also showed SV and VS alternation. On the other hand, the control group preferred to invert subjects.

Table 151. Preverbal and postverbal subjects with unaccusative verbs in direct informational contexts				
	Preverbal		#Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	191/300	63.67%	109/300	36.33%
Advanced	161/300	53.67%	139/300	46.33%
Control	113/300	37.67%	187/300	62.33%

In the Mann-Whitney test, as indicated in Table 152, the pair differences were significant between the intermediate and control groups ($p = .013$), while they were not so for the advanced-control ($p = .124$) and the intermediate-advanced group comparisons ($p = .264$). Thus, the effect of *Group* was significant only for the intermediate-control comparison and not for the other paired groups.

Table 152. Mann-Whitney test between two groups						
Preverbal and postverbal subjects with unaccusative verbs in direct informational contexts						
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	Preverbal	#Postverbal	Preverbal	#Postverbal	Preverbal	#Postverbal
Mann-Whitney U	375.500	375.500	284.000	284.000	346.500	346.500
asymptotic significance	.264	.264	.013	.013	.124	.124

In direct informational contexts, the effect of *Verb* class was also examined. The results of a Wilcoxon test are shown in Table 153. The statistical analysis corroborated that the unergative-unaccusative distinction was significant in the responses of the control group ($p = .000$), while it was not so for the intermediate ($p = .436$) and advanced groups ($p = .599$).

Table 153. Wilcoxon test between related samples						
Preverbal and postverbal subjects in direct informational contexts Unergative vs. Unaccusative Verbs						
	Intermediate		Advanced		Control	
	Preverbal	#Postverbal	Preverbal	#Postverbal	Preverbal	#Postverbal
Wilcoxon Z	-.780	-.780	-.526	-.526	-3.596	-3.596
asymptotic significance	.436	.436	.599	.599	.000	.000

In indirect informational contexts, as observed in Table 154, the L2 learners also presented variation between preverbal and postverbal subjects with unergative verbs. However, the intermediate group showed a higher rate of preverbal subjects, while the advanced group preferred postverbal subjects more often. The latter group had a higher tendency to produce the VS patterns seen in the control group.

Table 154. Preverbal and postverbal subjects with unergative verbs in indirect informational contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	186/300	62%	114/300	38%
Advanced	113/300	37.67%	187/300	62.33%
Control	54/300	18%	246/300	82%

For results of the Mann-Whitney test, see Table 155. The results indicated significant differences between the intermediate and advanced groups ($p = .025$) and the intermediate and control groups ($p = .000$). The effect of *Group* was not significant for the advanced-control comparison, but it was for the other two pairwise comparisons.

Table 155. Mann-Whitney test between two groups						
	Preverbal and postverbal subjects with unergative verbs in indirect informational contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	302.000	302.000	185.500	185.500	339.000	339.000
asymptotic significance	.025	.025	.000	.000	.085	.085

In indirect informational contexts, as displayed in Table 156, the L2 learners also alternated between SV and VS with unaccusative verbs. However, the intermediate group presented higher variation between preverbal and postverbal subjects. The advanced group preferred subject inversion more often, tending towards the postverbal subject patterns of the control group.

Table 156. Preverbal and postverbal subjects with unaccusative verbs in indirect informational contexts				
	#Preverbal		Postverbal	
	Raw Responses	Percent	Raw Responses	Percent
Intermediate	160/300	53.33%	140/300	46.67%
Advanced	114/300	38%	186/300	62%
Control	60/300	20%	240/300	80%

The results of the Mann-Whitney test are detailed in Table 157. This revealed that the differences between the intermediate and control groups ($p = .000$) were significant, while they approached significance ($p = .057$) for the intermediate-advanced comparison. The differences between the advanced and control groups ($p = .157$) were non-significant. Thus, the effect of *Group* was significant for the intermediate-control comparison, but non-significant for the advanced-control comparison and close to the significance for the intermediate-advanced comparison.

Table 157. Mann-Whitney test between two groups						
	Preverbal and postverbal subjects with unaccusative verbs in indirect informational contexts					
	Intermediate-Advanced		Intermediate-Control		Advanced-Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Mann-Whitney U	322.500	322.500	191.500	191.500	356.500	356.500
asymptotic significance	.057	.057	.000	.000	.157	.157

Verb class did not appear to affect the distribution of subjects in indirect informational contexts. A Wilcoxon test indicated that the unergative-unaccusative distinction was not significant in the responses of the intermediate ($p = .104$), advanced ($p = .981$) or control groups ($p = 1.000$), as presented in Table 158.

Table 158. Wilcoxon test between related samples						
Preverbal and postverbal subjects in indirect informational contexts						
Unergative vs. Unaccusative Verbs						
	Intermediate		Advanced		Control	
	#Preverbal	Postverbal	#Preverbal	Postverbal	#Preverbal	Postverbal
Wilcoxon Z	-1.626	-1.626	-0.24	-0.24	.000	.000
asymptotic	.104	.104	.981	.981	1.000	1.000
significance						

6.3.7. Discussion of the results

In the word order selection task, I examined the distribution of unergative/unaccusative subjects in the responses of intermediate and advanced learners of Greek in order to compare it with the performance of native Greek speakers.

In neutral contexts, both native and non-native groups indicated a higher preference for the default SV than the non-default VS order with unergative verbs. The intermediate and advanced groups showed sensitivity to the grammatical distribution of unergative subjects in declarative and interrogative sentences, and their performance followed the patterns of native speakers (see also Amvrazis, 2012). The two L2 groups did not present significant differences relative to the control group. Their behaviour thus fulfilled Prediction 5 for IH-2 (see also Rothman and Slabakova, 2011; White, 2011), since they presented target distribution of the default unergative SV and the alternative VS at the internal syntax-lexicon-semantics interfaces. The preferences of the L2 learners did not fulfil Prediction 5 for IH-1 (differently from Sorace and Filiaci, 2006), as they had acquired the unergative properties constraining subjects in felicitous positions.

Regarding the distribution of unaccusative verbs in neutral contexts, the three groups produced the unergative SV more often than the unaccusative VS. All groups employed the default SV in declarative and interrogative sentences. The two experimental groups inverted subjects in both types of sentences, although the advanced group preferred postverbal subjects more often in declarative sentences.

However, the intermediate group employed preverbal subjects more often, differing significantly from the rates of the control group. The performance of the intermediate learners fulfilled Prediction 5 for IH-1, as they did not present target distribution of the unaccusative VS. The behaviour of intermediates did not fulfil Prediction 5 for IH-2 (differently from Tsimpli and Sorace, 2006), since they had not fully acquired the formal properties that determine the felicitous VS with unaccusative verbs. On the other hand, the advanced group followed native-like patterns, showing non-significant differences from the control group. Their performance did not fulfil Prediction 5 for IH-1, given their target preferences for the default SV and the unaccusative VS at the syntax-lexicon-semantics interfaces. This non-divergent behaviour supported Prediction 5 for IH-2, as the advanced group had set the formal properties.

In informational contexts of direct question-answer pairs, all groups also tended to produce the default SV with unergative verbs, which is the first choice in Greek (see also Amvrazis, 2012). The intermediate and advanced groups followed native patterns for the informational SV and did not differ significantly from the control group. Their behaviour was against Prediction 6 (for IH-1 and IH-2), as they presented target distribution of word order in direct speech, showing that they had acquired the syntactic-pragmatic properties at the interface levels. In other terms, the L2 groups had no problems with focused subjects in discourse-marked positions.

Regarding the distribution of unaccusative verbs, the non-native groups also tended to produce the informational SV in direct speech. However, the control group allowed the VS option more often due to the properties of unaccusative verbs and the position of subjects in indirect speech. In this case, the intermediate group differed statistically from the control group, while the advanced group did not diverge significantly from native-like patterns. Thus, the performance of the intermediate learners fulfilled Prediction 6 (for IH-1 and IH-2), as they did not achieve complete command of the informational properties. On the other hand, the behaviour of the advanced group did not fulfil Prediction 6 (for IH-1 and IH-2) because they approached target distribution of unaccusative subjects in direct discourse contexts, so they did not seem to encounter difficulties in acquiring the syntax-pragmatics interface.

In indirect informational contexts, the L2 groups also presented variation between preverbal and postverbal subjects with both verb classes. But the

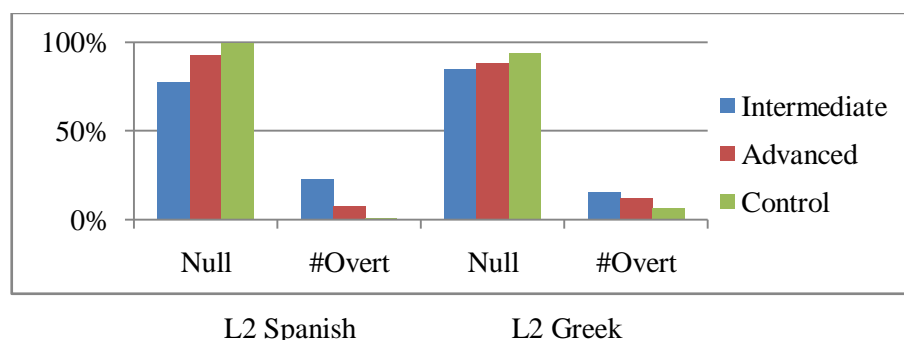
intermediate group tended to employ the direct informational SV more often, while the advanced group favoured the indirect informational VS, like the control group. In this case, the intermediate group presented significant differences from the control group, while the advanced group did not differ statistically from the Greek natives. The performance of the intermediate learners fulfilled Prediction 6 (for IH-1 and IH-2), showing incomplete knowledge of the interface properties. The advanced group did not perform consistently with Prediction 6 (for IH-1 and IH-2), since they followed target distribution of focused subjects, distinguishing informational patterns at the syntax-pragmatics interface.

6.4. Comparison of the results of Studies 2 and 3

In this section, I compare the results for L2 Spanish and L2 Greek, which is rendered possible by the shared methodology used for the two languages. I focus on the differences and similarities between native and non-native groups, testing whether at higher levels the L2 learners overcome the problems at the interface domains (as predicted by Rothman, 2009) or if instead they persist in diverging from the performance of native speakers, as predicted by the IHs even for near-native levels of knowledge (see Sorace and Filiaci, 2006; Tsimpli and Sorace, 2006).

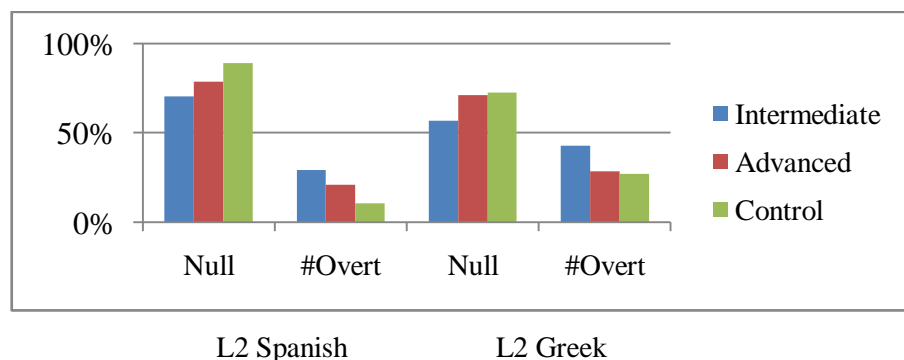
In non-contrastive referential contexts, all groups showed a higher preference for the omission of 1st/2nd person subjects. However, the L2 had an effect on the performance of the experimental groups, since they presented significant differences from the control group in L2 Spanish (the 92.67% rate of the advanced learners was statistically different from the 99.33% rate of the native speakers), while they followed target patterns in L2 Greek. The distribution of null/overt subjects was target-deviant in the multiple choice task for L2 Spanish, while it was more native-like in the respective task for L2 Greek. Competence level played a role in L2 Spanish, as the intermediate group diverged from the rate of the advanced group, contrary to the performance of non-native groups in L2 Greek. See Graph 12 for the rates of the groups in the L2s.

Graph 12. Subjects of 1st/2nd person in non-contrastive referential contexts



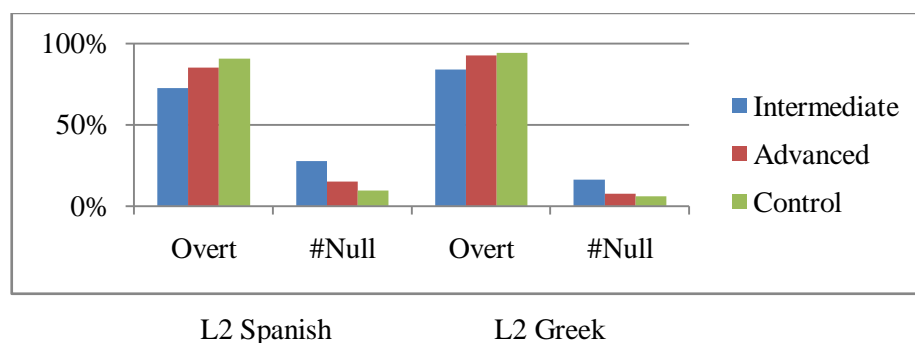
In unambiguous referential contexts, as shown in Graph 13, the L2 also had an impact on the performance of non-native groups because there were significant differences from the control group in L2 Spanish, while the advanced group presented native command of null/overt 3rd person subjects in L2 Greek. However, the intermediate group showed high variation between null and overt subjects in L2 Greek, as they preferred redundant overt subjects in shift contexts. In any case, the natives also showed a higher preference for null subjects in Spanish than in Greek.

Graph 13. Subjects of 3rd person in unambiguous referential contexts



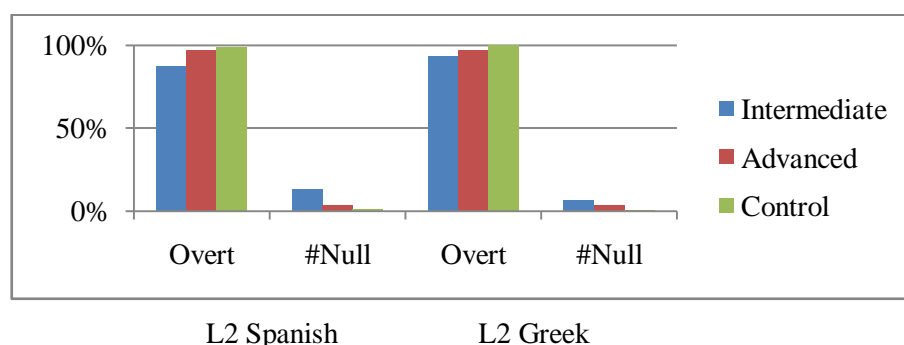
In referential shift contexts of contrast, the L2 also determined the non-native performance, as the intermediate group differed statistically from the other groups in L2 Spanish, while both experimental groups approached the patterns of the control group in L2 Greek. The distribution of subjects of 3rd person was target-like in L2 Greek, while competence level influenced the production of contrastive pronouns in L2 Spanish, since the intermediate group employed a few more ambiguous null subjects than the advanced group. See Graph 14 for the rates of overt/null subjects in L2s.

Graph 14. Subjects of 3rd person in referential shift contexts of contrast



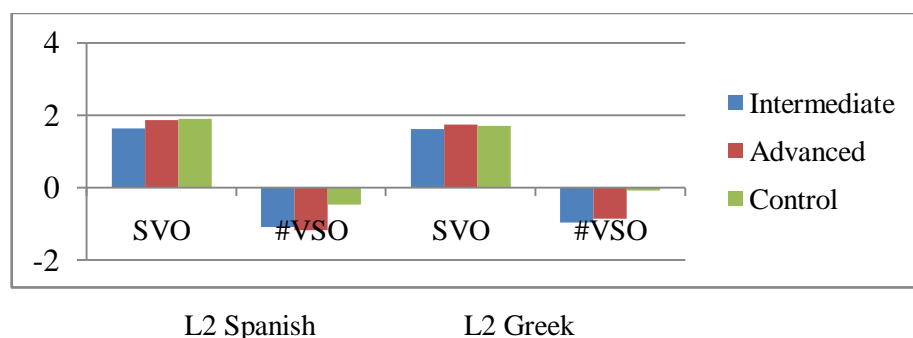
In emphatic/contrastive contexts, as seen in Graph 15, the experimental groups presented indistinguishable patterns in L2 Spanish and L2 Greek: the intermediate group showed significant differences from the control group, but the advanced group attained target performance in both cases.

Graph 15. Subjects in emphatic/contrastive contexts



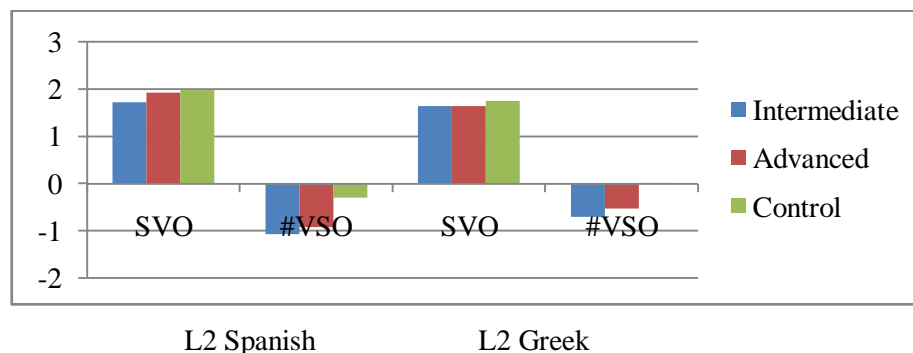
Regarding the position of subjects with transitive verbs, as shown in Graph 16, all groups clearly preferred the default SVO in neutral contexts. In the judgment tasks, both advanced L2 Spanish and advanced L2 Greek learners were native-like in the SVO condition, while the intermediate group presented non-target distribution in L2 Spanish. On the other hand, all non-native groups differed significantly from the control group with respect to the non-default VSO in both L2s. This implied that the experimental groups did not show native-like command of subject inversion with transitive verbs.

Graph 16. Subjects with transitive verbs in neutral contexts



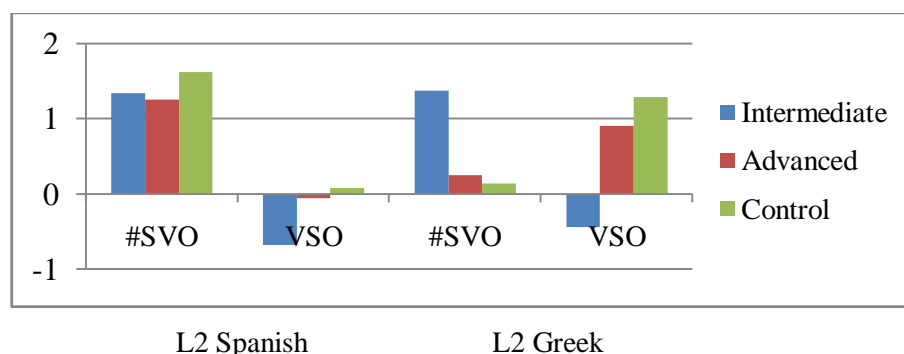
In neutral adverbial contexts, the L2 groups also showed a higher acceptance of the SVO order. However, the intermediate group diverged from the other groups in L2 Spanish, while both experimental groups attained native-like distribution of SVO in L2 Greek. As for the non-default VSO, the L2 groups showed significant differences from the control group in L2 Spanish, but the advanced group approached more target-like performance in L2 Greek. In Graph 17, the rates of SVO/VSO orders are presented.

Graph 17. Subjects with transitive verbs in neutral adverbial contexts



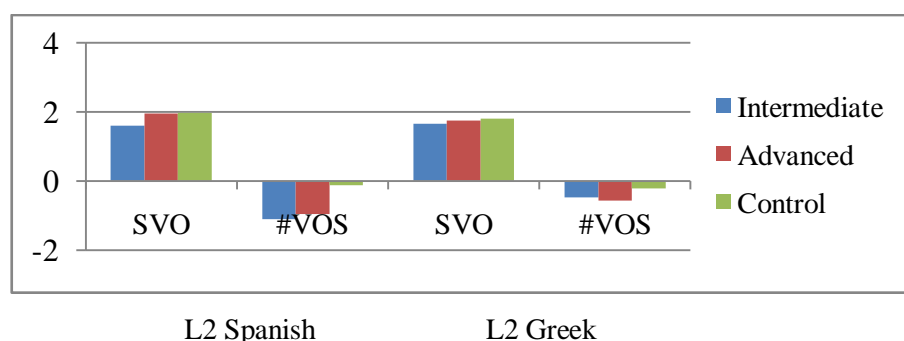
In contrastive adverbial contexts, the type of word order also played a role, as the advanced and control groups preferred SVO in Spanish, while in Greek they allowed VSO more often. Thus, the advanced and native speakers did not select the same word order in the two languages in order to assign a contrastive interpretation in adverbial contexts. On the other hand, the intermediate learners presented similar rates in both Spanish and Greek. Regarding the VSO order, the advanced group approached native-like attainment in both L2s, but the intermediate group did not. See Graph 18 for the rates of all groups.

Graph 18. Subjects with transitive verbs in contrastive adverbial contexts



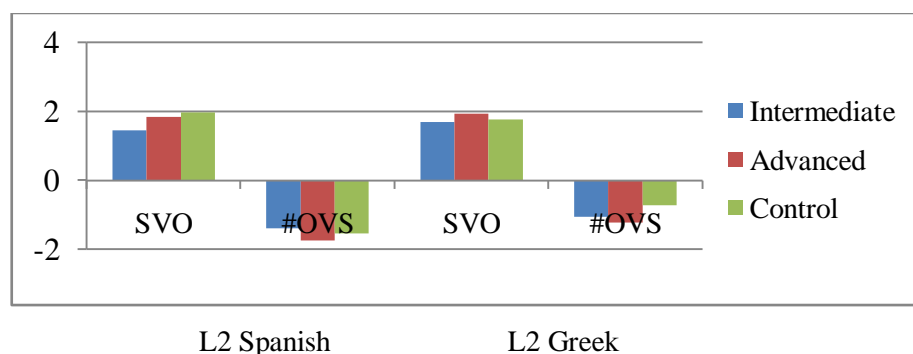
In non-default VOS contexts, as displayed in Graph 19, all groups showed a clear preference for the felicitous SVO with transitive verbs. The intermediate group presented significant differences from the other groups in L2 Spanish, while both experimental groups reached the rates of the control group in L2 Greek. Regarding the VOS order, the two non-native groups displayed target-deviant behaviour in L2 Spanish, while they attained native-like patterns of subject postposition in L2 Greek.

Graph 19. Subjects with transitive verbs in #VOS contexts



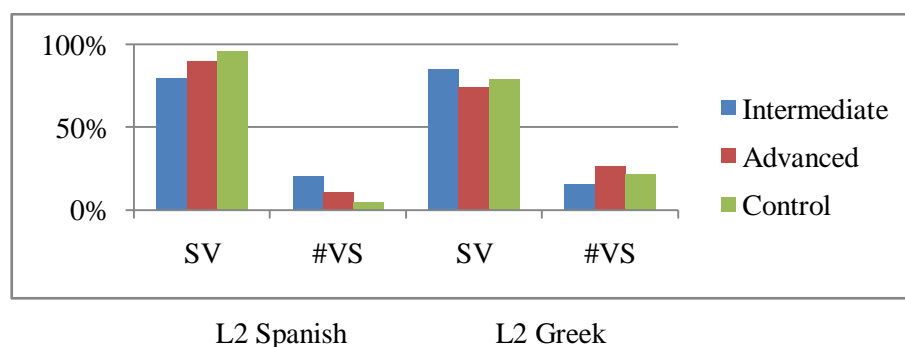
In non-default OVS contexts, as observed in Graph 20, all groups also had a clear preference for the transitive SVO. However, the intermediate group presented significant differences from the other groups in L2 Spanish, while the advanced group diverged from target patterns in L2 Greek. On the other hand, the experimental groups presented similar tendencies regarding OVS in both L2s: the intermediate group converged with the preferences of the control group, while the advanced group had target-deviant performance.

Graph 20. Subjects with transitive verbs in #OVS contexts



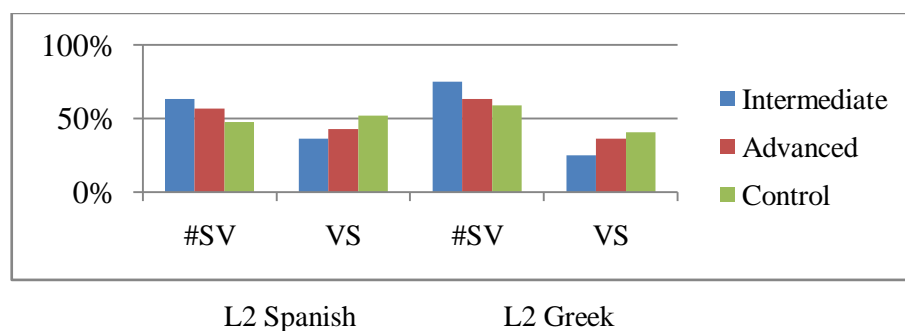
In neutral contexts, as seen in Graph 21, all groups presented a higher rate of the unergative SV. However, the two experimental groups showed significant differences from the control group in L2 Spanish, while they followed native-like behaviour in L2 Greek. The L2 groups presented non-target VS in L2 Spanish, but native-like distribution in L2 Greek.

Graph 21. Subjects with unergative verbs in neutral contexts



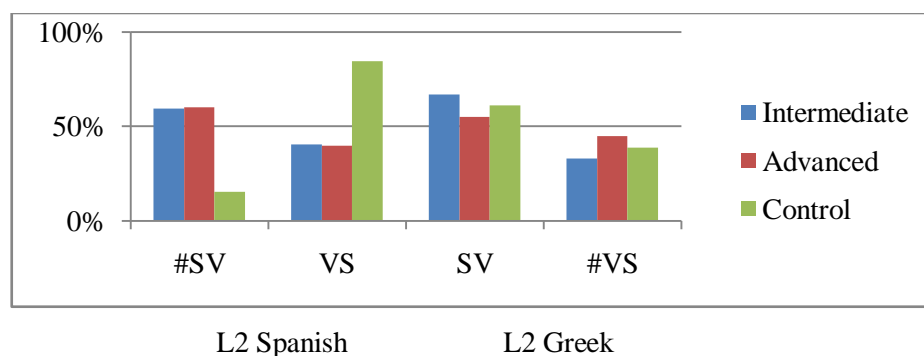
In neutral contexts, as shown in Graph 22, all groups alternated between SV and VS with unaccusative verbs. The two experimental groups showed similar patterns in both Spanish and Greek: the intermediate group differed significantly from the control group, while the advanced group approached target-like performance.

Graph 22. Subjects with unaccusative verbs in neutral contexts



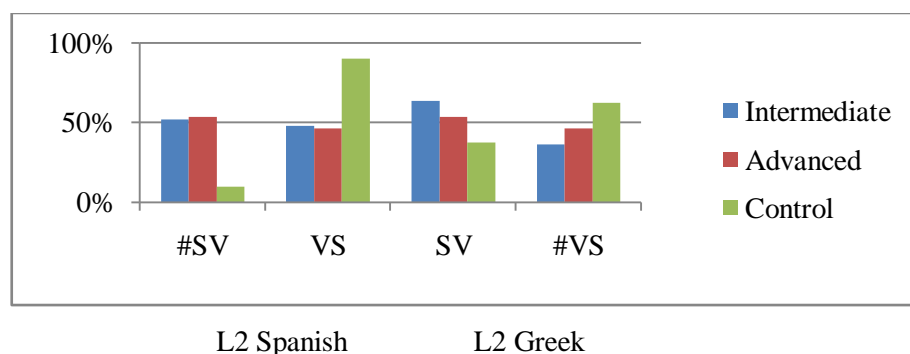
In direct informational contexts, as displayed in Graph 23, the experimental groups alternated between SV and VS in both Spanish and Greek. The two groups presented significant differences from the control group in L2 Spanish. By contrast, non-native groups followed target word order patterns in L2 Greek.

Graph 23. Subjects with unergative verbs in direct informational contexts



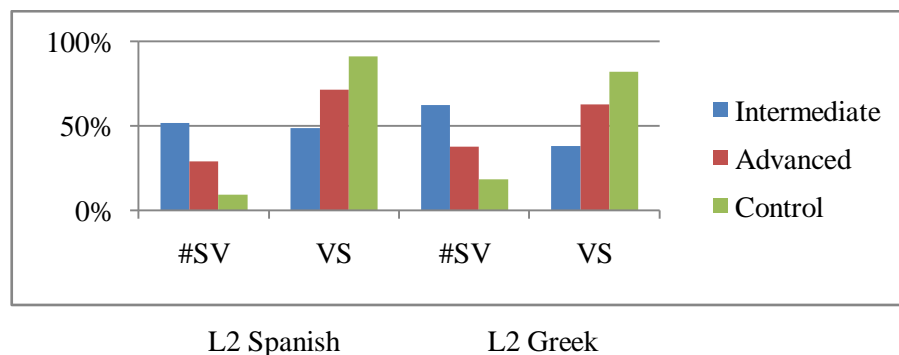
In direct informational contexts, the L2 groups also alternated between SV and VS with unaccusative verbs in both L2s. In Spanish, the two experimental groups did not achieve a native-like rate of the felicitous discursive VS. On the other hand, competence level played a role in L2 Greek: the advanced group showed native-like distribution of SV/VS, while the intermediate group produced non-target preverbal subjects. The rates of all groups are shown in Graph 24.

Graph 24. Subjects with unaccusative verbs in direct informational contexts



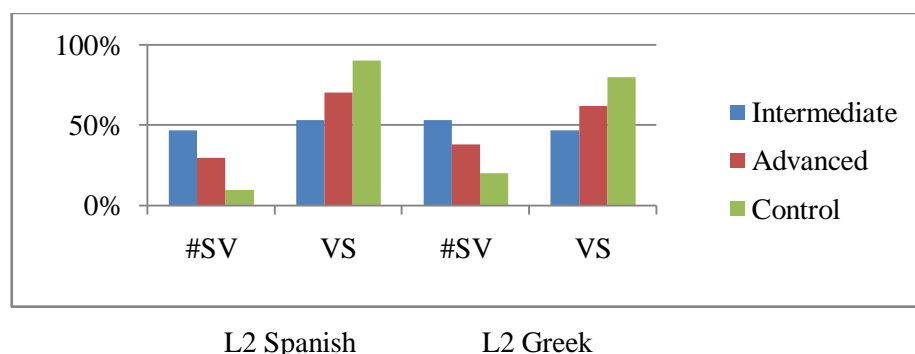
In indirect informational contexts, as seen in Graph 25, the intermediate learners of Spanish showed complete variation with unergative verbs and the intermediate learners of Greek diverged from native-like word order patterns. On the other hand, the advanced learners of Greek approached target-like distribution of SV/VS, while the advanced learners of Spanish did not attain native-like preferences.

Graph 25. Subjects with unergative verbs in indirect informational contexts



In indirect informational contexts, as shown in Graph 26, the patterns of subject position with unaccusative verbs were similar to those of unergative verbs. The intermediate groups of both Spanish and Greek differed significantly from the control group. On the other hand, the advanced group of Greek learners approached native-like performance, but the advanced group of Spanish learners did not.

Graph 26. Subjects with unaccusative verbs in indirect informational contexts



In general, the advanced learners showed more target-like behaviour than the intermediate learners, approaching native performance more often in referential and informational contexts of L2 Greek. However, this was not categorical, as the intermediate group did not always diverge from native speakers but sometimes also followed target patterns in various contexts of L2 Greek (i.e. in referential shift contexts, neutral adverbial SVO and informational contexts with unergative verbs). In L2 Spanish, the advanced group did not attain native-like performance in some contexts (i.e. in non-contrastive/unambiguous referential and discursive contexts), similar to the intermediate group. But the advanced group presented native-like preferences in several other contexts (in emphatic/contrastive contexts, in transitive SVO and neutral unaccusative contexts). The above results show that the IHs predictions were not fulfilled, since the advanced group did not always have difficulty with the interface domains and sometimes achieved native-like patterns. Nor is the argument, put forth by Rothman (2009), that the IH pattern may hold of only less advanced learners consistent with these results either.

7. Fulfilment of the predictions of the IHs on subject distribution

Taking into account the results of the three studies, in this part I consider the fulfilment of the predictions of the Interface Hypothesis on subject distribution.

7.1. The use of null/overt subjects in Studies 1, 2 and 3

In this first section, I discuss whether the results of the three studies on null/overt subject uses in L2 Spanish and L2 Greek fulfil the two versions of the Interface Hypothesis or not. The IH-1 predicts that all interface domains are difficult to acquire, while the IH-2 claims that the external interfaces are more complex than the internal interfaces. In this case, the two versions of the IH coincide in postulating that the pragmatics interfaces are problematic and are therefore not mastered completely. Thus, the IH-1 and the IH-2 make the same prediction (1) with respect to the acquisition of pragmatic interfaces, claiming that L2 learners are expected to diverge from target distribution of null/overt subjects in pragmatic contexts, regardless of the typology of Spanish and Greek. In the results here, Prediction 1 is fulfilled for intermediate learners in two cases out of six for L2 Spanish in Table 159 for Study 2, in four cases out of six in Table 160, two for L2 Spanish and two for L2 Greek, in two cases for L2 Spanish in Table 161 and in all cases for both languages in Table 162. The performance of advanced learners favours the IH-1 and the IH-2 in two cases out of six in Table 159 for Study 2 and in four cases in Table 160 for both Spanish studies, but in no case in Tables 161 and 162. The prediction of the IH-1 and the IH-2 fares better with intermediate than advanced learners in the cases examined. The effect of task also plays a role —see Table 159 for both groups and Tables 160 and 161 for the intermediate group— as L2 learners present higher fulfilment of the IH-1 and the IH-2 in the multiple choice task of Study 2 than in the judgment task of Study 1 for Spanish. However, this is not categorical in all conditions, thus the type of task does not always affect the performance of L2 groups.

Table 159. Fulfilment of the predictions on the use of 1st/2nd person subjects in non-contrastive referential contexts

		Study 1		Study 2		Study 3	
		Judgment Task		Multiple Choice Tasks			
		L2 Spanish		L2 Spanish		L2 Greek	
		Null	#Overt	Null	#Overt	Null	#Overt
Prediction 1	Intermediate	No	No	Yes	Yes	No	No
/IH-1/IH-2	Advanced	No	No	Yes	Yes	No	No

Table 160. Fulfilment of the predictions on the use of 3rd person subjects in unambiguous referential contexts

		Study 1		Study 2		Study 3	
		Judgment Task		Multiple Choice Tasks			
		L2 Spanish		L2 Spanish		L2 Greek	
		Null	#Overt	Null	#Overt	Null	#Overt
Prediction 1	Intermediate	No	No	Yes	Yes	Yes	Yes
/IH-1/IH-2	Advanced	Yes	Yes	Yes	Yes	No	No

Table 161. Fulfilment of the predictions on the use of 3rd person subjects in referential shift contexts of contrast

		Study 1		Study 2		Study 3	
		Judgment Task		Multiple Choice Tasks			
		L2 Spanish		L2 Spanish		L2 Greek	
		Overt	#Null	Overt	#Null	Overt	#Null
Prediction 1	Intermediate	No	No	Yes	Yes	No	No
/IH-1/IH-2	Advanced	No	No	No	No	No	No

Table 162. Fulfilment of the predictions on the use of subjects in emphatic/contrastive contexts

		Study 2		Study 3	
		L2 Spanish		L2 Greek	
		Overt	#Null	Overt	#Null
Prediction 1	Intermediate	Yes	Yes	Yes	Yes
/IH-1/IH-2	Advanced	No	No	No	No

Generalizing, the IH-1 and the IH-2 make the same prediction for pragmatics interfaces, so that their rate of fulfilment (18/44) is indistinguishable in the contexts examined with null/overt subjects in Spanish and Greek. In this case, both IH-1 and IH-2 fare better with intermediate (12/22) than advanced learners (6/22), showing that competence level has an impact on the behaviour of L2 learners. Therefore, the two versions of IH are not reliable, as they do not always explain the preferences of L2 learners, apart from the effect of other factors, such as competence level. In other terms, the acquisition of pragmatics interfaces is not as difficult as predicted by the IH-1 and the IH-2, so that they can be considered acquirable at higher stages of knowledge.

7.2. The position of subjects with transitive verbs in Studies 2 and 3

The IH-1 predicts that L2 learners present deficient behaviour when the grammatical and pragmatic interfaces are involved. Thus, acquisition difficulties are expected with respect to the position of subjects with transitive verbs in neutral and pragmatic contexts. The predictions of the IH-1 are fulfilled for intermediate learners in three cases out of four, two for L2 Spanish and one for L2 Greek in Tables 163 and 164, while one for L2 Spanish and two for L2 Greek in Table 165. These predictions are also fulfilled in two cases out of four, two for L2 Spanish in Table 166 and in one case in Table 167. As for the advanced learners, the IH-1 makes correct predictions in two cases out of four, one for each language in Table 163, in one case for L2 Spanish in Tables 164 and 166 and in three cases out of four, one for L2 Spanish and two for L2 Greek in Table 167, but in no case in Table 165. The predictions of the IH-1 fare better with intermediate than advanced learners in most cases (in Tables 163, 164, 165 and 166), but not in Table 167, in which the advanced group presents a higher rate of fulfilment than the intermediate group.

On the other hand, the IH-2 predicts that L2 learners show better performance when the internal interfaces are involved, while they diverge from target performance when the pragmatic interfaces are involved. Therefore, learners are expected to have acquisition problems with the position of subjects with transitive verbs in pragmatic contexts, but not in neutral contexts. In this study, the predictions of the IH-2 are fulfilled for intermediate learners in one case out of four, one for L2 Greek in Tables

163 and 164, in three cases out of four, one for L2 Spanish and two for L2 Greek in Tables 165 and 167 and in two cases for L2 Greek in Table 166. Regarding the advanced learners, the IH-2 makes correct predictions in two cases out of four, one for each language in Table 163, in three cases, one for L2 Spanish and two for L2 Greek in Tables 164 and 166, in one case in Table 167, but in no case in Table 165. The predictions of the IH-2 fare better with advanced than intermediate learners in Tables 163, 164 and 166, but not in Tables 165 and 167, in which the intermediate group presents a higher rate of fulfilment than the advanced group.

Table 163. Fulfilment of the predictions on subject distributions with transitives in neutral contexts

		Judgment Tasks			
		L2 Spanish		L2 Greek	
		SVO	#VSO	SVO	#VSO
Prediction 2/IH-1	Intermediate	Yes	Yes	No	Yes
	Advanced	No	Yes	No	Yes
Prediction 2/IH-2	Intermediate	No	No	Yes	No
	Advanced	Yes	No	Yes	No

Table 164. Fulfilment of the predictions on subject distributions with transitives in neutral adverbial contexts

		Judgment Tasks			
		L2 Spanish		L2 Greek	
		SVO	#VSO	SVO	#VSO
Prediction 3/IH-1	Intermediate	Yes	Yes	No	Yes
	Advanced	No	Yes	No	No
Prediction 3/IH-2	Intermediate	No	No	Yes	No
	Advanced	Yes	No	Yes	Yes

Table 165. Fulfilment of the predictions on subject distributions with transitives in contrastive adverbial contexts

		Judgment Tasks			
		L2 Spanish		L2 Greek	
		#SVO	VSO	#SVO	VSO
Prediction 3/IH-1	Intermediate	No	Yes	Yes	Yes
	Advanced	No	No	No	No
Prediction 3/IH-2	Intermediate	No	Yes	Yes	Yes
	Advanced	No	No	No	No

Table 166. Fulfilment of the predictions on subject distributions with transitives in non-default VOS contexts

		Judgment Tasks			
		L2 Spanish		L2 Greek	
		SVO	#VOS	SVO	#VOS
Prediction 4/IH-1	Intermediate	Yes	Yes	No	No
	Advanced	No	Yes	No	No
Prediction 4/IH-2	Intermediate	No	No	Yes	Yes
	Advanced	Yes	No	Yes	Yes

Table 167. Fulfilment of the predictions on subject distributions with transitives in non-default OVS contexts

		Judgment Tasks			
		L2 Spanish		L2 Greek	
		SVO	#OVS	SVO	#OVS
Prediction 4/IH-1	Intermediate	Yes	No	No	No
	Advanced	No	Yes	Yes	Yes
Prediction 4/IH-2	Intermediate	No	Yes	Yes	Yes
	Advanced	Yes	No	No	No

In summary, the overall results of the two studies for L2 Spanish and L2 Greek indicate that the predictions of the IH-1 do not fit the actual facts any better (19/40) than those of the IH-2 (19/40) in the contexts examined, involving transitive verbs. The IH-1 fares better with intermediate (12/20) than with advanced learners

(7/20), showing that competence level plays a role. However, the performance of both L2 (intermediate: 10/20, advanced: 9/20) groups does not fulfil the IH-2 in half of the contexts examined. In general, the predictive power of the IH-1 is higher in the case of intermediate L2 learners, but neither version of the IH is fulfilled by the results. Thus, it would seem that the learners' behaviour is not always related to the difficulty in acquiring the internal and external interfaces of grammatical and pragmatic domains.

7.3. The position of subjects with unergative/unaccusative verbs in Study 1

The IH-1 predicts that L2 learners fail when the interfaces between grammatical modules are involved, so acquisition problems are expected in L2 with respect to the distribution of unergative/unaccusative subjects in neutral and informational contexts. In the present study, the predictions of the IH-1 are fulfilled for intermediate learners in three cases out of four in Table 168, one in the judgment task and two in the selection word order task, in four cases in Table 169, two for each task and in all cases in Table 170. Regarding advanced learners, the IH-1 makes correct predictions in one case out of four in Table 168, one in the judgment task, in four cases in Table 169 and in all cases in Table 170. The predictions of the IH-1 fare better with intermediate than advanced learners in Table 168, while in Tables 169 and 170 the behaviour of the two groups is indistinguishable.

On the other hand, the IH-2 predicts that L2 learners present better performance when the internal interfaces are involved, while they fail when the pragmatic interfaces are involved. In this case, L2 acquisition difficulties are expected with unergative/unaccusative verbs in informational contexts, but not in neutral contexts. The results show that the predictions of the IH-2 are fulfilled for intermediate learners in one case out of four in Table 168, in the judgment task, in all cases in Table 170, but in no case in Table 169. The behaviour of advanced learners favours the IH-2 in three cases out of four in Table 168, one in the judgment task and two in the selection task, in all cases in Table 170, but not in Table 169. The predictions of the IH-2 also fare better with advanced than intermediate learners in Table 168, while in Tables 169 and 170 competence level does not play a role. The

effect of the type of task is possible in Table 168 for both groups, but not in Tables 169 and 170. See the corresponding tables below.

Table 168. Fulfilment of the predictions on subject distributions with unergatives in neutral contexts					
		Judgment Task		Selection Task	
		SV	#VS	SV	#VS
Prediction 5/IH-1	Intermediate	No	Yes	Yes	Yes
	Advanced	No	Yes	No	No
Prediction 5/IH-2	Intermediate	Yes	No	No	No
	Advanced	Yes	No	Yes	Yes

Table 169. Fulfilment of the predictions on subject distributions with unaccusatives in neutral contexts					
		Judgment Task		Selection Task	
		#SV	VS	#SV	VS
Prediction 5/IH-1	Intermediate	Yes	Yes	Yes	Yes
	Advanced	Yes	Yes	Yes	Yes
Prediction 5/IH-2	Intermediate	No	No	No	No
	Advanced	No	No	No	No

Table 170. Fulfilment of the predictions on subject distributions in informational contexts									
		Unergatives				Unaccusatives			
		Judgment		Selection		Judgment		Selection	
		#SV	VS	#SV	VS	#SV	VS	#SV	VS
Prediction 6 /IH-1/IH-2	Intermediate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Advanced	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Summarizing, the overall results of the two tasks show that the predictions of the IH-1 (28/32) are more accurate than those of the IH-2 (20/32) in the contexts examined, involving unergative/unaccusative verbs. The IH-1 fares slightly better for the performance of intermediate learners (15/16), compared to advanced learners (13/16). On the other hand, the IH-2 makes less accurate predictions for the two

groups, although the predictions for the advanced group are slightly better (11/16) than for the intermediate group (9/16). In any case, the IH-1 has a higher predictive power than the IH-2 for both experimental groups. In general, internal interfaces are not always easier to acquire than external interfaces for L2 learners.

7.4. The position of subjects with unergative/unaccusative verbs in Studies 1, 2 and 3

Now, I explore the overall results of the three studies on subject distribution with intransitive verbs. The IH-1 predicts that L2 learners do not achieve full command of the interface domains of grammar. Therefore, they are expected to confront difficulties in expressing the felicitous word order with unergative/unaccusative verbs in neutral and informational contexts. The tested predictions of the IH-1 are fulfilled for intermediate learners in four cases out of six for L2 Spanish in Tables 171 and 173 and in six cases for both languages in the rest of the Tables (172, 174, 175 and 176). The performance of advanced learners also supports the IH-1 in two cases out of six for L2 Spanish in Table 171 for Study 2 and in Table 172 for Study 1 and in four cases for L2 Spanish in the other Tables (173, 174, 175 and 176). The predictions of IH-1 fare better with intermediate than advanced learners in most cases (in Tables 171, 172, 174, 175 and 176), while in Table 173 the two groups are indistinguishable.

On the other hand, the IH-2 predicts that L2 learners show better command of the internal interfaces, while they fail to acquire the pragmatics interfaces, thus they are expected to have problems with the distribution of unergative/unaccusative subjects in informational contexts, but not in neutral contexts. The examined predictions of the IH-2 are fulfilled for intermediate learners in two cases out of six for L2 Greek in Table 171, in four cases for L2 Spanish in Table 173, in all cases in Tables 174, 175 and 176, but in no case in Table 172. The IH-2 also makes accurate predictions for advanced learners in four cases out of six in all Tables. The results of the three studies indicate that the predictions of the IH-2 fare better with advanced than intermediate learners in Tables 171 and 172, while they fare better with the intermediate learners in Tables 174, 175 and 176.

Table 171. Fulfilment of the predictions on subject distributions with unergatives in neutral contexts							
		Study 1		Study 2		Study 3	
		L2 Spanish		L2 Spanish		L2 Greek	
		SV	#VS	SV	#VS	SV	#VS
Prediction 5/IH-1	Intermediate	Yes	Yes	Yes	Yes	No	No
	Advanced	No	No	Yes	Yes	No	No
Prediction 5/IH-2	Intermediate	No	No	No	No	Yes	Yes
	Advanced	Yes	Yes	No	No	Yes	Yes

Table 172. Fulfilment of the predictions on subject distributions with unaccusatives in neutral contexts							
		Study 1		Study 2		Study 3	
		L2 Spanish		L2 Spanish		L2 Greek	
		#SV	VS	#SV	VS	#SV	VS
Prediction 5/IH-1	Intermediate	Yes	Yes	Yes	Yes	Yes	Yes
	Advanced	Yes	Yes	No	No	No	No
Prediction 5/IH-2	Intermediate	No	No	No	No	No	No
	Advanced	No	No	Yes	Yes	Yes	Yes

Table 173. Fulfilment of the predictions on subject distributions with unergatives in direct informational contexts							
		Study 1		Study 2		Study 3	
		L2 Spanish		L2 Spanish		L2 Greek	
		#SV	VS	#SV	VS	SV	#VS
Prediction 6	Intermediate	Yes	Yes	Yes	Yes	No	No
/IH-1/IH-2	Advanced	Yes	Yes	Yes	Yes	No	No

Table 174. Fulfilment of the predictions on subject distributions with unaccusatives in direct informational contexts							
		Study 1		Study 2		Study 3	
		L2 Spanish		L2 Spanish		L2 Greek	
		#SV	VS	#SV	VS	SV	#VS
Prediction 6	Intermediate	Yes	Yes	Yes	Yes	Yes	Yes
/IH-1/IH-2	Advanced	Yes	Yes	Yes	Yes	No	No

Table 175. Fulfilment of the predictions on subject distributions with unergatives in indirect informational contexts							
		Study 1		Study 2		Study 3	
		L2 Spanish		L2 Spanish		L2 Greek	
		#SV	VS	#SV	VS	#SV	VS
Prediction 6	Intermediate	Yes	Yes	Yes	Yes	Yes	Yes
/IH-1/IH-2	Advanced	Yes	Yes	Yes	Yes	No	No

Table 176. Fulfilment of the predictions on subject distributions with unaccusatives in indirect informational contexts							
		Study 1		Study 2		Study 3	
		L2 Spanish		L2 Spanish		L2 Greek	
		#SV	VS	#SV	VS	#SV	VS
Prediction 6	Intermediate	Yes	Yes	Yes	Yes	Yes	Yes
/IH-1/IH-2	Advanced	Yes	Yes	Yes	Yes	No	No

In general, the predictions of the IH-1 tend to be fulfilled more often (52/72 cases) than the predictions of the IH-2 (48/72), though their rates are not highly distinguishable in Spanish or Greek contexts with unergative/unaccusative verbs. In this case, the IH-1 fares better with intermediate (32/36) than advanced learners (20/36). Thus, the IH-1 shows a higher predictive power in the case of intermediate learners, while competence level does not affect the validity of the IH-2. Thus, to draw a general conclusion with regard to the IH predictions, the intermediate group encounters difficulties with both internal and external interfaces more often than the advanced group. Still, the IH-1 and the IH-2 are far from being borne out in all cases.

Failure to predict the performance of L2 learners is revealed in two directions. First, the IHs are too strong in their predictions about the performance of L2 learners in some contexts. In pragmatically marked contexts, in 10/48 cases the L2 learners perform better than expected, overcoming the putative problems caused by the external nature of pragmatics. This can be seen more sharply in the performance of the advanced group (8/24 cases), which does not always display the difficulties predicted by the IHs, than in the performance of the intermediate group (2/24 cases). Second, the IH-2 predicts that the L2 learners do not fail in contexts of internal interfaces. However, in my results the L2 learners fail in 14/24 cases, 10/12 for the intermediate learners and 4/12 for the advanced learners. In these cases, the IH-2 is too weak, as the L2 learners have more difficulties than predicted by the hypothesis in not complying with the grammatical constraints on the internal interfaces. In short, the IHs do not seem to have real predictive power.

8. General Discussion

In this section, I also explore the role of competence level, L1 transfer and, in line with both versions of the IH, the effect of pragmatics. The aim is to examine whether these factors determine the performance of the L2 learners of Spanish or Greek in relation to that of native speakers in the tasks making up the studies described here.

8.1. The effect of competence level

The first factor, competence level, involves the differentiation between the two L2 experimental groups, intermediate and advanced, with respect to the distribution of subjects in various contexts. The effect for competence level predicts that learners at lower levels have more difficulties in selecting the felicitous null/overt and preverbal/postverbal subjects, while learners at higher proficiency levels may present better command of subject types, possibly achieving native patterns of performance. In Table 177 for null/overt subjects, competence level has an effect on the differentiation between intermediate and advanced groups in three cases out of four in the multiple choice task in L2 Spanish (in Study 2) and in one case in the equivalent choice task in L2 Greek (in Study 3). In Study 2, the advanced group achieves native-like performance in two cases, while in one case they diverge from target attainment. In Study 3 this group performs native-like in the case examined. Thus, competence level plays a role, even though the advanced group does not always show full mastery of null/overt subjects.

Table 177. Effect of intermediate vs. advanced competence level on subject uses				
	Study 2		Study 3	
	L2 Spanish		L2 Greek	
	Multiple Choice 2		Multiple Choice 3	
	Null	Overt	Null	Overt
Non-contrastive	Yes*		No	
Unambiguous referential	No*		No*	
Referential shift	Yes		No	
Emphatic/contrastive	Yes		Yes	

Yes: intermediate vs. advanced differentiation, advanced: native attainment
 Yes*: intermediate vs. advanced differentiation, advanced: non-native attainment
 No: no level differentiation and no divergence from natives
 No*: no level differentiation but divergence from natives
 No**: no level progression, intermediate: native-like attainment, advanced: non-native-like

Table 178 for subject distribution with intransitive verbs shows that competence level has an impact on the performance of the intermediate and advanced groups in three cases out of six in the selection task of Study 2 for L2 Spanish and in two cases in the equivalent task for L2 Greek in Study 3. The advanced group diverges from target patterns in the three cases of Study 2, while they present native attainment in the two cases of Study 3. This group shows better command of the position of intransitive subjects than the intermediate group, independently of the target word order.

Table 178. Effect of intermediate vs. advanced competence level on subject positions with intransitives				
	Study 2		Study 3	
	L2 Spanish		L2 Greek	
	Selection 2		Selection 3	
	SV	VS	SV	VS
Neutral unergatives	Yes*		No	
Neutral unaccusatives	No*		Yes	
Direct information unergatives	No*		No	
Direct information unaccusatives	No*		No*	
Indirect information unergatives	Yes*		Yes	
Indirect information unaccusatives	Yes*		No*	

Yes: intermediate vs. advanced differentiation, advanced: native attainment
 Yes*: intermediate vs. advanced differentiation, advanced: non-native attainment
 No: no level differentiation and no divergence from natives
 No*: no level differentiation but divergence from natives
 No**: no level progression, intermediate: native-like attainment, advanced: non-native-like

In Table 179 for subject position with transitive verbs, it can be seen that competence level plays a role in four cases out of ten in the judgment task in L2 Spanish (in Study 2) and in two cases in the equivalent task in L2 Greek (in Study 3). In these cases for both L2s, the advanced group presents better performance than the intermediate group, approaching a native-like distribution of transitive subjects. Thus, the increase in competence level facilitates word order choices in the respective transitive conditions.

Table 179. Effect of intermediate vs. advanced competence level on subject positions with transitives				
	Study 2		Study 3	
	L2 Spanish		L2 Greek	
	Judgment 2		Judgment 3	
	SVO	VSO	SVO	VSO
Neutral transitives	Yes	No*	No	No*
Neutral adverbials	Yes	No*	No	No*
Contrastive adverbials	No	No*	Yes	Yes
	SVO	VOS	SVO	VOS
Non-default VOS	Yes	No*	No	No
	SVO	OVS	SVO	OVS
Non-default OVS	Yes	No**	No**	No**

Yes: intermediate vs. advanced differentiation, advanced: native attainment
 Yes*: intermediate vs. advanced differentiation, advanced: non-native attainment
 No: no level differentiation and no divergence from natives
 No*: no level differentiation but divergence from natives
 No**: no level progression, intermediate: native-like attainment, advanced: non-native-like

Overall, competence level seems to have an effect on the distribution of subjects in the responses of the experimental groups (15/40), but this is not systematic, as it is higher in the tasks of Study 2 for L2 Spanish (10/20), while it is lower in Study 3 for L2 Greek (5/20). The intermediate group diverges from native-like patterns, while the advanced group approaches target performance in some cases in Studies 2 (6/20) and 3 (5/20), but they do not attain native preferences in the other cases (4/20) in Study 2. However, the two L2 groups do not show improvement in the rest of contexts (25/40) (see Tables 177, 178, 179). In several other cases, the two groups approach native-like behaviour (in one case in Study 2 and in several cases (8/20) in Study 3), while they diverge from target attainment in other cases (8/20) in Study 2 and in fewer cases (5/20) in Study 3. Marginally, there are a few cases, in which the intermediate group surprisingly produces a more native-like distribution of subjects than the advanced group (in one case of Study 2 and in two cases of Study 3). In these contexts, the upper group does not achieve the expected rates of felicity – a pattern that is difficult to evaluate. In spite of this, competence level does play a limited role.

8.2. The effect of L1 transfer

A second factor to take into account is the role of the L1 in the judgments of L2 learners (see White, 2003; Gass and Selinker, 2008 regarding L1 negative or positive transfer). Here I discuss whether L1 transfer is responsible for the problematic behaviour of L2 learners in various contexts. In Table 180 for null/overt subjects, there is no evidence of L1 transfer in contexts of L2 Spanish where the L1 and L2 differ, while transfer may be postulated in cases of the multiple choice task (of Study 2) where the L1 and L2 are similar. In the latter contexts, the L1 is determinant in four cases for the intermediate group when it diverges from native-like attainment, but only in one case for the advanced group. In the equivalent choice task (of Study 3) for L2 Greek, the L1 may account for seven cases of native-like distribution, three for the intermediate group and four for the advanced group in L1-L2 similar contexts, while only in one case does the intermediate group show no positive transfer from the L1.

Table 180. Effect of the L1 transfer on subject uses

		Study 2		Study 3	
		L2 Spanish		L2 Greek	
		Multiple Choice 2		Multiple Choice 3	
		Null	Overt	Null	Overt
Non-contrastive	Intermediate	Yes**		Yes*	
	Advanced	Yes*		Yes*	
Unambiguous referential	Intermediate	Yes**		No*	
	Advanced	Yes**		Yes*	
Referential shift	Intermediate	Yes**		Yes*	
	Advanced	Yes*		Yes*	
Emphatic/contrastive	Intermediate	Yes**		Yes*	
	Advanced	Yes*		Yes*	

Yes: L1-L2 different value, divergence from native-like performance

Yes*: L1-L2 same value, but it coincides with L2 value resetting, native-like performance

Yes**: L1-L2 same value, L2 value resetting, but not native-like performance

No: no negative transfer from the L1, native-like performance

No*: no positive transfer from the L1, divergence from native-like performance

No**: no evaluate transfer

In Table 181 for subject position with intransitive verbs, L1 transfer could explain the behaviour of both experimental groups in eight cases out of twelve in the Spanish selection task, two cases for each group in L1-L2 different contexts and one case for the intermediate group and three for the advanced group in L1-L2 similar contexts, diverging from native-like attainment. Regarding positive transfer, it is not attested in two cases for the intermediate group. In the equivalent selection task for L2 Greek, the L1 probably explains four cases out of twelve, three (one for the intermediate group and two for the advanced group) for native-like behaviour and one (for the advanced group) for non-native-like patterns in L1-L2 similar contexts. The L1 does not play any role in four cases, two for no negative (one for each group) and two for no positive transfer (for the intermediate group).

Table 181. Effect of L1 transfer on subject positions with intransitives			
		Study 2	Study 3
		L2 Spanish	L2 Greek
		Selection 2	Selection 3
		SV VS	SV VS
Neutral unergatives	Intermediate	Yes**	Yes*
	Advanced	Yes**	Yes*
Neutral unaccusatives	Intermediate	No**	No**
	Advanced	No**	No**
Direct information unergatives	Intermediate	Yes	No
	Advanced	Yes	No
Direct information unaccusatives	Intermediate	Yes	No**
	Advanced	Yes	No**
Indirect information unergatives	Intermediate	No*	No*
	Advanced	Yes**	Yes*
Indirect information unaccusatives	Intermediate	No*	No*
	Advanced	Yes**	Yes**

Yes: L1-L2 different value, divergence from native-like performance

Yes*: L1-L2 same value, but it coincides with L2 value resetting, native-like performance

Yes**: L1-L2 same value, L2 value resetting, but not native-like performance

No: no negative transfer from the L1, native-like performance

No*: no positive transfer from the L1, divergence from native-like performance

No**: no evaluate transfer

In Table 182, L1 transfer explains the position of transitive subjects in fourteen cases out of twenty in L1-L2 similar contexts, nine cases (three for the intermediate group and six for the advanced group) for native-like attainment and five cases (four cases for the intermediate group and one case for the advanced group) for non-native performance in the judgment task (of Study 2) for L2 Spanish. In the rest of the contexts, the L1 does not play any role in six cases, four cases (two for each group) for no negative transfer and two cases (one for each group) for no positive transfer. In the equivalent judgment task for L2 Greek (in Study 3) the L1 may explain two cases (for the intermediate group) in L1-L2 different contexts and sixteen cases in L1-L2 similar contexts, eleven cases (six for the intermediate group and five for the advanced group) for native-like performance and five cases (two for the intermediate group and three for the advanced group) for non-native-like performance. In two cases, no negative transfer is attested for the advanced group.

Table 182. Effect of L1 transfer on subject positions with transitives

		Study 2		Study 3	
		L2 Spanish		L2 Greek	
		Judgment 2		Judgment 3	
		SVO	VSO	SVO	VSO
Neutral transitives	Intermediate	Yes*	Yes*	Yes*	Yes**
	Advanced	Yes*	Yes*	Yes*	Yes**
Neutral adverbials	Intermediate	Yes**	Yes**	Yes*	Yes**
	Advanced	Yes*	Yes**	Yes*	Yes*
Contrastive adverbials	Intermediate	No	No	Yes	Yes
	Advanced	No	No	No	No
Non-default VOS		SVO	VOS	SVO	VOS
	Intermediate	Yes**	No*	Yes*	Yes*
	Advanced	Yes*	No*	Yes*	Yes*
Non-default OVS		SVO	OVS	SVO	OVS
	Intermediate	Yes**	Yes*	Yes*	Yes*
	Advanced	Yes*	Yes*	Yes**	Yes**

Yes: L1-L2 different value, divergence from native-like performance

Yes*: L1-L2 same value, but it coincides with L2 value resetting, native-like performance

Yes**: L1-L2 same value, L2 value resetting, but not native-like performance

No: no negative transfer from the L1, native-like performance

No*: no positive transfer from the L1, divergence from native-like performance

No**: no evaluate transfer

Overall, L1 transfer could explain the performance of the L2 learners in very few L1-L2 different contexts (6/80). The behaviour of the intermediate (4/40) and advanced groups (2/40) is not due to the negative effect of the L1 on the L2 in the above conditions. On the other hand, the positive influence of the L1 is more easily detected in the responses of the L2 learners, but it is also related to the command of parameter resetting in L2. L1 positive transfer seems to play a higher role in cases in which the L2 learners achieve native-like performance (33/80), compared to the non-native-like patterns (20/80). The advanced group presents a higher rate (20/40) of target performance than the intermediate group (13/40) in L1-L2 similar contexts. On the other hand, the rates of the intermediate (11/40) and advanced groups (9/40) are closer in contexts in which they diverge from native-like performance. In all other contexts, the factor of negative (8/80) or positive transfer (7/80) is not at play, while in a few cases (6/80) the variation in the responses of native and non-native speakers does not allow for the evaluation of the L1 role. Therefore, L1 transfer is not generalizable to all cases, as it is less attested in L1-L2 different contexts, indicating that it is not the main factor to explain the selection of the non-target values in L2, while it plays a higher role in L1-L2 similar contexts.

8.3. The effect of pragmatics

The third and central factor in the thesis is the effect of pragmatics on the distribution of subjects. My aim here is to examine whether the interface with pragmatics helps or hinders the L2 learners when it comes to establishing the felicitous type of subject in a particular context. It is conceivable that pragmatics may facilitate the performance of learners, against the claims of the two versions of the IH, and then the predictions would be diametrically opposed to those of the IH-1 and the IH-2. Motivation for such a hypothesis would stem from the fact that pragmatically loaded expressions may be easier to identify in the process of communication, while purely formal features may go unnoticed by the L2 learner. In other words, if pragmatics were involved, the L2 learners would be predicted to perform better than when pragmatics is not involved in the phenomena examined. Otherwise, if the IH holds, pragmatics may cause problems at the interface levels, thus the L2 learners would be expected to perform better if only the internal (i.e. syntactic-semantic) domains of grammar are involved.

As shown in Table 183 for subject uses, pragmatics has a negative effect on the performance of the L2 learners in six cases out of eight, four cases for the intermediate group and two cases for the advanced group in the multiple choice task (of Study 2) for L2 Spanish. However, the latter group shows the positive effect of pragmatics in two cases of the structures examined. In the equivalent choice task (of Study 3) for L2 Greek, pragmatics has a more positive effect on the performance of the L2 learners in six cases out of eight, two cases for the intermediate group and four cases for the advanced group.

Table 183. Effect of pragmatics on subject uses at the interfaces

		Study 2		Study 3	
		L2 Spanish		L2 Greek	
		Multiple Choice 2		Multiple Choice 3	
		Null	Overt	Null	Overt
Non-contrastive	Intermediate	No		Yes	
	Advanced	No		Yes	
Unambiguous referential	Intermediate	No		No	
	Advanced	No		Yes	
Referential shift	Intermediate	No		Yes	
	Advanced	Yes		Yes	
Emphatic/ contrastive	Intermediate	No		No	
	Advanced	Yes		Yes	

Yes: positive effect of pragmatics, native-like performance

No: negative effect of pragmatics, non-native-like performance

No*: no pragmatics effect, but command of internal interfaces, native-like performance

No**: no pragmatics effect, incomplete command of internal interfaces, non-native-like performance

In Table 184, pragmatics could be argued to have had a negative effect on the distribution of subjects with intransitive verbs in eight cases out of twelve, four for each group in the selection task (of Study 2) for L2 Spanish. In the equivalent selection task (of Study 3) for L2 Greek, pragmatics could be argued to have had a positive effect on the performance of the L2 learners in five cases out of twelve, four cases for the advanced group and one case for the intermediate group. On the other hand, a negative effect of pragmatics is attested in three cases for the latter group, while pragmatics is not involved in the rest of the cases.

Table 184. Effect of pragmatics on subject positions with intransitives					
		Study 2		Study 3	
		L2 Spanish		L2 Greek	
		Selection 2		Selection 3	
		SV	VS	SV	VS
Neutral unergatives	Intermediate	No**		No*	
	Advanced	No**		No*	
Neutral unaccusatives	Intermediate	No**		No**	
	Advanced	No*		No*	
Direct information unergatives	Intermediate	No		Yes	
	Advanced	No		Yes	
Direct information unaccusatives	Intermediate	No		No	
	Advanced	No		Yes	
Indirect information unergatives	Intermediate	No		No	
	Advanced	No		Yes	
Indirect information unaccusatives	Intermediate	No		No	
	Advanced	No		Yes	

Yes: positive effect of pragmatics, native-like performance
 No: negative effect of pragmatics, non-native-like performance
 No*: no pragmatics effect, but command of internal interfaces, native-like performance
 No**: no pragmatics effect, incomplete command of internal interfaces, non-native-like performance

In Table 185 for transitive structures, pragmatics could be argued to have had a positive impact on the performance of the L2 learners in three cases out of twenty, one case for the intermediate group and two cases for the advanced group in the judgment task (of Study 2) for L2 Spanish. In the remaining contexts, pragmatics is not involved. In the equivalent task (of Study 3) for L2 Greek, pragmatics could be argued to have had a positive impact on the behaviour of the advanced group in two cases and a negative impact on the intermediate group in two cases, while in the other cases, pragmatics would have no effect.

Table 185. Effect of pragmatics on subject positions with transitives

		Study 2		Study 3	
		L2 Spanish		L2 Greek	
		Judgment 2		Judgment 3	
		SVO	VSO	SVO	VSO
Neutral transitives	Intermediate	No**	No**	No*	No**
	Advanced	No*	No**	No*	No**
Neutral adverbials	Intermediate	No**	No**	No*	No**
	Advanced	No*	No**	No*	No*
Contrastive adverbials	Intermediate	Yes	No	No	No
	Advanced	Yes	Yes	Yes	Yes
		SVO	VOS	SVO	VOS
Non-default VOS	Intermediate	No**	No**	No*	No*
	Advanced	No*	No**	No*	No*
		SVO	OVS	SVO	OVS
Non-default OVS	Intermediate	No**	No*	No*	No*
	Advanced	No*	No**	No**	No**

Yes: positive effect of pragmatics, native-like performance

No: negative effect of pragmatics, non-native-like performance

No*: no pragmatics effect, but command of internal interfaces, native-like performance

No**: no pragmatics effect, incomplete command of internal interfaces, non-native-like performance

The overall results show that the positive effect of pragmatics could be responsible for the better performance of the L2 learners in 18/80 contexts only. However, the two experimental groups do not present identical behaviour, and the advanced group (14/40) could be argued to display a higher rate of positive pragmatics effect than the intermediate group (4/40) in the specific cases. Still, the performance of the L2 learners is not always felicitous if pragmatics is involved. The interface with pragmatics does not help in the easier acquisition of subject uses in various positions. On the other hand, when pragmatics is not involved, the L2 learners present the same rates (20/80) of mastery of the grammatical properties of subjects in the respective conditions. However, the advanced group (12/40) shows a higher tendency to produce the target options than the intermediate group (8/40).

Overall, the presence of pragmatics seems to have more negative than positive effect on the structures examined. Still, the IH-1 and the IH-2 for pragmatics interface vulnerability do not always explain the performance of the L2 learners either. The

behaviour of the advanced learners also shows that problems at the syntax-pragmatics interface can be overcome at upper stages of proficiency (Rothman, 2009). However, the rates of the advanced group are not really high enough to conclude that they present homogeneous mastery of subject distribution in all cases, since they sometimes employ the infelicitous options in pragmatic contexts. In other words, the results of the analysis indicate that the absence or presence of pragmatics does not determine categorically the performance of L2 learners, so that grammatical phenomena are not easier or more difficult to acquire at the pragmatics interface. Therefore, the pragmatic import of a given structure does not help or hinder its L2 acquisition. In short, the results reported for the L2 learners are independent of the pragmatics interface, so neither version of the IH, nor a hypothesis arguing for a facilitating role of pragmatics are tenable in the contexts examined.

8.4. Conclusions

In this thesis, I have examined the influence of competence level, L1 transfer and pragmatics in the performance of the L2 learners of Spanish and Greek. The results of the analysis show that competence level and L1 transfer may play a role in the preferences of learners regarding the distribution of subjects, but their influence does not seem to be systematic in all contexts examined. This implies that competence level does not always explain the more or less native-like behaviour of the intermediate and advanced learners, since there is no progression between the levels in all cases, even though they sometimes achieve the performance rates of native speakers. L1 transfer may also play a role in the performance of the L2 learners, but is more likely to occur in L1-L2 similar contexts in which the L2 learners approach native-like patterns. Finally, the effect of pragmatics is not decisive, as it does not facilitate or hinder the selection of the felicitous options in all L2 contexts, so that neither the IH-1 and the IH-2 nor a diametrically opposed hypothesis that pragmatics facilitates acquisition are consistent with the results reported. Importantly, the IH-1 and the IH-2 are not fulfilled for the language combination examined here, Greek/Spanish.

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APPENDICES

APPENDIX 1: Study 1 on L2 Spanish

Experiment 1

Marca con la puntuación más alta (2) la oración que expresa con mayor claridad y precisión su relación con el contexto en el que aparece y con la puntuación más baja (-2) la oración que no expresa su relación con tanta claridad o precisión. Marca la opción (1) en los casos en los que las oraciones no te parezcan completamente precisas o la opción (-1) si las consideras menos precisas en función del contexto. Si no estás seguro, marca la opción 0.

Ejemplo:

(0) Tus amigos escuchan por la radio que _____

- (a) un joven ha atracado a un taxista y le ha obligado a entregarle todo el dinero. -2 -1 0 1 2
- (b) ha atracado a un taxista y le ha obligado a entregarle todo el dinero. -2 -1 0 1 2

(1) Mientras Pedro está hablando con una compañera, el jefe sale de la habitación. Pedro no se ha dado cuenta, así que te pregunta. ¿Quién ha salido? Tú contestas:

- _____
- (a) El jefe ha salido. -2 -1 0 1 2
- (b) Ha salido el jefe. -2 -1 0 1 2

(2) ¿Cuántas horas de clase tienes al día?

- (a) Tiene tres horas de español. -2 -1 0 1 2
- (b) Tengo tres horas de español. -2 -1 0 1 2

(3) Tu amiga María y tú estáis en un restaurante. Tú miras por la ventana y ves a un niño gritando en la calle. Y María te pregunta: ¿Qué pasa? Tú contestas: _____

- (a) Un niño está gritando. -2 -1 0 1 2
- (b) Está gritando un niño. -2 -1 0 1 2

(4) La profesora Cruz tiene una gran casa en Cancún y otra en las Islas Baleares, por eso _____

(a) los estudiantes dicen que es muy rica. -2 -1 0 1 2

(b) los estudiantes dicen que ella es muy rica. -2 -1 0 1 2

(5) Estás en tu despacho con tu compañera Sofía. Sofía no tiene ganas de trabajar y por eso canta. El jefe entra en tu despacho y te pregunta: ¿Quién canta? Y tú le contestas: _____

(a) Canta Sofía. -2 -1 0 1 2

(b) Sofía canta. -2 -1 0 1 2

(6) Estás con tu compañero José en la biblioteca. De repente, entran dos compañeros muy asustados porque han visto un accidente en la calle. Les preguntáis: ¿Qué ha pasado? Y responden: _____

(a) Una señora ha muerto en la calle. -2 -1 0 1 2

(b) Ha muerto una señora en la calle. -2 -1 0 1 2

(7) Por más dieta que hagas, _____

(a) si no dejas de beber alcohol, no podrás bajar rápidamente de peso.

-2 -1 0 1 2

(b) si tú no dejas de beber alcohol, no podrás bajar rápidamente de peso.

-2 -1 0 1 2

(8) Manolo y Ana trabajan en una empresa multinacional.

(a) El jefe dice que él no habla muy bien inglés. -2 -1 0 1 2

(b) El jefe dice que no habla muy bien inglés. -2 -1 0 1 2

(9) Estás en la universidad. El profesor se ha enterado de que alguien se ha caído pero no sabe quién. Entonces te pregunta: ¿Quién se ha caído? Y tú le contestas: _____

(a) Juan se ha caído. -2 -1 0 1 2

(b) Se ha caído Juan. -2 -1 0 1 2

(10) Vas al cine a ver una película. Durante la película un chico empieza a llorar. Al salir del cine, te encuentras con tu amiga Marta que te pregunta: ¿Quién estaba llorando? Respondes: _____

(a) Un chico estaba llorando. -2 -1 0 1 2

(b) Estaba llorando un chico. -2 -1 0 1 2

(11) Los estudiantes Josefa y Pedro siempre aprueban los exámenes. No obstante,

(a) los profesores creen que ella no estudia mucho. -2 -1 0 1 2

(b) los profesores creen que no estudia mucho. -2 -1 0 1 2

(12) Estás en un hotel hablando con el jefe. De repente, viene el recepcionista y el jefe le pregunta: ¿Hay alguna novedad? Y él contesta: _____

(a) Han llegado los turistas de Alemania. -2 -1 0 1 2

(b) Los turistas de Alemania han llegado. -2 -1 0 1 2

(13) El escritor Breton es el mejor del mundo pero también la poeta García es muy buena.

(a) Todo el mundo cree que él ganará el premio Nobel. -2 -1 0 1 2

(b) Todo el mundo cree que ganará el premio Nobel. -2 -1 0 1 2

(14) María no tiene ganas de ir a la peluquería _____

(a) porque es cansada. -2 -1 0 1 2

(b) porque está cansada. -2 -1 0 1 2

(15) Anoche estuviste en una fiesta y te sorprendiste al ver a un profesor bailando sin parar. Hoy tu amiga Mercedes te pregunta: ¿Qué ocurrió en la fiesta? Tú dices: _____

(a) Un profesor estuvo bailando toda la noche. -2 -1 0 1 2

(b) Estuvo bailando un profesor toda la noche. -2 -1 0 1 2

(16) Opinabas que _____

(a) tú nunca llegarías a hacer cosas muy drásticas para cambiar tu apariencia física.

-2 -1 0 1 2

(b) nunca llegarías a hacer cosas muy drásticas para cambiar tu apariencia física.

-2 -1 0 1 2

(17) Ayer, mientras estabas en el banco, viste a un ladrón. Hoy tu amiga Juana te pregunta: ¿Qué sucedió en el banco? Y tú contestas: _____

(a) Entró un ladrón. -2 -1 0 1 2

(b) Un ladrón entró. -2 -1 0 1 2

(18) ¿Cuántos idiomas hablas?

(a) Hablo tres: inglés, alemán y español. -2 -1 0 1 2

(b) Habla tres: inglés, alemán y español. -2 -1 0 1 2

- (19) Aunque María y Juan cobran mucho dinero, _____
- (a) todo el mundo cree que es infeliz. -2 -1 0 1 2
- (b) todo el mundo cree que ella es infeliz. -2 -1 0 1 2
- (20) Cuando el profesor Manuel López imparte clases de matemáticas, _____
- (a) sus alumnos no entienden ni la mitad de las cosas que él dice. -2 -1 0 1 2
- (b) sus alumnos no entienden ni la mitad de las cosas que dice. -2 -1 0 1 2
- (21) Aunque Pedro y Sofía han sido acusados de haber robado todas las joyas de una joyería, _____
- (a) el propietario de la joyería dice que él es inocente. -2 -1 0 1 2
- (b) el propietario de la joyería dice que es inocente. -2 -1 0 1 2
- (22) Un grupo de turistas está en Barcelona. La primera noche muchos turistas no han podido dormir porque había mucho ruido en el hotel. Por la mañana el jefe del hotel les pregunta. ¿Quién ha dormido esta noche? Ellos responden: _____
- (a) Han dormido pocas personas. -2 -1 0 1 2
- (b) Pocas personas han dormido. -2 -1 0 1 2
- (23) Ahora apenas tengo tiempo para dar un paseo por el parque.
- (a) Antes tenía más tiempo para dar un paseo por el parque. -2 -1 0 1 2
- (b) Antes he tenido más tiempo para dar un paseo por el parque. -2 -1 0 1 2
- (24) Estás en una clase de física. Todo el mundo está callado mientras el profesor explica la lección, pero un chico se ríe. El profesor no ve quién se ríe, así que te pregunta: ¿Quién se ríe? Tú respondes: _____
- (a) Un chico se ríe. -2 -1 0 1 2
- (b) Se ríe un chico. -2 -1 0 1 2
- (25) Hablas por teléfono con tu amiga Marta y te dice que tiene que ir a un funeral. Y tú le preguntas: ¿Quién ha muerto? Y ella te responde: _____
- (a) Ha muerto mi abuelo Miguel. -2 -1 0 1 2
- (b) Mi abuelo Miguel ha muerto. -2 -1 0 1 2
- (26) Ayer, cuando salí del trabajo, _____
- (a) volví a casa para cenar con mis padres. -2 -1 0 1 2
- (b) yo volví a casa para cenar con mis padres. -2 -1 0 1 2

(27) Tu amiga María y tú estáis en un restaurante. Tú miras por la ventana y ves a un niño gritando en la calle. Y María te pregunta: ¿Qué pasa? Tú contestas: _____

(a) Un niño está gritando. -2 -1 0 1 2

(b) Está gritando un niño. -2 -1 0 1 2

(28) Cuando el profesor devuelve una tarea escrita, _____

(a) analizas bien lo que te ha corregido y luego escribes otras tareas. -2 -1 0 1 2

(b) tú analizas bien lo que te ha corregido y luego escribes otras tareas. -2 -1 0 1 2

(29) Carlos está en el hospital y los médicos les dicen a sus padres que _____

(a) él tiene fiebre. -2 -1 0 1 2

(b) tiene fiebre. -2 -1 0 1 2

(30) María sale de la librería un momento y al minuto aparece una chica a la que no conoces. Cuando regresa María, te pregunta: ¿Quién ha venido? Tú respondes: _____

(a) Una chica ha venido. -2 -1 0 1 2

(b) Ha venido una chica. -2 -1 0 1 2

(31) Marta está trabajando en una empresa y sus compañeros dicen que _____

(a) ella ha conocido a muchos clientes. -2 -1 0 1 2

(b) ha conocido a muchos clientes. -2 -1 0 1 2

(32) Juan está estudiando para las oposiciones y sus amigos no creen que _____

(a) tenga tiempo para tomar un café con ellos. -2 -1 0 1 2

(b) él tenga tiempo para tomar un café con ellos. -2 -1 0 1 2

(33) Estás en casa y escuchas las voces de la gente que está en la calle. Luego, tu madre vuelve de su trabajo y le preguntas: ¿Qué sucede? Y ella responde: _____

(a) Mucha gente camina por la calle. -2 -1 0 1 2

(b) Camina mucha gente por la calle. -2 -1 0 1 2

(34) Cuando _____

(a) yo esté libre, haré un viaje a la India, aunque eso sea muy difícil porque yo estoy mal de dinero. -2 -1 0 1 2

(b) esté libre, haré un viaje a la India, aunque eso sea muy difícil porque estoy mal de dinero. -2 -1 0 1 2

(35) Tu amigo Juan sale de la cafetería y en ese preciso momento llega la policía. Cuando vuelve Juan, te pregunta: ¿Qué ha pasado? Tú contestas: _____

(a) Ha venido la policía. -2 -1 0 1 2

(b) La policía ha venido. -2 -1 0 1 2

- (36) Cuando _____
- (a) yo asisto a la clase de español, consulto el diccionario y escribo las palabras desconocidas. -2 -1 0 1 2
- (b) asisto a la clase de español, consulto el diccionario y escribo las palabras desconocidas. -2 -1 0 1 2
- (37) Tu marido y tú estáis en el campo de tenis. Después de un rato, acaba el primer set y los jugadores están cansados. Tu marido no se ha dado cuenta y te pregunta: ¿Qué ha pasado? Y tú le contestas: _____
- (a) Los jugadores han sudado mucho. -2 -1 0 1 2
- (b) Han sudado mucho los jugadores. -2 -1 0 1 2
- (38) Trabajas en una prisión y un día llegas muy nervioso a casa. Al verte tu madre te pregunta: ¿Qué ha sucedido? Tú respondes: _____
- (a) Un prisionero se ha escapado. -2 -1 0 1 2
- (b) Se ha escapado un prisionero. -2 -1 0 1 2
- (39) Estás en la terraza de un hotel con tus amigas, cuando te das cuenta de que un profesor tuyo está nadando en la piscina. Luego viene tu hermano y te pregunta: ¿Quién está nadando en la piscina? Y tú le dices: _____
- (a) Un profesor mío está nadando. -2 -1 0 1 2
- (b) Está nadando un profesor mío. -2 -1 0 1 2
- (40) Tu amigo Manolo está hablando con el director de la empresa, cuando una secretaria sale de la habitación y luego vuelve. Manolo no se ha dado cuenta de lo que ha pasado, así que te pregunta: ¿Quién ha vuelto? Y tú le dices: _____
- (a) Ha vuelto una chica. -2 -1 0 1 2
- (b) Una chica ha vuelto. -2 -1 0 1 2
- (41) Normalmente, Juana va a la universidad por las mañanas.
- (a) Hoy está en casa porque está resfriada. -2 -1 0 1 2
- (b) Hoy es en casa porque está resfriada. -2 -1 0 1 2

Experiment 2

Pon las palabras en el orden adecuado según el contexto.

Ejemplo:

(0) Mi madre me dijo que ____ (a) ____ (b) ____ muy buena.

(a) la película (b) era

(1) Tu hermano y tú dais un paseo por el parque. De repente tu hermano se da cuenta de que _____.

(a) un niño (b) está llorando

(2) Estás mirando un partido de fútbol y te enteras de que _____
_____ velozmente.

(a) están corriendo (b) los jugadores

(3) Estás en la universidad y te das cuenta de que _____ con el
Ministro de Educación.

(a) el Rector (b) está hablando

(4) Tu sobrina pregunta quién ha cantado en el concierto de música y le respondes que
_____.

(a) ha cantado (b) Shakira

(5) Estás en el departamento policial y te das cuenta de que _____.

(a) un prisionero (b) se ha escapado

(6) Estás en casa con tu madre, cuando te enteras de que _____ esta
tarde.

(a) no ha dormido (b) tu abuelo

(7) Mi jefe me pidió que _____.

(a) un fax (b) enviara

(8) Estás en un restaurante con tu amigo Carlos y te das cuenta de que que _____
_____.

(a) está gritando (b) un niño

(9) Juan pregunta quién trabaja con Luis y Pedro le responde que _____
_____.

(a) trabaja (b) María

(10) Estás en el banco y te enteras de que _____.

(a) ha entrado (b) un ladrón

(11) Estás en clase de física con tu amiga Carmen y te enteras de que _____
_____.

(a) un nuevo profesor (b) ha venido

(12) Juan pregunta quién ha dormido esa noche en su cama y Marta le responde que _____.

(a) ha dormido (b) una colega suya

(13) Estás en el estadio con tus compañeros y te das cuenta de que _____.

(a) el partido de tenis (b) ha empezado

(14) Si tuviéramos tiempo, iríamos _____.

(a) la última película de Almodóvar (b) a ver

(15) Estás en una fiesta con tus compañeros y preguntas quién está bailando y tu amigo Jorge te contesta que _____.

(a) un profesor suyo (b) está bailando

(16) Estás hablando por teléfono con tu marido, cuando te das cuenta de que _____.

(a) tu madre (b) ha llegado

(17) Aunque sea muy tarde, _____.

(a) acostarme (b) no deseo

(18) Estás en el patio de la escuela y preguntas quién está jugando al vóleybol y tu compañero te contesta que _____.

(a) están jugando (b) Pedro y Manolo

(19) Me extraña mucho que _____.

(a) nunca la televisión (b) no mires

(20) Estás en el aula de informática y preguntas quién ha entrado en la sala y tu amiga Olga te contesta que _____.

(a) ha entrado (b) la profesora de traducción automática

(21) Nos presentaremos a este concurso público a pesar de que _____.

(a) son muy pocas (b) las plazas

(22) Entrás en tu despacho y preguntas quién ha pasado por ahí y tu compañera te responde que _____.

(a) han pasado (b) muchos estudiantes

(23) Te encuentras con tu amigo Jorge en el aeropuerto. Le preguntas quién ha llegado y él te responde que _____ .

(a) han llegado (b) sus abuelos

(24) Entra el profesor de matemáticas en clase y les pregunta a los estudiantes quién falta y ellos le contestan que _____ .

(a) falta (b) José

(25) Estás en el salón y preguntas quién ha venido y tu hermana te responde que _____ .

(a) una amiga suya (b) ha venido

APPENDIX 2: Study 2 on L2 Spanish

Experiment 1

Rellena los huecos marcando la respuesta adecuada. Si crees que no hay que añadir nada, opta por la opción Ø.

Ejemplo:

(0) Pedro está liado y ____ (a) ____ nos comunican que no irá a la fiesta de la universidad.

(a) sus amigos (b) Ø

(1) Juan y yo vamos al cine porque _____ queremos ver una película.

(a) Ø (b) nosotros

(2) Hoy he trabajado mucho, por eso ____ cansado.

(a) estoy (b) soy

(3) Mis padres visitan el pueblo, cuando _____ tienen tiempo libre.

(a) ellos (b) Ø

(4) Aunque Miguel y Juana pagaron las facturas, la directora del banco comentó que _____ se olvidó de consultar el estado de su cuenta.

(a) él (b) Ø

(5) Estás en la agencia de viajes con tu amiga Carmen.

_____ realiza una reserva de un billete, tú no.

(a) Ella (b) Ø

(6) Por la mañana, Felipe va a la oficina y por la tarde ____ vuelve a casa para almorzar con su familia.

(a) Ø (b) él

(7) Mis sobrinas no me han llamado porque ____ deben escribir su trabajo de investigación.

(a) Ø (b) ellas

(8) Los fines de semana _____ doy un paseo por el parque de la ciudad.

(a) Ø (b) yo

(9) Después de cenar, ____ suelo escuchar música y leer el periódico.

(a) yo (b) Ø

(10) Pese a que María y Jorge fueron a la universidad, el profesor se enteró de que ____ no asistió a la clase de filosofía.

- (a) ella (b) Ø

(11) Ángela quiere publicar un libro y los editores nos explican que ____ precisa completar un manuscrito de su obra.

- (a) Ø (b) ella

(12) Manolo y Josefa trabajan en la misma empresa. No obstante, los empleados dicen que ____ cobra más dinero.

- (a) Ø (b) él

(13) Tú sales para comer con tus amigos, en cambio _____ me quedo en casa.

- (a) yo (b) Ø

(14) Mi tía se operó y los médicos nos comunicaron que ____ se sentiría mejor después de tomar un calmante.

- (a) ella (b) Ø

(15) Aunque Anna y Juan llegaron tarde a la fiesta, sus compañeros afirmaron que ____ se encontró con la niña extranjera.

- (a) ella (b) Ø

(16) El presidente del gobierno tiene una reunión y las secretarias nos cuentan que _____ aprobará los reglamentos generales de las instituciones educativas.

- (a) Ø (b) él

(17) _____ fuimos a ver una función teatral.

- (a) Mañana (b) Ayer

(18) Estás en la cafetería con tu amiga Mercedes.

Tú pides un zumo de naranja mientras que _____ toma un café con leche.

- (a) Ø (b) ella

(19) Tú te levantas muy tarde, pero _____ me despierto temprano.

- (a) yo (b) Ø

(20) Cuando _____ trabajas mucho, precisas un descanso.

- (a) tú (b) Ø

(21) Por la mañana, mi madre y yo vamos al supermercado porque _____ tenemos que hacer las compras.

- (a) nosotras (b) Ø

(22) A pesar de que Sofia y Ángel no son pobres, su padre dice que ____ no puede sufragar los gastos del alquiler.

- (a) Ø (b) ella

(23) Primero, Rosa prepara la comida y luego _____ hace los deberes del colegio.

- (a) Ø (b) ella

(24) Aunque mi colega y su marido salieron juntos, su jefe nos comunicó que _____ volvió a la oficina para asistir a la reunión.

- (a) ella (b) Ø

(25) Esteban y Núria fueron al cine. No obstante, sus amigos contaron que ____ no vio la película inglesa.

- (a) Ø (b) él

(26) Estás en el estadio con tu compañero Juan.

Tú juegas al fútbol pero _____ no hace deporte.

- (a) Ø (b) él

(27) Cuando _____ sales de viaje, llevas contigo tu ordenador portátil.

- (a) tú (b) Ø

(28) Estás en el restaurante con tu colega Miguel.

_____ prefiere comer una sopa de pasta, tú no.

- (a) Él (b) Ø

(29) Tu marido y tú venís a España, ya que _____ debéis ver a vuestros padres.

- (a) vosotros (b) Ø

(30) A pesar de que José y Marta estudiaron matemáticas, su directora nos dijo que _____ hizo su tesis en la facultad de química.

- (a) Ø (b) él

(31) _____ la mañana, me levanto a las nueve.

- (a) Para (b) Por

(32) María y tú vais al banco porque _____ tenéis que pagar la factura.

- (a) Ø (b) vosotras

(33) _____ he preparado la comida, no mi hermana.

- (a) Yo (b) Ø

(34) Cuando _____ estás en la universidad, no me llamas por teléfono.

- (a) Ø (b) tú

(35) Aunque Olga y su compañero entraron en la misma tienda, el dependiente se dio cuenta de que ____ no compró nada.

- (a) Ø (b) ella

(36) Asunción sale por la noche y _____ toma copas con las amigas.

- (a) Ø (b) ella

(37) Victoria y Paz van a la clase de física y su tutor nos cuenta que _____ defenderán un proyecto experimental sobre los átomos elementales.

- (a) ellas (b) Ø

(38) Juan y Francisco trabajan en un banco y su jefa dice que ____ gestionan los ingresos de entidades financieras.

- (a) Ø (b) ellos

(39) María vive en la ciudad, mientras que _____ estás en el pueblo.

- (a) Ø (b) tú

(40) ____ ordenador se estropeó.

- (a) El (b) La

(41) Cuando _____ vuelvo del despacho, no tengo ganas de hacer nada.

- (a) yo (b) Ø

(42) Mañana ____ un documental en el instituto de lenguas.

- (a) proyectaban (b) proyectarán

(43) Carlos y su amiga fueron a la cafetería. No obstante, los camareros comentaron que ____ no bebió nada.

- (a) Ø (b) él

(44) ____ has pagado la factura, no tu esposa.

- (a) Ø (b) Tú

(45) Pedro estudia en la universidad, en cambio _____ trabajas en una empresa.

- (a) tú (b) Ø

Experiment 2

Marca con la puntuación más alta (2) la oración que te parece totalmente aceptable en relación con el contexto y con la puntuación más baja (-2) la oración que te parece totalmente inaceptable. Si no estás completamente seguro, marca la opción (1) en los casos en los que las oraciones te suenan más aceptables o la opción (-1) si las consideras menos aceptables en función del contexto. En el caso que no sabes la respuesta más adecuada, opta por la opción 0.

Ejemplo:

- (0) Cuando volvió a casa, _____
- (a) Anna se enteró de que había perdido el bolsillo. -2 -1 0 1 2
- (b) se enteró de que había perdido el bolsillo Anna. -2 -1 0 1 2
- (1) Estoy en la agencia de viajes porque _____
- (a) mis compañeras buscan ofertas de billetes baratos. -2 -1 0 1 2
- (b) buscan mis compañeras ofertas de billetes baratos. -2 -1 0 1 2
- (2) Mi padre me comunicó que _____
- (a) la cocinera preparaba la comida. -2 -1 0 1 2
- (b) la comida preparaba la cocinera. -2 -1 0 1 2
- (3) El jefe volvió al despacho, cuando _____
- (a) la secretaria escribía una carta. -2 -1 0 1 2
- (b) escribía la secretaria una carta. -2 -1 0 1 2
- (4) Me han dicho que Shakira _____
- (a) es de Colombia. -2 -1 0 1 2
- (b) está de Colombia. -2 -1 0 1 2
- (5) Mi hermana me explicó que _____
- (a) la noticia oyó la vecina. -2 -1 0 1 2
- (b) la vecina oyó la noticia. -2 -1 0 1 2
- (6) En mi país _____, y no en otro.
- (a) los estudiantes aprueban los exámenes de lenguas extranjeras -2 -1 0 1 2
- (b) aprueban los estudiantes los exámenes de lenguas extranjeras -2 -1 0 1 2

- (7) Estoy en la galería porque _____
- (a) presenta el artista su primer retrato. -2 -1 0 1 2
- (b) el artista presenta su primer retrato. -2 -1 0 1 2
- (8) El director comentó que _____
- (a) pagó la factura la clienta. -2 -1 0 1 2
- (b) la clienta pagó la factura. -2 -1 0 1 2
- (9) En esta panadería _____, y no en otra.
- (a) el propietario vende pan de chocolate -2 -1 0 1 2
- (b) vende el propietario pan de chocolate -2 -1 0 1 2
- (10) Durante las inscripciones de la universidad _____
- (a) mandan los secretarios mensajes informativos. -2 -1 0 1 2
- (b) los secretarios mandan mensajes informativos. -2 -1 0 1 2
- (11) El editor anunció que _____
- (a) publicó la biografía la autora. -2 -1 0 1 2
- (b) la autora publicó la biografía. -2 -1 0 1 2
- (12) Mañana no tendré tiempo libre ya que _____
- (a) irán a la oficina de empleo. -2 -1 0 1 2
- (b) iré a la oficina de empleo. -2 -1 0 1 2
- (13) En la exposición _____
- (a) la pintora mostró su colección. -2 -1 0 1 2
- (b) mostró la pintora su colección. -2 -1 0 1 2
- (14) La profesora afirmó que _____
- (a) la estudiante había escrito la tesis. -2 -1 0 1 2
- (b) había escrito la tesis la estudiante. -2 -1 0 1 2
- (15) Ayer no te pude llamar porque _____
- (a) asistí a una conferencia. -2 -1 0 1 2
- (b) asistiré a una conferencia. -2 -1 0 1 2
- (16) En las empresas multinacionales _____
- (a) los traductores usan diccionarios bilingües. -2 -1 0 1 2
- (b) usan los traductores diccionarios bilingües. -2 -1 0 1 2
- (17) Mi marido me dijo que _____
- (a) el terremoto había previsto el experto. -2 -1 0 1 2
- (b) el experto había previsto el terremoto. -2 -1 0 1 2

- (18) Mi jefe me comunicó que _____
- (a) imprimió el diario el periodista. -2 -1 0 1 2
- (b) el periodista imprimió el diario. -2 -1 0 1 2
- (19) En las discotecas _____
- (a) escuchan las parejas canciones latinas. -2 -1 0 1 2
- (b) las parejas escuchan canciones latinas. -2 -1 0 1 2
- (20) El profesor está liado dado que _____
- (a) su doctorando defiende el trabajo de investigación. -2 -1 0 1 2
- (b) defiende su doctorando el trabajo de investigación. -2 -1 0 1 2
- (21) Los invitados se enteraron de que _____
- (a) la novia canceló la boda. -2 -1 0 1 2
- (b) canceló la boda la novia. -2 -1 0 1 2
- (22) Mis amigos me comentaron que _____
- (a) el museo inauguró el alcalde. -2 -1 0 1 2
- (b) el alcalde inauguró el museo. -2 -1 0 1 2
- (23) Los periódicos publicaron que _____
- (a) dio el concierto el cantante. -2 -1 0 1 2
- (b) el cantante dio el concierto. -2 -1 0 1 2
- (24) En la fiesta _____, y no en la escuela.
- (a) Marta bebió tequila -2 -1 0 1 2
- (b) bebió Marta tequila -2 -1 0 1 2
- (25) Mi hermano me dijo que _____
- (a) la empleada envió la convocatoria. -2 -1 0 1 2
- (b) envió la convocatoria la empleada. -2 -1 0 1 2
- (26) Al final del mes _____
- (a) los jefes pagan los sueldos. -2 -1 0 1 2
- (b) pagan los jefes los sueldos. -2 -1 0 1 2
- (27) Mis amigas mencionaron que _____
- (a) el artículo escribió el profesor. -2 -1 0 1 2
- (b) el profesor escribió el artículo. -2 -1 0 1 2
- (28) La enfermera nos dijo que _____
- (a) el medicamento buscaba el paciente. -2 -1 0 1 2
- (b) el paciente buscaba el medicamento. -2 -1 0 1 2

- (29) Estábamos en la cafetería, cuando _____
- (a) mi amigo pidió un zumo de naranja. -2 -1 0 1 2
- (b) pidió mi amigo un zumo de naranja. -2 -1 0 1 2
- (30) En las empresas multinacionales _____, y no en las compañías pequeñas.
- (a) los traductores usan diccionarios bilingües -2 -1 0 1 2
- (b) usan los traductores diccionarios bilingües -2 -1 0 1 2
- (31) Mi cuñado necesita un descanso por eso _____
- (a) está de vacaciones. -2 -1 0 1 2
- (b) es de vacaciones. -2 -1 0 1 2
- (32) Durante las inscripciones de la universidad _____, y no al final de los estudios.
- (a) mandan los secretarios mensajes informativos -2 -1 0 1 2
- (b) los secretarios mandan mensajes informativos -2 -1 0 1 2
- (33) Estás en el supermercado, cuando _____
- (a) roba un ladrón el dinero de la caja. -2 -1 0 1 2
- (b) un ladrón roba el dinero de la caja. -2 -1 0 1 2
- (34) En esta panadería _____
- (a) el propietario vende pan de chocolate. -2 -1 0 1 2
- (b) vende el propietario pan de chocolate. -2 -1 0 1 2
- (35) El jefe observó que _____
- (a) los empleados habían clasificado los archivos. -2 -1 0 1 2
- (b) los archivos habían clasificado los empleados. -2 -1 0 1 2
- (36) A la hora de la pausa _____, y no durante la clase.
- (a) comen las niñas patatas bravas -2 -1 0 1 2
- (b) las niñas comen patatas bravas -2 -1 0 1 2
- (37) En esta editorial _____
- (a) publicó Pedro su primer libro. -2 -1 0 1 2
- (b) Pedro publicó su primer libro. -2 -1 0 1 2
- (38) El cajero del banco se enteró de que _____
- (a) liquidó el dinero el primer ministro. -2 -1 0 1 2
- (b) el primer ministro liquidó el dinero. -2 -1 0 1 2

- (39) La directora afirmó que _____
- (a) la comisión aprobó la propuesta. -2 -1 0 1 2
- (b) la propuesta aprobó la comisión. -2 -1 0 1 2
- (40) Mi padre está nervioso porque _____
- (a) espera su hermana una noticia importante. -2 -1 0 1 2
- (b) su hermana espera una noticia importante. -2 -1 0 1 2
- (41) En la fiesta de su cumpleaños _____
- (a) Marta bebió tequila. -2 -1 0 1 2
- (b) bebió Marta tequila. -2 -1 0 1 2
- (42) Mis compañeras mencionaron que _____
- (a) la profesora organizó la charla. -2 -1 0 1 2
- (b) organizó la charla la profesora. -2 -1 0 1 2
- (43) En la exposición _____, y no en el museo.
- (a) mostró la pintora su colección -2 -1 0 1 2
- (b) la pintora mostró su colección -2 -1 0 1 2
- (44) Los periódicos anunciaron que _____
- (a) los juegos olímpicos organizaron los deportistas. -2 -1 0 1 2
- (b) los deportistas organizaron los juegos olímpicos. -2 -1 0 1 2
- (45) El jefe se dio cuenta de que _____
- (a) la normativa mandó la coordinadora. -2 -1 0 1 2
- (b) la coordinadora mandó la normativa. -2 -1 0 1 2
- (46) En mi país _____
- (a) los estudiantes aprueban los exámenes de lenguas extranjeras. -2 -1 0 1 2
- (b) aprueban los estudiantes los exámenes de lenguas extranjeras. -2 -1 0 1 2
- (47) En las discotecas _____, y no en las cafeterías.
- (a) escuchan las parejas canciones latinas -2 -1 0 1 2
- (b) las parejas escuchan canciones latinas -2 -1 0 1 2
- (48) Mi tía habla muy bien francés así que _____
- (a) trabaja en la embajada de Japón. -2 -1 0 1 2
- (b) trabaja en la embajada de Francia. -2 -1 0 1 2
- (49) Estaba lloviendo, cuando _____
- (a) ensució María su ropa. -2 -1 0 1 2
- (b) María ensució su ropa. -2 -1 0 1 2

- (50) En esta editorial _____, y no en otra.
- (a) Pedro publicó su primer libro -2 -1 0 1 2
- (b) publicó Pedro su primer libro -2 -1 0 1 2
- (51) Mi madre está triste porque _____
- (a) estropeó mi hermano su ordenador. -2 -1 0 1 2
- (b) mi hermano estropeó su ordenador. -2 -1 0 1 2
- (52) A la hora de la pausa _____
- (a) las niñas comen patatas bravas. -2 -1 0 1 2
- (b) comen las niñas patatas bravas. -2 -1 0 1 2
- (53) Al final del mes _____, y no los primeros días de trabajo.
- (a) los jefes pagan los sueldos -2 -1 0 1 2
- (b) pagan los jefes los sueldos -2 -1 0 1 2
- (54) El profesor señaló que _____
- (a) concedió la beca la rectora. -2 -1 0 1 2
- (b) la rectora concedió la beca. -2 -1 0 1 2
- (55) Mi hijo estaba muy emocionado porque _____
- (a) su novia recibió una carta de sus padres. -2 -1 0 1 2
- (b) recibió su novia una carta de sus padres. -2 -1 0 1 2

Experiment 3

Pon las palabras en el orden adecuado según el contexto.

Ejemplo:

(0) Mi compañera me dijo que ____ **(a)** ____ ____ **(b)** ____ muy caros.

(a) los billetes de avión (b) eran

(1) Cuando _____, ve a ancianos que cruzan la calle.

(a) Juan (b) camina

(2) Jorge pregunta quién trabaja en esta empresa y su colega le responde que _____.

(a) un señor holandés (b) trabaja

(3) ¿Te enteraste de que _____, cuando les atropelló un coche?

(a) se cayeron (b) unos pasajeros

(4) Mi amigo me preguntó quién había engordado y le contesté que _____.

(a) había engordado (b) mi madre

(5) María no se ha dado cuenta de quién está en la sala y pregunta: ¿Quién ha entrado? Y Núria le responde: _____.

(a) los estudiantes de química (b) han entrado

(6) Mientras _____, sonó el teléfono.

(a) Miguel (b) dormía

(7) Tu hermano no se ha enterado de quién ha salido, así que te pregunta: ¿Quién ha ido a la playa? Y tú le dices: _____.

(a) han ido (b) nuestros padres

(8) Pedro pregunta quién ha cantado en la inauguración del curso y sus amigos le contestan que _____.

(a) el coro de la universidad (b) ha cantado

(9) El coordinador del proyecto preguntó quién faltaba y los colegas le respondieron que _____.

(a) Antonio (b) faltaba

(10) Durante la clase, Ángela no se entera de quién hace ruido y por eso pregunta: ¿Quién está gritando? Y Marta le dice: _____.

(a) está gritando (b) el compañero de matemáticas

- (11) ¿Te has dado cuenta de que _____ en la piscina?
(a) tu hermana (b) está nadando
- (12) No has visto quién está en el estadio y preguntas: ¿Quién está jugando al fútbol?
Y tus amigos te contestan: _____.
(a) está jugando (b) un atleta francés
- (13) ¿Oíste que _____, cuando el avión en el que viajaban se estrelló en el mar?
(a) unos turistas (b) murieron
- (14) No puedo asistir a la conferencia dado que _____.
(a) la inscripción (b) no hice
- (15) A tu madre le gustaría ir a pasear, por eso te pregunta quién está caminando a estas horas y le contestas que _____.
(a) los jóvenes (b) están caminando
- (16) ¿Te diste cuenta de que _____, cuando estábamos en el restaurante?
(a) desaparecieron (b) unos niños
- (17) Tu prima te pregunta quién ha vuelto de los Estados Unidos y tú le respondes que _____.
(a) ha vuelto (b) tu amiga Carmen
- (18) Si tuviera más dinero, _____.
(a) un i-phone (b) te regalaría
- (19) El jefe no sabe a qué hora llegan los empleados y pregunta: ¿Quién falta? Y la secretaria le contesta: _____.
(a) Juan (b) falta
- (20) Me alegro de que _____.
(a) tus estudios (b) hayas acabado
- (21) Vas a tomar un café con tus amigas y alguien se siente mal, así que preguntas quién está tosiendo y Anna te responde que _____.
(a) el bebé de María (b) está tosiendo
- (22) Cuando fui al despacho, _____ con mis colegas.
(a) hablaba (b) el jefe
- (23) Estás en el banco y preguntas quién ha salido y una señora te contesta que _____.
(a) ha salido (b) el director del banco

(24) No te das cuenta de quién está en la escuela y preguntas: ¿Quién está corriendo en el patio? Y tus amigos te responden: _____.

(a) están corriendo (b) los compañeros del gimnasio

(25) Estábamos en casa, cuando mi padre se enteró de que _____.

(a) mi hermano (b) había llegado

(26) Juana pregunta quién ha muerto durante el terremoto y tú le contestas que _____.

(a) un turista (b) ha muerto

(27) El coordinador pregunta quién ha pasado por su despacho y la secretaria le responde que _____.

(a) han pasado (b) sus clientes

(28) ¿Has visto cuánto _____ después del accidente?

(a) ha envejecido (b) Ángela

(29) No has podido ir a la fiesta de la universidad y preguntas: ¿Quién ha cantado en la inauguración del curso? Y tus amigas te comunican: _____.

(a) el coro de la universidad (b) ha cantado

(30) Estás en el estadio y preguntas quién está jugando al fútbol y tus amigos te responden que _____.

(a) está jugando (b) un atleta francés

(31) Mi tía no se ha enterado de quién ha aumentado de peso, así que pregunta: ¿Quién ha engordado? Y mi tío le contesta: _____.

(a) ha engordado (b) nuestro cuñado

(32) Estás hablando con la vecina, cuando te enteras de que _____ a casa.

(a) ha vuelto (b) tu hijo

(33) Cuando María fue a la fiesta, _____ y hacían mucho ruido.

(a) Anna y Jorge (b) bailaban

(34) Estábamos en el centro comercial, cuando mi amiga se dio cuenta de que _____.

(a) había venido (b) la guardia de seguridad

(35) A tu madre le gustaría ir a pasear, por eso te pregunta: ¿Quién está caminando a estas horas? Y tú le respondes: _____.

(a) los jóvenes (b) están caminando

(36) Estás en la representación de teatro y alguien hace ruido, así que preguntas quién se está riendo y tus amigas te responden que _____.

- (a) unos estudiantes (b) se están riendo

(37) Te enviaría un mensaje _____.

- (a) tu correo electrónico (b) si supiera

(38) ¿Te enteraste de que _____ porque su marido perdió el control del vehículo?

- (a) gritaba (b) una mujer

(39) Cuando entras en el banco, te das cuenta de que alguien no está, por eso preguntas: ¿Quién ha salido? Y una señora te dice: _____.

- (a) ha salido (b) el director del banco

(40) ¿Has visto que _____ muy bien en el programa infantil?

- (a) una chica (b) canta

(41) Tu prima no sabe quién ha venido del extranjero, así que te pregunta: ¿Quién ha vuelto de los Estados Unidos? Y tú le respondes: _____.

- (a) ha vuelto (b) mi amiga Carmen

(42) La secretaria estaba en el despacho, cuando se enteró de que _____.

- (a) el jefe (b) había entrado

(43) Pedro no se ha dado cuenta de quién está despierto y por eso pregunta: ¿Quién está durmiendo a estas horas? Y su esposa le responde: _____.

- (a) nuestro hijo (b) está durmiendo

(44) Estás en el patio del colegio y preguntas quién está corriendo y tus amigos te contestan que _____.

- (a) están corriendo (b) los compañeros del gimnasio

(45) Tu abuela pregunta quién ha ido a la playa y tú le respondes que _____.

- (a) han ido (b) tus padres

(46) Estás en una empresa de empleo y preguntas: ¿Quién trabaja en esta empresa? Y un empleado te contesta: _____.

- (a) unos señores holandeses (b) trabajan

(47) No te has dado cuenta de que es la hora del curso privado, así que preguntas: ¿Quién ha llegado? Y tu hermano te comenta: _____.

- (a) ha llegado (b) el tutor de inglés

(48) Juana no sabe cuántas son las víctimas del terremoto, por eso pregunta: ¿Quién ha muerto durante el terremoto? Y tú le contestas: _____.

(a) dos turistas (b) han muerto

(49) Tomas un café con tus amigas y no te enteras de quién se siente mal, así que preguntas: ¿Quién está tosiendo? Y Anna te dice: _____.

(a) está tosiendo (b) María

(50) No sabes quién ha llamado a la puerta, así que preguntas: ¿Quién ha venido? Y tu padre te responde: _____.

(a) tus abuelos (b) han venido

(51) No te has dado cuenta de que hay gente en el cine, por eso preguntas: ¿Quién está riéndose? Y tu esposa te contesta: _____.

(a) están riéndose (b) unos alumnos

(52) El profesor entra en el aula y no ve quién hace ruido, así que pregunta: ¿Quién está hablando en voz alta? Y los estudiantes le responden: _____.

(a) están hablando (b) Manolo y Jorge

(53) No sabes quién falta, así que preguntas quién ha llegado y tu hermano te responde que _____.

(a) los obreros (b) han llegado

(54) ¿Oíste que _____ por el terreno, cuando se tomó la decisión de cancelar el partido?

(a) los atletas (b) corrían

(55) Ernesto pregunta quién está durmiendo y su madre le contesta que _____.

(a) está durmiendo (b) su tío

(56) La profesora se dio cuenta de que _____ en la clase de biología.

(a) faltaba (b) Miguel

(57) ¿Te enteraste de que _____, cuando hablábamos con el director de la cárcel?

(a) salieron (b) unos prisioneros

(58) El coordinador no sabe quién ha venido, así que pregunta: ¿Quién ha pasado por mi despacho? Y la empleada le contesta: _____.

(a) sus clientes (b) han pasado

(59) María está en la clase y pregunta quién ha entrado, su amiga Nùria le responde que _____.

(a) los estudiantes de química (b) han entrado

(60) Estoy nerviosa porque _____.

(a) cerrar la puerta (b) he olvidado

(61) Todos los días _____ mucho, por eso el fin de semana está muy cansado.

(a) trabaja (b) Pedro

(62) ¿Oíste que _____ en la parada del autobús porque se peleó con su hermano?

(a) un niño (b) lloraba

(63) Ángela preguntó quién gritaba en la clase de matemáticas y sus amigas le respondieron que _____.

(a) un compañero (b) gritaba

(64) El jefe pregunta quién ha hablado y los colegas le contestaron que _____.

(a) Juan (b) ha hablado

(65) No te has enterado de quién está en casa, así que preguntas quién ha venido y tu madre te responde que _____.

(a) han venido (b) tus abuelos

APPENDIX 3: Study 3 on L2 Greek

Experiment 1

Simbliroste ta cena me tin katalili apandisi.

Paradigma:

(0) O Kostas ine apasxolimenos, j'afto ____**(a)**____ mas ipan oti den tha pai sti jorti tu panepistimiu.

(a) i fili tu (b) Ø

(1) O Janis ce ego tha pame sto sinema epidi _____ exume apofasisi na dume mja tenia.

(a) Ø (b) emis

(2) Ise sto stadio me to filo su ton Petro. Esi pezis podosfero, eno _____ den kani tipota.

(a) Ø (b) aftos

(3) O Kostas spudazi sto panepistimio, eno _____ dulevis se mja epixirisi.

(a) esi (b) Ø

(4) Para to oti o Spiros ce i Ioana plirosan to danio, i diefthindria tis trapezas djapistose oti ____ ksexase na katathesi ta xrimata ton tokon.

(a) aftos (b) Ø

(5) To proi _____ stis 9.

(a) cimame (b) ksipnao

(6) Prota i Martha etimazi to fagito ce meta _____ djavazi ja to metaptixiako.

(a) Ø (b) afti

(7) An ce i Meri ce o Jorgos pigan sti sxoli, o ipefthinos kathigitis emathe oti ____ den parakoluthise to mathima tis filosofias.

(a) afti (b) Ø

(8) Otan i thia mu xirurgithice, i jatri diefkrinisan oti ____ tha esthanotan kalitera meta tin epidrasi tu iremistiku.

(a) Ø (b) afti

(9) Parolo pu i Andriana ce o sinaderfos tis bikan sto idjo vivliopolio, o katastimatarxis andilifthice oti ____ den agorase kanena vivlio.

- (a) Ø (b) afti

(10) To proi i mitera mu ce ego tha pame sto supermarket epidi _____ thelume na psonisume ta aparetita ja to spiti.

- (a) Ø (b) emis

(11) Ise sto turistiko grafio me ti fili su tin Eva. ____ kani kratisi mjas thesis ce oxi esi.

- (a) Ø (b) Afti

(12) I ksaderfes mu den me exun pari tilefono jati ____ grafun tin erevntici tus ergasia.

- (a) aftes (b) Ø

(13) O Manolis ce i Aleksadra dulevun stin idja eteria. Ostoso i ipalili lene oti ____ perni ipsilotero mistho.

- (a) aftos (b) Ø

(14) O sizigos su ce esi erxeste stin Elada epidi _____ epithimite na episkefthite tus gonis sas.

- (a) esis (b) Ø

(15) I fititries parakoluthusan to mathima, otan o kathigitis sxoliase oti ____ tha xriazondan perisotero xrono ja na oloklirosun ta piramata tus.

- (a) Ø (b) aftes

(16) ____ katharizo to spiti ce oxi i aderfi mu.

- (a) Ego (b) Ø

(17) O Vasilis ce i fili tu pigan stin kafeteria. Ostoso, i servitori paratirisan oti ____ den paragile tipota.

- (a) aftos (b) Ø

(18) An ce i Stavrula ce o Panajotis ine plusii, o papus tus pistevi oti ____ den bori na pliroso to enicio tu djamerismatos tis.

- (a) afti (b) Ø

(19) Parolo pu i gramateas ce o aderfos mu efigan mazi apo to grafio, o diefthindis paratirise oti ____ girise ja na kratisi ta praktika tis sinelefsis.

- (a) afti (b) Ø

- (20) I Dina meni stin poli, eno _____ zis sto xorjo.
 (a) Ø (b) esi
- (21) Meta to fagito, _____ sinithizo na akuo musici ce na djavazo efimerida.
 (a) Ø (b) ego
- (22) I Agelici theli na dimosiefsi ena vivlio, j'afto ce i ekdotes anaferun oti _____ tha parusiasi prota ena xirografo tis meletis tis.
 (a) Ø (b) afti
- (23) Otan _____ pigenis taksidi, pernis mazi su ton forito ipologisti.
 (a) esi (b) Ø
- (24) Esi ksipnas arga, eno _____ sikonome noris to proi.
 (a) ego (b) Ø
- (25) Avrio _____ ena docimander sto instituto ksenon gloson.
 (a) provalan (b) tha provalun
- (26) I Maria ce esi pigenete stin trapeza jati _____ exete na plirosete to logarjasmu.
 (a) Ø (b) esis
- (27) An ce i Irini ce o Jorgos argisan na ftasun stin jorti, i simfitites tus epiveveosan oti _____ sinandise tin kathigitria ton aglikon.
 (a) Ø (b) afti
- (28) Epidi _____ dulevis poli, xriazese ksekurasi.
 (a) esi (b) Ø
- (29) I Maria vgeni to apogevma ce _____ pai ja psonja me tis files tis.
 (a) afti (b) Ø
- (30) I fili mu ergazonde se mja cenurja asfalistici eteria ce o diefthindis diefkrinizi oti _____ exun analavi ta simvolea nosokomiakis perithalpsis.
 (a) afti (b) Ø
- (31) An ce o Andreas ce i Athina spudasan fisici, i epoptria kathigitria mas ipe oti _____ exi idikotita sti ximia.
 (a) Ø (b) aftos
- (32) _____ pigame na dume mja theatrici parastasi.
 (a) Avrio (b) Xthes
- (33) To savatocirjako _____ kano enan peripato sto parko tis polis.
 (a) Ø (b) ego

- (34) Otan ____ ise sto panepistimio, den me pernis tilefono.
 (a) Ø (b) esi
- (35) ____ exis plirosi to logarjasmo ce oxi i sizigos su.
 (a) Esi (b) Ø
- (36) To apogevma ixa poli dulja, j'afto ce tora _____ kurasmenos.
 (a) ime (b) veltionome
- (37) O Stefanos ce i Agelici pigan sinema. Parola afta, i fili tus katalavan oti ____ den ide tin tenia.
 (a) aftos (b) Ø
- (38) Ise sto estiatorio me to filo su to Xristo. _____ paragelni makaronada ce oxi esi.
 (a) Aftos (b) Ø
- (39) Otan ____ epistrefo apo to grafio, den exo djathesi na kano tipota.
 (a) Ø (b) ego
- (40) Esi vgenis vradi me tus filus su, eno _____ kathome sto spiti.
 (a) ego (b) Ø
- (41) Ise stin kafeteria me ti fili su tin Ana. Esi paragelnis ena ximo portokali, eno _____ perni ena capuchino.
 (a) afti (b) Ø
- (42) To proi o Agelos pai sti dulja ce to mesimeri ____ girizi sto spiti ja na gevmatisi me tin ikogenia tu.
 (a) Ø (b) aftos
- (43) ____ ipologistis xalase.
 (a) O (b) To
- (44) I gonis mu fevgun apo tin protevusa, otan _____ exun elefthero xrono.
 (a) Ø (b) afti
- (45) O proedros tis civernisis paristate sti sinelefsi, otan i ekprosopi tipu anacinonun oti ____ tha aksiologisi tis tropologies ja ta ekpedeftika idrimata.
 (a) Ø (b) aftos

Experiment 2

Simjoste me to vathmo (2) tin protasi pu theorite pjo apodekti sta andistixa perivalonda ce me ton pjo xamilo vathmo (-2) tin protasi pu theorite endelos akatalili. Simjoste tin epilogi (1) stis periptosis pu i protasis sas fenonde apla apodektes i tin epilogi (-1) ean tis theorite ligotero apodektes se sxesi me to perivalon. Ean de gnorizete tin apandisi, epilekste to vathmo 0.

Paradigma:

(0) Otan girise sto spiti, _____

(a) i Ana katalave oti ixē xasi to portofoli tis. $-2 -1 0 1 \underline{2}$

(b) katalave oti ixē xasi to portofoli tis i Ana. $\underline{-2} -1 0 1 2$

(1) Ime στο taxidromio epidi _____

(a) o filos mu stelni ena sistimeno facelo. $-2 -1 0 1 2$

(b) stelni o filos mu ena sistimeno facelo. $-2 -1 0 1 2$

(2) Sto djalima _____

(a) i simathitries mu trone tiropites. $-2 -1 0 1 2$

(b) trone i simathitries mu tiropites. $-2 -1 0 1 2$

(3) Sti jorti ton genethlion tis _____ ce oxi sto parti tu sxoliu.

(a) i Sofia ipje votka $-2 -1 0 1 2$

(b) ipje i Sofia votka $-2 -1 0 1 2$

(4) O diefthindis anefere oti _____

(a) plirose to logarjasmo o ipalilos. $-2 -1 0 1 2$

(b) o ipalilos plirose to logarjasmo. $-2 -1 0 1 2$

(5) I thia emathe oti _____

(a) akuse to sismo o papus. $-2 -1 0 1 2$

(b) o papus akuse to sismo. $-2 -1 0 1 2$

(6) Stis idisis aneferan oti _____

(a) tus tileoptikus stathmus pulisan i epixirisis. $-2 -1 0 1 2$

(b) i epixirisis pulisan tus tileoptikus stathmus. $-2 -1 0 1 2$

(7) O dimosiografos sxoliase oti _____	
(a) parusiase tin efimerida i arxisindaktria.	-2 -1 0 1 2
(b) i arxisindaktria parusiase tin efimerida.	-2 -1 0 1 2
(8) O kathigitis paratirise oti _____	
(a) o fititis ixē pji ton kafe tu.	-2 -1 0 1 2
(b) ton kafe tu ixē pji o fititis.	-2 -1 0 1 2
(9) O pateras mu xriazete ksekurasi j' afto _____	
(a) tha pai djakopes.	-2 -1 0 1 2
(b) tha stamatisi tis djakopes tu.	-2 -1 0 1 2
(10) Stis episimes sinedriasis _____	
(a) i vuleftes ekfonun tus logus tus.	-2 -1 0 1 2
(b) ekfonun i vuleftes tus logus tus.	-2 -1 0 1 2
(11) Mu exun pi oti i Beyonce _____	
(a) ine tragudistria.	-2 -1 0 1 2
(b) ine piitria.	-2 -1 0 1 2
(12) I fitites emathan oti _____	
(a) tin erevna tha dimosiefsi i kathigitria.	-2 -1 0 1 2
(b) i kathigitria tha dimosiefsi tin erevna.	-2 -1 0 1 2
(13) O diefthindis girise sto grafio, otan _____	
(a) ixē grapsi i gramateas tin epistoli.	-2 -1 0 1 2
(b) i gramateas ixē grapsi tin epistoli.	-2 -1 0 1 2
(14) Ime stin pinakothici epidi _____	
(a) enas zografos parusiazī ton proto tu pinaka.	-2 -1 0 1 2
(b) parusiazī enas zografos ton proto tu pinaka.	-2 -1 0 1 2
(15) Se afto to ixthiopolio _____ ce oxi se alo.	
(a) o psaras pulai fresko vakalao	-2 -1 0 1 2
(b) pulai o psaras fresko vakalao	-2 -1 0 1 2
(16) Stis sxolices eortes _____	
(a) akune i mathites paradosiakus imnus.	-2 -1 0 1 2
(b) i mathites akune paradosiakus imnus.	-2 -1 0 1 2

- (17) O pateras den ide oti _____
 (a) ti salata ixē fai i mitera. $-2 -1 0 1 2$
 (b) i mitera ixē fai ti salata. $-2 -1 0 1 2$
- (18) O ksenodoxos anefere oti _____
 (a) to logarjasmo plirose o pelatis. $-2 -1 0 1 2$
 (b) o pelatis plirose to logarjasmo. $-2 -1 0 1 2$
- (19) Sto frondistirio _____
 (a) grafun i kathigitries tis simiosis. $-2 -1 0 1 2$
 (b) i kathigitries grafun tis simiosis. $-2 -1 0 1 2$
- (20) Sti jorti ton genethlion tis _____
 (a) i Sofia ipje votka. $-2 -1 0 1 2$
 (b) ipje i Sofia votka. $-2 -1 0 1 2$
- (21) O papus mu emathe oti _____
 (a) i ksaderfi mu estile tin prosklisi. $-2 -1 0 1 2$
 (b) tin prosklisi estile i ksaderfi mu. $-2 -1 0 1 2$
- (22) Se afton ton ekdotiko iko _____
 (a) i Vasilici dimosiefse ti diatrivi tis. $-2 -1 0 1 2$
 (b) dimosiefse i Vasilici ti diatrivi tis. $-2 -1 0 1 2$
- (23) I mitera mu ine stenaxorimeni jati _____
 (a) xalase o aderfos mu ton ipologisti tu. $-2 -1 0 1 2$
 (b) o aderfos mu xalase ton ipologisti tu. $-2 -1 0 1 2$
- (24) Ebena sto estiatorio, otan _____
 (a) etroge mja kopela makaronada. $-2 -1 0 1 2$
 (b) mja kopela etroge makaronada. $-2 -1 0 1 2$
- (25) I organotici epitropi sxoliase oti _____
 (a) i erevnitria ekfonise tin omilia tis. $-2 -1 0 1 2$
 (b) ekfonise tin omilia tis i erevnitria. $-2 -1 0 1 2$
- (26) Kata ti djarcia ton mathimatōn _____
 (a) stelnun i diefthindes tus odigus spudon. $-2 -1 0 1 2$
 (b) i diefthindes stelnun tus odigus spudon. $-2 -1 0 1 2$
- (27) I thia mu milai kala galika jati _____
 (a) dulevi stin iaponici presvia. $-2 -1 0 1 2$
 (b) dulevi sti galici presvia. $-2 -1 0 1 2$

- (28) Stin ekthesi _____
- (a) i ikonografos parusiase ti silogi tis. $-2 -1 0 1 2$
- (b) parusiase i ikonografos ti silogi tis. $-2 -1 0 1 2$
- (29) Stis sxolices eortes _____ ce oxi stis ekdromes.
- (a) akune i mathites paradosiakus imnus $-2 -1 0 1 2$
- (b) i mathites akune paradosiakus imnus $-2 -1 0 1 2$
- (30) Se afto to ixthiopolio _____
- (a) pulai o psaras fresko vakalao. $-2 -1 0 1 2$
- (b) o psaras pulai fresko vakalao. $-2 -1 0 1 2$
- (31) O ksaderfos mu emathe oti _____
- (a) i aderfi tu plirose tin eforia. $-2 -1 0 1 2$
- (b) plirose i aderfi tu tin eforia. $-2 -1 0 1 2$
- (32) O kathigitis den exi elefthero xrono jati _____
- (a) i fititria tu dimosievi ti diatrivi tis. $-2 -1 0 1 2$
- (b) dimosievi i fititria tu ti diatrivi tis. $-2 -1 0 1 2$
- (33) O diefthindis tu kanalju itan poli efxaristimenos epidi _____
- (a) ekfonise i dimosiografos tin idisi. $-2 -1 0 1 2$
- (b) i dimosiografos ekfonise tin idisi. $-2 -1 0 1 2$
- (34) Sto djalima _____ ce oxi sto mathima.
- (a) trone i simathitries mu tiropites $-2 -1 0 1 2$
- (b) i simathitries mu trone tiropites $-2 -1 0 1 2$
- (35) I mitera mu katalave oti _____
- (a) o pateras mu ixte pji ton kafe tu. $-2 -1 0 1 2$
- (b) ixte pji o pateras mu ton kafe tu. $-2 -1 0 1 2$
- (36) Sto telos tu mina _____ ce oxi stis arxes tis evdomadas.
- (a) plironun i ergodotes tus misthus $-2 -1 0 1 2$
- (b) i ergodotes plironun tus misthus $-2 -1 0 1 2$
- (37) I gitonisa mu ipe oti _____
- (a) egrapse ti diplomatici tis i kori tis. $-2 -1 0 1 2$
- (b) i kori tis egrapse ti diplomatici tis. $-2 -1 0 1 2$
- (38) Stin ekthesi _____ ce oxi sto atelje.
- (a) parusiase i ikonografos ti silogi tis $-2 -1 0 1 2$
- (b) i ikonografos parusiase ti silogi tis $-2 -1 0 1 2$

- (39) O aderfos mu ipe oti _____
- (a) i jaja akuse ti idisi. -2 -1 0 1 2
- (b) tin idisi akuse i jaja. -2 -1 0 1 2
- (40) Se afton ton ekdotiko iko _____ ce oxi se alon.
- (a) i Vasilici dimosiefse ti diatrivi tis -2 -1 0 1 2
- (b) dimosiefse i Vasilici ti diatrivi tis -2 -1 0 1 2
- (41) Stis episimes sinedriasis _____ ce oxi stis anepisimes ekdilosis.
- (a) ekfonun i vuleftes tus logus tus -2 -1 0 1 2
- (b) i vuleftes ekfonun tus logus tus -2 -1 0 1 2
- (42) Kata ti djarcia ton mathimatou _____ ce oxi stis eksetasis.
- (a) stelnun i diefthindes tus odigus spudon -2 -1 0 1 2
- (b) i diefthindes stelnun tus odigus spudon -2 -1 0 1 2
- (43) Xthes den boresa na se paro tilefono jati _____
- (a) piga sto panepistimio. -2 -1 0 1 2
- (b) tha pao sto panepistimio. -2 -1 0 1 2
- (44) I mitera mu katalave oti _____
- (a) i aderfi mu efage ti laxanopita. -2 -1 0 1 2
- (b) efage ti laxanopita i aderfi mu. -2 -1 0 1 2
- (45) O proistamenos prosekse oti _____
- (a) ton kanonismo ixe grapsi o ipalilos. -2 -1 0 1 2
- (b) o ipalilos ixe grapsi ton kanonismo. -2 -1 0 1 2
- (46) O servitoros paratirise oti _____
- (a) o pelatis ixe pji ton kafe tu. -2 -1 0 1 2
- (b) ixe pji ton kafe tu o pelatis. -2 -1 0 1 2
- (47) I fitites andilamvanonde oti _____
- (a) o omilitis tha ekfonisi to logo tu. -2 -1 0 1 2
- (b) to logo tu tha ekfonisi o omilitis. -2 -1 0 1 2
- (48) I fili mu emathan oti _____
- (a) i Maria parusiase tin ergasia tis. -2 -1 0 1 2
- (b) tin ergasia tis parusiase i Maria. -2 -1 0 1 2
- (49) Avrio den tha exo katholu xrono epidi _____
- (a) tha pane sto grafio ja dulja. -2 -1 0 1 2
- (b) tha pao sto grafio ja dulja. -2 -1 0 1 2

- (50) Sto frondistirio _____ ce oxi sto sxolio.
- (a) grafun i kathigitries tis simiosis $-2 -1 0 1 2$
- (b) i kathigitries grafun tis simiosis $-2 -1 0 1 2$
- (51) Sto telos tu mina _____
- (a) i ergodotes plironun tus misthus. $-2 -1 0 1 2$
- (b) plironun i ergodotes tus misthus. $-2 -1 0 1 2$
- (52) O pateras mu ipe oti _____
- (a) o gitonas akuse ena thorivo. $-2 -1 0 1 2$
- (b) akuse o gitonas ena thorivo. $-2 -1 0 1 2$
- (53) O ekdotis anacinose oti _____
- (a) i sigrafeas dimosiefse ti viografia tis. $-2 -1 0 1 2$
- (b) dimosiefse ti viografia tis i sigrafeas. $-2 -1 0 1 2$
- (54) I Jorjia mu ipe oti _____
- (a) i fili tis estile tin epistoli. $-2 -1 0 1 2$
- (b) estile tin epistoli i fili tis. $-2 -1 0 1 2$
- (55) I civernisi anacinose oti _____
- (a) pulisan tis metoxes tus i trapezes. $-2 -1 0 1 2$
- (b) i trapezes pulisan tis metoxes tus. $-2 -1 0 1 2$

Experiment 3

Valte tis leksis sti sosti sira se sxesi me to pericimeno.

Paradigma:

(0) I sinaderfos mu ipe oti ____ **(a)** ____ ____ **(b)** ____ poli akriva.

(a) ta aeroporika isitiria (b) itan

(1) Otan _____, vlepi tus iliciomenus na kathonde sta pagkacia.

(a) perpatai (b) o Janis

(2) I Agelici anarotithice pjos fonaze sto mathima ton aglikon ce i files tis apandisan oti _____.

(a) enas simathitis (b) fonaze

(3) I aderfi su den exi andilifthi pjos vgice, j'aftho se rotai: Pjos pige stin paralia? Esi tis les: _____.

(a) i gonis mas (b) pigan

(4) Akuses oti _____ ston agonistiko xoro, otan apofasistice na anavlithi o agonas?

(a) etrexan (b) i athlites

(5) O diefthindis rotise pjos perase apo to grafio tu ce i gramateas apokrithice oti _____.

(a) i pelates tu (b) perasan

(6) Molis bika sto spiti, katalava oti _____ sto tilefono.

(a) o sizigos mu (b) miluse

(7) Akuses oti _____, otan i andartes vomvardisan to orfanotrofio?

(a) pola pedja (b) pethanan

(8) O kathigitis andilifthice oti _____, otan citakse ton katalogo tu metaptixiaku.

(a) elipan (b) kapja vivlia

(9) O Xristos rotise pjos cimotan ce i mitera tu ipe oti _____.

(a) cimotan (b) o aderfos tu

(10) Epidi den exis di pjos exi erthi sto kolimvitirio, rotas tus filus su: Pjos kolibai stin pisina? Afti su apandun: _____.

(a) i olibionices (b) kolibane

(11) Den kseris pjos apasxolite sto dicigoriko grafio ce rotas: Pjos dulevi edo? I sinaderfos su apandai: _____.

(a) o nomikos simvulos (b) dulevi

(12) Den exis paratirisi pjos exi erthi sto parti, j'afto rotas: Pjos xorevi? O filos su lei: _____.

(a) kapjes kopeles (b) xorevun

(13) Opos benis stin trapeza den andilamvanese oti kapjos lipi ce rotas: Pjos vgice ekso? I ipalilos su apandai: _____.

(a) vgice (b) o diefthindis tis trapezas

(14) Ides oti _____ poli kala sto pediko programa tis tileorasis?

(a) tragudise (b) i mikri Maria

(15) An ixa perisotera xrimata, _____.

(a) ena cinito (b) tha agoraza

(16) I mitera su de gnorizi pjos exi erthi apo to eksoteriko, j'afto se rotai: Pjos exi epistrepsi apo tin Americi? Esi tis apandas: _____.

(a) i fili mu i Magda (b) exi epistrepsi

(17) Katalaves oti _____ epidi ithelan na pane sti vivliothici?

(a) kapji fitites (b) efigan

(18) I Ioana rotai pjos pethane kata ti djarcia tu sismu ce esi tis apandas oti _____.

(a) pethane (b) enas turistas

(19) Ides oti _____, otan akusan to thorivo?

(a) eftasan (b) kapji gitones

(20) O pateras su theli na kani enan peripato, j'afto se rotai pjos perpatai to merimeri ce esi tu apandas oti _____.

(a) perpatane (b) i iliciomeni

(21) Epidi den kseris pjos ine sto sxolio simera, rotas tis files su: Pjos trexi stin avli? Aftes su apandun: _____.

(a) trexun (b) i simathites mas

- (22) Imastan stin trapeza, otan i mitera mu katalave oti _____.
 (a) ixē erthi (b) i astinomia
- (23) O diefthindis den kseri ti ora benun i ipalili ce rotai: Pjos lipi? I gramateas apokrinete: _____.
 (a) o Janis (b) lipi
- (24) I ksaderfi mu rotise pjos exi megalosi se ilicia ce tis apandisa oti _____.
 (a) i mitera mu (b) exi megalosi
- (25) Vlepis tis simfititries su sto dromo. Tis rotas pjos tragudise stin enarksi tu akadimaiku etus ce aftes su lene oti _____.
 (a) tragudise (b) i xorodia tu panepistimiu
- (26) Kathimerina _____ poli, j'afto to savatocirjako xriazete ksekurasi.
 (a) o Kostas (b) dulevi
- (27) Epidi i Meri den exi di pjos ine sto sxolio, rotai: Pjos exi bi stin ethusa? I fili tis i Athina apandai: _____.
 (a) o kathigitis tis ximias (b) exi bi
- (28) Ise stin kafeteria me tis files su, den kseris pjos grinjazi ce rotas: Pjos klei? I Ana su lei: _____.
 (a) to moro tis Marias (b) klei
- (29) Den boro na parakoluthiso to sinedrio jati _____.
 (a) tin egrafi (b) den ekana
- (30) Katalaves oti _____ epidi o pateras tus exase ton elegxo tu aftocinitu ce vgice apo to dromo?
 (a) fonazan (b) ta pedja
- (31) I aderfi su rotise pjos pige stin paralia ce esi tis ipes oti _____.
 (a) pigan (b) i gonis sas
- (32) Milas sto tilefono, otan siniditopiis oti _____.
 (a) exun epistrepsi (b) kapji sinaderfi
- (33) O aderfos mu den kseri pjos exi gerasi, j'afto rotai: Pjos exi megalosi se ilicia? O pateras mu tu lei: _____.
 (a) i jaja su (b) exi megalosi
- (34) Tha su estelna ena minima, _____.
 (a) to meil su (b) an iksera

(35) Den exis katalavi oti xtipise to kuduni, j'afto ce rotas: Pjos eftase? O aderfos su apokrinete: _____.

(a) o kathigitis ton galikon (b) eftase

(36) Otan pigame sti jorti, _____ sto saloni.

(a) i Ana ce o Petros (b) xorevan

(37) Otan girises sto spiti, rotises pjos ixerthi ce o pateras su ipe oti _____.

(a) ixerthi (b) o papus su

(38) Epidi i Ioana de gnorizi pja ine ta thimata tu sismu, rotai: Pjos pethane kata ti djarcia tu sismu? Esi tis apandas: _____.

(a) pethanan (b) i agli turistest

(39) Ise sto kolimvitirio. Rotas pjos kolibai stin pisina ce i fili su apandun oti _____.

(a) kolibane (b) i olibionices

(40) O Jorgos rotai pjos dulevi stin eteria ce i sinaderfos tu apandai oti _____.

(a) enas alodapos (b) dulevi

(41) O kathigitis rotai pjos milai ce i mathites apandun oti _____.

(a) o Kostas (b) milai

(42) Opos _____, ton fonakse o proistamenos.

(a) o Janis (b) ebene

(43) Xerome pu _____.

(a) tis spudes su (b) exis teljosi

(44) Akuses oti _____, oso imastan sto astinomiko tmima?

(a) vgice (b) enas filacismenos

(45) O dieftindis de gnorizi pjos irthi ce rotai: Pjos perase apo to grafio mu? I gramateas apokrinete: _____.

(a) perasan (b) i pelates sas

(46) O Xristos den exi katalavi pjos exi ksipnisi, j'afto ce rotai ti mitera tu: Pjos cimata akomi? Afti tu lei: _____.

(a) cimata (b) o aderfos su

(47) Ise stin kafeteria me tis files su. Rotas pjos klei ce i Ana su lei oti _____
_____.

(a) to moro tis Marias (b) klei

(48) O pateras su tha ithele na kani enan peripato, j'afto ce se rotai: Pjos perpatai to mesimeri? Esi tu apandas: _____.

(a) i iliciomeni (b) perpatane

(49) Benondas stin ethusa, o kathigitis den andilamvanete pjos kani thorivo ce rotai: Pjos milai? I simathites su apandun: _____.

(a) o Kostas ce o Andreas (b) milane

(50) O diefthindis rotise pjos elipe ce i ipalili tu apokrithikan oti _____.

(a) elipe (b) o Janis

(51) Epidi den boreses na parakoluthisis ti jorti tu panepistimiu, rotas tis simfititries su: Pjos tragudise stin enarksi tu akadimaiku etus? Aftes su lene: _____.

(a) tragudise (b) i xorodia tu panepistimiu

(52) Otan ides kosmo, rotises pjos ixte ftasi ce o aderfos su apokrithice oti _____
_____.

(a) i kalesmeni (b) ixan ftasi

(53) I mitera su se rotai pjos exi epistrepsi apo tin Americi ce esi tis apandas oti _____
_____.

(a) i fili su i Magda (b) exi epistrepsi

(54) Ise stin avli tu sxoliu. Rotas pjos trexi ce i simathites su apandun oti _____
_____.

(a) trexi (b) o gimnastis

(55) Opos perimenis stin trapeza, rotas pjos exi vgi ekso ce enas ipalilos su lei oti _____
_____.

(a) exi vgi (b) o diefthindis

(56) Ime eknevrismeni epidi _____.

(a) na kliso tin porta (b) ksexasa

(57) Epidi _____, den kaname katholu fasaria.

(a) i Maria (b) cimotan

(58) Den kseris pjos ine stin isodo ce rotas: Pjos irthi? O pateras su lei: _____
_____.

(a) irthi (b) o papus su

(59) Kata ti djarcia tu mathimatos, i Sofia den prosexi pjos kani thorivo, j'afto ce rotai: Pjos fonazi? I files tis apokrinonde: _____.

(a) o Jorgos (b) fonazi

(60) Ise se mja musikoxoreftici parastasi. Anarotjese pjos xorevi ce o sizigos su lei oti _____.

(a) kapji ithopii (b) xorevun

(61) Kseris poso _____? Pane stin proti dimotiku.

(a) exun megalosi (b) i didimes kores tis Agelicis

(62) Akuses oti _____ sti stasi tu leoforju epidi i mitera tu ton malose?

(a) eklege (b) o Vasilacis

(63) Imastan sto spiti me tus papudes, otan _____.

(a) perasan (b) i thii mas

(64) Tin ora tu mathimatos i Meri rotai pjos exi bi stin ethusa ce i fili tis i Athina apandai oti _____.

(a) o kathigitis tis ximias (b) exi bi

(65) Kseris oti _____ stin pisina, otan exi elefthero xrono?

(a) i aderfi su (b) kolibai