ONOMÁZEIN
Journal of linguistics, philology and translation

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
FACULTAD DE LETRAS

On lexical uniqueness and lexicon organization in native Spanish and Greek SFL learners

Maria Pilar Agustín Llach
Universidad de La Rioja
Spain

Kiriaki Palapanidi
National and Kapodistrian University of Athens
Greece

ONOMÁZEIN 54 (December 2021): 142-178
DOI: 10.7764/onomazein.54.10
ISSN: 0718-5758

Maria Pilar Agustín Llach: Universidad de La Rioja, Spain. | E-mail: maria-del-pilar.agustin@unirioja.es
Kiriaki Palapanidi: National and Kapodistrian University of Athens, Greece.

Received: March 2019
Accepted: December 2020

Abstract

The present paper examines lexicon organization and lexical uniqueness through a lexical availability task. Previous research has concentrated on exploring via word association tests how learners organize their L1 and L2 lexicons. Additionally, the closeness between the native and the L2 lexicons are also object of analysis in research. Lexical uniqueness has also been used as a measure to determine "nativeness". In the present study, we had two groups of Greek B1 and C1 level learners of Spanish FL answer a lexical availability task and compared their results with those of a group of native speakers. We found that proficiency level is crucial in the determination of lexical uniqueness and lexicon organization via lexical associations obtained with a lexical availability task. Furthermore, our results revealed that thematic field is a relevant factor in speakers' associative behaviour and lexicon organization. Results are discussed in light of previous research findings and pedagogical implications are proposed.

Keywords: lexical availability task; lexical uniqueness; lexicon organization; Spanish FL; Greek learners.

1. Introduction

Research about foreign language vocabulary acquisition has been concerned with how learners organize, store and access the lexical items of the new language, if L1 and L2 lexical items are stored somehow close or independently, and if this organization resembles that of the native speaker of the target language. In order to examine these issues word association tests (WATs) have been used as instruments for research to obtain insights into the organization of the (bilingual) mental lexicon. Different formats of WATs have been utilized. The most frequent of all is that in which the learner is required to react to a stimulus word or cue with one single answer. However, other formats ask learners to write several, normally up to three, related responses to the prompt. This last type of test looks for an increase in the prototypicality of the responses, and thus capture the nature of variation of responses within the TL (e.g. Schmitt, 1998; Hernández Muñoz, 2014). A more detailed account of different methodological approaches within WATs is beyond the boundaries of this study, but see Fitzpatrick et al. (2015) for a precise and fine-grained review of WATs methodologies. The data yielded by WATs lend themselves to easy quantification and can inform about different aspects of the lexicon.

The present study uses a lexical availability task as a variation of WAT to explore different aspects of lexicon organization and how it relates to L2 proficiency (cf. Paredes, 2006). We believe that the lexical availability task can serve as a rich insight into lexicon organization, since it collects multiple responses from learners (cf. Schmitt, 1998; Hernández Muñoz, 2014) from more to less prototypical or from expected to idiosyncratic answers (cf. Ávila-Muñoz and Sánchez-Saez, 2014) and giving thus a more complete picture of learners' lexicons (Precosky, 2011). Ávila-Muñoz and Sánchez-Saez (2014) proved that native speakers' responses to a lexical availability task evolve in spiral form from more stereotypical answers coming first, less stereotypical responses coming later and a return towards more prototypical answers at the end of the task. This is related to the idea that multiple-response association tests tend to prompt chain responses that associate one another rather than to the stimulus word (cf. Precosky, 2011). In this sense, multiple-response tests might give a better and more complete picture of the learners' mental lexicons (cf. Precosky, 2011; Zareva, 2007).

Moreover, lexical availability tasks correlate well with tests of vocabulary size (Jiménez Catalán and Fizpatrick, 2014), prompting the assumption that they can serve as a measure of vocabulary knowledge and general proficiency. This is relevant because of the relationship between vocabulary size and L2 lexicon organization (Masrai and Milton, 2015) and reveals lexical availability tasks as good instruments to examine lexicon organization.

From the results of these association tests and from other tasks of lexical priming and translation, researchers have come to develop different theories of how L2 mental lexicon is organized and accessed and have tried to establish the relationship in which the L1 and L2 mental lexicon stand. We will examine these two issues in more detail below.

2. Literature review

2.1. Lexical access and lexical organization

A frequent concern of researchers in the field of second language acquisition and teaching, and within psycholinguistics as well, is how L1 and L2 words are stored in the mind of the bilingual, processed and accessed when needed. Two main possibilities stand out: L1 and L2 lexical items are stored either independently as separated entities or somehow in relation sharing some aspects (cf. Kroll et al., 2002; Pavlenko, 2009). Translation tasks, lexical priming experiments together with evidence from cross-linguistic influence helped discard the first possibility (cf. e.g. Kroll et al., 2002), thus it is generally accepted that whereas lexical items or representations are independent, the concepts they represent are shared for L1 and L2 (cf. Costa et al., 2000; Hernández Muñoz, 2014). Researchers then have concentrated in explaining how L1 and L2 lexical items relate in the bilingual mind. The presence of an already existing lexicon during L2 learning is of great relevance to the organization of the new lexical items. In this sense, Masrai and Milton (2015) showed that L1 lexicon organization influences L2 vocabulary size so that "a well-developed L1 lexicon would be a facilitator for L2 lexicon development" (p. 19).

The most widely acknowledged explanatory model[1] was proposed by Kroll and Stewart (1994) and is known as the *Revised Hierarchical Model*. They stated that learners rely on their L1 to access the concepts when using the L2, especially at the initial stages of acquisition (L1 lexical mediation). This dependence tends to faint as proficiency increases, but, they maintain, the L1 lexical items tend to be active even when the L2 is at use, because the connections between words and concepts are stronger for L1 than for L2 (cf. Kroll et al., 2002). Kroll et al. (2002) believe that, although the L1 is present all through the L2 acquisition process, reliance on the L1 lexical form decreases with increasing fluency. In this sense, L1 forms have different effects depending on the proficiency level of learners. At lower levels, the L1 and L2 forms are identified and assimilated semantically. At more advanced levels, the identification happens at different layers or in different aspects bringing forth a "retune" of the lexical system; thus the links between L2 words and concepts get stronger and learners rely more on direct links (conceptual mediation). Research studies working with WATs have supported this model, since they found that the L1 mediates the production of L2 associative responses (Fitzpatrick and Izura, 2011; Hernández Muñoz, 2014). Pavlenko (2009) modified the model by including three layers within conceptual representations that referred to a) L1-specific categories, b) shared catego-

1 A full explanation of the history and methodological approaches towards the study of the bilingual lexicon and bilingual lexical processing is beyond the scope of the present paper. Readers are referred to Pavlenko (2009) for a full account of theories and models explaining bilingual processing.

ries and c) L2-specific categories addressing thus the problem of equivalence, total or partial, or lack thereof between L1 and L2 concepts[2]. She termed this *Modified Hierarchical Model*.

Other models of lexical production, processing and access, such as Levelt (1989), Costa et al. (2000), defend that, when the user wants to convey a message, all the represented lexical items from the different languages the user knows get activated; this is called *spreading activation principle*. Thus, research assumes that a) the semantic system is shared by the two languages of a bilingual, although not the lexical stores, and b) the mental representations (semantic store, concepts) activate the two (or *n*) lexicons of a bilingual regardless of the language programmed for response (Costa et al., 2000: 411). Lexical selection applies on the lexical competitors opting for or selecting the one with the highest level of activation on the grounds of the language being used, so that the lexical items selected would belong to the language being active or in use, whereas the lexical items of the languages not being used are suppressed or ignored (Costa et al., 2000).

Independently of the models that try to explain how bilinguals access and store their lexical items, what seems to be true is that the acquisition and use of a new language contributes to the organization and structure of the mental lexicon, whereas the L1 is present at different degrees and in different ways all through the process.

2.2. NS and NNS mental lexicon

Elaborating on and departing from models of lexical storage and access, researchers have used results of WATs to distinguish and compare how native and non-native learners at different proficiency levels organize their mental lexicons. Other related uses of WATs results pertain to concept acquisition from a sociocultural perspective focusing on the relationship between language and culture, to determine L2 proficiency, and as indicators of depth of vocabulary knowledge (Zareva, 2007). The assumption behind the data provided by WATs is thus that they reveal how speakers organize the words in the mind and how they structure their ideas and thought (cf. Zareva, 2007). Thus, quantitative and qualitative comparisons have been established, with the native speaker's responses being seen as the "norm"[3], in terms of a) number of responses (also frequency of response) (e.g. Zareva, 2007), b) relationship types between cue and responses (e.g. formal, paradigmatic, syntagmatic, encyclopaedic, etc.) (e.g. Meara, 1983; Wolter, 2001) and c) specific words or responses produced, studied as stereotypy

2 Also noticeable is the L2 learning model embedded in this model, which assumes that L2 vocabulary learning is about reconceptualizing or restructuring concepts rather than attaching L2 lexical items to old concepts (Pavlenko, 2009: 150).

3 Higginbotham (2010) uses the database *Edinburgh Association Thesaurus* as a reference against which to compare learners' associative responses, i.e. as the native "norm".

and prototypicality concerns (e.g. Schmitt, 1998; Higginbotham, 2010). In this sense, as L2 proficiency increases, learners are supposed to get closer and closer to the native speaker norm in any or all of these measures. Thus, learners associations are characterized by producing fewer and more heterogeneous responses (Zareva, 2007), more syntagmatic responses, more clang or formal associations (Wolter, 2001; Precosky, 2011), responses with looser conceptual or contextual links (Fitzpatrick, 2006). Intermediate vocabularies show fewer links among words, lower degrees of commonality within group responses and lesser heterogeneity of meaning connections (Meara, 1983; Zareva, 2007: 144). In other words, intermediate lexicons are more loosely connected and lack strong and systematic connections. On their part, more advanced learners produce similar numbers of responses to the stimuli but they are more heterogeneous than natives (Zareva, 2007), they produce more paradigmatic responses than intermediate learners (Wolter, 2001), more collocational answers (Precosky, 2011). Finally, native speakers tend to produce more paradigmatic associations (Precosky, 2011), more collocational and synonym responses (Fitzpatrick, 2006; Precosky, 2011) and same word class responses (Aitchison, 2003; Precosky, 2011), and more encyclopaedic associations as response to stimulus words, depending on word knowledge, culture, age or personal interests. These are also characteristic first responses of non-native learners especially associated to feelings and memories, and are idiosyncratic (Precosky, 2011). Native speakers show richer connections in size, commonality and heterogeneity, with more connections per word. Additionally, native speakers tend to cluster their responses around a small number of commonly given responses, so that production of common responses within the group is understood as a sign of proficiency (Zareva, 2007). The more idiosyncratic words a learner produces, the further he/she goes from the native norm, as Schmitt (1998) proved.

However, more recent research (e.g. Fitzpatrick, 2007; Fitzpatrick and Izura, 2011; Zareva and Wolter, 2012) has proved that L2 learners' association behaviour resembles their association patterns in the L1 rather than native norms. Accordingly, L2 learners, even very advanced ones, will produce association responses similar in L1 and L2, and thus different from what a native speaker of the TL would produce. Chronological age, age at acquisition, culture, cognitive development are the factors alluded to explain why the configuration of the monolingual and the bilingual lexicon differ (Fitzpatrick and Izura, 2011). Other variables, mainly age and cognitive development, might be influencing association behaviours (cf. Fitzpatrick et al., 2015; Zareva, 2007) together with familiarity, word frequency or specific word knowledge (cf. Precosky, 2011; Hernández Muñoz, 2014).

Two main studies stand out that examine associative behaviour in Spanish L2 with the lexical availability task. First, Sánchez-Saus Laserna (2011) in her doctoral dissertation analyzed the relationships between the responses to a lexical availability task of a group of SFL learners in Spain. Specifically, she looked at the nature of the associations among the responses to the different prompts. She found that the type of associations established among the responses were heterogeneous and varied depending on the specific prompt.

Second, López González (2016) had his Polish learners of Spanish complete a lexical availability task to then check the types of associations established between the responses and the cue word(s) and among the responses themselves. He found that responses are chained or clustered semantically, so that learners tend to give answers that are semantically associated with the stimulus word but also with the neighbouring words. Specifically, he examined the associations related to the word "dedo" (*finger*) and concluded that the types of associations generated by this word are many and varied: paronyms, encyclopaedic, derivative, hyponyms and hypernyms.

The present study intends to be a preliminary step in the investigation of associative behaviour and lexicon organization in Spanish L2.

Specifically, we are going to use a lexical availability task to explore learners' associative responses. Lexical availability tasks have been used to investigate learners' vocabulary sizes (cf. Carcedo Gónzalez, 2000) and have been used to discriminate between learners' gender (e.g. Verdeses-Miraball, 2012), proficiency level (e.g. Sánchez-Saus Laserna, 2011) or language background (e.g. Samper Hernández, 2002). More recently, Hernández Muñoz (2014) also conducted a study on lexical associations and lexicon organization with data obtained with a lexical availability task; Ávila-Muñoz and Sánchez-Saez (2014) looked into the mental lexicon of the learners to find out more about how their lexical knowledge is structured and accessed; they gathered their data via a lexical availability task, as well. This is the line we are pursing.

As explained above, consistency and systematicity in responses has been identified as another trait of native association behaviour, with learners showing less commonality in their association responses than native respondents (cf. Zareva, 2007). By contrast, several studies have found L2 proficiency to correlate well with number of non-shared words or words produced by only single learners in the sample (words which appear only once in the total sample) (David, 2008; Bulté et al., 2008; Crossley et al., 2014). In this sense, Meara (personal communication) believes that learners who produce unique responses, i.e. responses non-shared or not present in the rest of the group answer data, can be assumed to possess larger vocabularies, and thus show higher levels of proficiency. Accordingly, this measure of lexical uniqueness can be thought to serve as a reference to determine learners' proficiency level. The more unique words a learner produces, the higher will be their L2 proficiency level.

This research intends to contribute further understanding to the relationships between L1 and L2 lexicons using a less common language combination, namely Greek L1 and Spanish L2. Furthermore, we were interested in finding out the role of lexical uniqueness in the determination of L2 proficiency. For us, conducting research with Greek learners of Spanish was fundamental for three main reasons. First, Greek learners are rarely the subjects of research studies in language acquisition; so being an underresearched learner population, we wanted to cover that gap in SLA and vocabulary acquisition studies. Studies that focus on SFL

in Greece are not very numerous (e.g. Zerva, 2009; Rodríguez Lifante, 2010); however, more recently, some researchers have been interested in examining SFL exam certifications (Lugo Mirón and Alexopoulou, 2012) and in identifying the main difficulties that Greek learners face when learning Spanish (cf. Kouti, 2005), and the variables that lead the acquisition process such as motivation and attitude (Rodríguez Lifante, 2015), beliefs and error correction techniques (Santos Gargallo and Alexopoulou, 2014). Thus, they concentrated on morphosyntactic errors (Alexopoulou, 2005), lexical errors (Palapanidi, 2009, 2011), discourse errors (Salapata, 2012) or phonological difficulties (Kouti, 2010). Additionally, Mavrou and colleagues (Mavrou, 2013, 2015; Palapanidi and Mavrou, 2014) have explored the constructs of accuracy, complexity and fluency in SFL learners' written work. Additionally, other pragmatic issues such as speech acts (Zerva, 2013) or pragmalinguistic adequacy (Zerva, 2014) have also been subject to study. Second, Greek and Spanish are two distant languages, and we considered that that might have consequences in how the lexicons of the two languages are stored and organized. It is definitely an interesting and insightful avenue of research we wanted to explore. Finally, Spanish is a frequent foreign language in Greek education, with learner numbers growing each year; and as such, more studies are needed that examine how it is learned, and conclusions be drawn that can help maximize the efforts of teaching and learning Spanish FL by Greek-native-speaker learners.

Considering these previous research-related results, we set out to investigate the following research questions:

1. How do word association responses differ among intermediate SFL learners, advanced SFL learners and Spanish native speakers in quantitative terms?
2. How do word association responses differ among intermediate SFL learners, advanced SFL learners and Spanish native speakers in qualitative terms?
3. Does lexical uniqueness (different or non-shared lexical items appearing only once in the data, i.e. produced only by a single learner) serve as a measure of L2 proficiency?

3. Method

The present study has been designed according to a cross-sectional design, in which data from three different learner cohorts was collected at the same time.

3.1. Informants

Three groups of learners make up the informants in this study. Group 1 consisted of 22 Greek learners of Spanish as a foreign language (SFL) at the B1 level of proficiency; all of them were adults and were students of the Faculty of Spanish Language and Literature of a Greek university. The second group, group 2, was made up of 28 adult Greek learners of SFL at the C1

level who were students of the same faculty and university. Finally, group 3, or control group, was formed by 45 Spanish native speakers studying preschool education at a university in northern Spain. The following table 1 shows this information more schematically. Students' age ranged between 18 and 40 with a mean age of 27.

We used a proficiency level multiple choice test[4] (see appendix A) to classify Greek SFL learners into their corresponding level according to the standards defined by the Common European Framework of Reference (CEFR) (2001), and which are valid and applicable in the countries of the European Union following European regulations. This test has previously been used as a placement test (into CEFR levels) for SFL learners at the ESDES (*Escuela Superior de Español de Sagunto*).

TABLE 1
Summary of informant characteristics

GROUP	N	SFL PROFICIENCY	L1
1	22	B1	Greek
2	28	C1	Greek
3	45	Native	Spanish

3.2. Instrument

In order to obtain data on the associational behaviour of our informants, we had them complete a lexical availability task. The lexical availability task is not an association test in the traditional way, since words establish relationships not only with the stimulus word or center of interest but also with the preceding words (words having been produced earlier in the task), also called chain associations. In the present study, we will focus on the associations between stimulus and responses, solely.

In this task, learners had to write as many words as came to their minds when prompted with the following 9 stimulus or centers of interest in Spanish (L2): *comida y bebida* ('food and drink'), *la casa* ('the house'), *profesiones y oficios* ('professions'), *el campo* ('the countryside'), l*a ciudad* ('the town'), *celebraciones y fiestas* ('celebrations and feasts'), *amar* ('to love'), *acciones cotidianas* ('everyday actions'), *bonito/a* ('beautiful', 'pretty'). Students had 2 minutes for each stimulus, which makes up to 18 minutes to complete the full task. The task was completed in pen and paper form.

4 The test was taken from Gozalo, Paula and María Martín (2008): *Pruebas de nivel ELE. Modelos de examen para determinar el nivel de nuevos estudiantes*, SGEL.

We selected prompts of two types. On the one hand, we decided to include some of the prompts (*comida y bebida* ('food and drink'), *la casa* ('the house'), *profesiones y oficios* ('professions'), *el campo* ('the countryside'), *la ciudad* ('the town')) which frequently appear in studies which use a lexical availability task, to allow for comparison purposes. On the other hand, we selected some novel prompts (*celebraciones y fiestas* ('celebrations and feasts'), *amar* ('to love'), *bonito/a* ('beautiful', 'pretty') and *acciones cotidianas* ('every day events')) which included a verb, an adjective and two cultural expressions, on the grounds of expected differences between native and learner participants, because most commonly studies using lexical availability tasks work with nouns as cue words and, consequently, they elicit nouns as responses (cf. Sánchez-Saus Laserna, 2011). The prompts 'celebrations and feasts' and 'everyday events' were included because they are common semantic fields in textbooks and we wanted to see the impact of this presence in learners' productions (Samper Padilla, Bellón Fernández y Samper Hernández, 2003; Šifrar Kalan, 2014). Additionally, as Paredes (2006) and López González (2016) argue, the prompt determines the types of associations to be elicited; therefore, including a verb, an adjective and two common semantic fields might throw new and interesting results.

3.3. Procedures and analysis

We had learners complete the lexical availability task in their class. We then typed the responses into computer-readable form for each of the prompts. We tallied number of responses for each of the members of the different groups in order to make comparisons. Responses where then examined for their semantic and formal components and classified into an associational taxonomy. Specifically, we categorized responses depending on whether they established a formal, a semantic association or an encyclopaedic association to the prompt and could thus distinguish among the following categories collected in table 2. The assumption, as Fitzpatrick and Izura (2011: 375) state, is that "the number of responses made in a particular category can provide information about the organization, availability, and salient features of words and their concepts in the mental lexicon".

Here, we use the associational taxonomy as introduced in Precosky (2011). Accordingly, we distinguish between semantic and formal associations and encyclopedic associations. Semantic associations are associations of words by meaning. They are, in turn, divided into syntagmatic and paradigmatic associations. The former are "horizontal" associations or associations in the same (syntactic) construction of different word class. Here we include idioms, and collocations, restricted, grammatical or lexical. Idioms refer to fixed expressions. Restricted collocations refer to the links between an adjective or adverb that are used with specific nouns and have mainly a descriptive function (cf. Precosky, 2011). Grammatical collocations are those associated to grammatical items such as prepositions basically. Finally, lexical collocations are predictable associations between words (cf. Precosky, 2011). Paradigmatic associations appear between words of the same word class which may replace one another in a sentence. Categories within paradigmatic associations include synonyms, when the response and the stimulus word have a similar meaning;

antonyms, when the two words have the opposite meaning; hyperonyms, when the response is a word that belongs to the general category represented by the stimulus word; hyponyms, when the response is a general category in which the stimulus word is included; meronyms, when the response word refers to a part of the entity represented by the stimulus word; and holonyms, when the stimulus word refers to a part of the entity reflected by the response.

Formal associations are those based on the form of the words. They can be phonetic, that is, related to the sound structure of the word or orthographic, i.e. related to the written structure of the word. According to Aitchison (2003), these formal associations are the result of the *bathtub effect*, which refers to the tendency of learners to remember the "head" (beginning) and the "feet" (ending) of the words. Other studies classifying responses according to formal associations are Precosky (2011), Post (2007), Barrow (2011), Khazaeenezhad and Alibabaee (2013). Finally, and in line with Precosky (2011) and Hernández Muñoz and López García (2014) (and also Post, 2007; Barrow, 2011; Khazaeenezhad and Alibabaee, 2013), we have included the category of encyclopedic associations. They classify responses which are related to participant's world knowledge, and personal factors such as nationality, interests, age. These are non-categorical or functional associations which might reflect cause-effect relationships, similarity or function (cf. López García, 2016). Encyclopedic associations can be assimilated to conceptually-related meaning-based associations in Fitzpatrick (2006, 2007).

TABLE 2
Taxonomy of associations for responses

TYPE OF ASSOCIATIONS	SUBTYPES OF ASSOCIATIONS	CATEGORIES OF ASSOCIATIONS	EXAMPLE
Semantic associations	Syntagmatic associations	Idiom	meter – la pata
		Restricted collocation	pelo – rubio
		Grammatical collocation	insistir – en
		Lexical collocation	perro – ladrar
	Paradigmatic associations	Synonym	morir – fallecer
		Antonym	alto – bajo
		Hyperonym	vehículo – coche
		Hyponym	coche – vehículo
		Meronym	mano – dedo
		Holonym	dedo – mano
Formal associations			cantar – captar
Encyclopaedic associations			campo – tractor

Additionally, responses per prompt and per informant were typed into .txt archives and submitted to analysis via the program Wordsmith Tools. We wanted to check not only total number of words produced, but also the different word types that appeared in the data. These data were obtained via Wordsmith Tools and its WordList application. Accordingly, we were able to identify the number of common and of non-shared words. Through using WordList with Wordsmith Tools, we elicited a complete list including responses from all learners, plus individual lists per learners, and compared them to get the words that appeared only once, and checked, per participant, how many (and which) words produced by him/her were produced by him/her exclusively in the sample. Thus, we wanted to get figures for total of tokens produced per informant, total of types produced per informant, total of common words in the sample, total of different or non-shared word types per informant. Additionally, in order to check for statistical significance, we used SPSS 19.0 statistical package.

4. Results

Our first research question asked about the quantitative differences in word responses between the three groups of learners. Table 3 offers the descriptive results.

TABLE 3
Total tokens; descriptive statistics

GROUP		
B1	**Mean**	**67.41**
	Standard deviation	31.7
	Min.	26
	Max.	135
C1	**Mean**	**96.2**
	Standard deviation	45
	Min.	44
	Max.	223
Native	**Mean**	**186.59**
	Standard deviation	43.94
	Min.	83
	Max.	266

From the figures in table 3, we can clearly see that the total number of associations given to the prompts increases with increasing proficiency, with natives scoring highest.

Moreover, results of the Mann-Whitney test for two independent samples (the samples did not meet the normality assumption) reveal that for the three comparisons, differences are statistically significant. The following table 4 offers the exact figures.

TABLE 4
Non-parametric means comparison tests for participant groups

	TOTAL RESPONSES B1-C1	TOTAL RESPONSES B1-NATIVES	TOTAL RESPONSES C1-NATIVES
Mann-Whitney U	184.5	22.5	124
Wilcoxon W	437.5	275.5	530
Z	-2.414	-6.309	-5.741
Sig.	.016	.000	.000

If we look in more detail into the different prompts, we get the following mean results collected in table 5.

TABLE 5
Mean token production for each prompt

PROMPT	B1	C1	NATIVE
Comida y bebida	11.72	14.46	23.53
La casa	10.18	12.21	24.84
Profesiones	6.4	10.32	20.82
El campo	5.6	9.71	23.62
La ciudad	7.32	9.75	20.93
Fiestas	6.6	9.32	19.82
Amar	6.45	10.46	16.82
Acciones	6.32	11.75	20.1
Bonito	4.41	8.17	16.6

In the preceding table 5, we can see that all through the prompts native speakers produce more responses than C1 learners, who in turn produce more responses than B1 learners. However, there is not a single order of most and least productive prompts, and it changes across the different groups, except for *bonito*, which is the least productive prompt in all three groups, and *comida y bebida* and *la casa*, which are, in general, the most productive fields.

In terms of the number and type of associations learners produce, we calculated the raw production of the different associations and the mean productions of these associations for each prompt across our three groups of participants. The classification of the responses into the different type was done manually by the researchers. These results are meant to answer our second research question. More specifically, and as concerns the general production of associations related with the stimulus word among the three groups, the results have shown that, generally considered, native learners is the group with the highest numbers, followed by the C1 group, and finally the B1 group. However, a more careful and detailed examination of the different types of associations reveals a slightly more complex picture.

TABLE 6

Mean associations per group and subtype

TYPE OF ASSOCIATIONS	SUBTYPES OF ASSOCIATIONS	CATEGORIES OF ASSOCIATIONS	B1	C1	NATIVE
Semantic	Syntagmatic	Idiom	0	0	0
		Restricted collocation	4.6	8.04	**15.98**
		Grammatical collocation	0	0	0
		Lexical collocation	2.28	3.57	**5.02**
	Paradigmatic	Synonym	2.24	2.1	**4.53**
		Antonym	0	0	**0,11**
		Hyperonym	0.18	0.32	**0.8**
		Hyponym	22.91	27.9	**59.40**
		Meronym	15	14.1	**42.13**
		Holonym	0	0	0
Formal			0.5	**1.36**	0.58
Encyclopaedic			22.22	38.78	**57.8**

As the previous table 6 shows, quantitative differences in the associations between learners and native participants are evident. Native speakers display larger amounts of associations, specifically they produce considerably many antonyms whereas learners do not include antonyms in their answers; hyperonyms, meronyms and hyponyms are also much more frequent in the native data. Synonyms are more frequent in the native production, as well. Collocations (lexical and restricted) and encyclopedic associations are also more frequent in the native production. Only formal associations are more frequent in C1 learners than in native speakers.

When the types of associations are examined for each prompt, we find that, actually, these types are similar among the three groups, although their frequency might change, as we have just observed above. When looking into the types of associations typical for each prompt, we find that most of the responses given to the prompts are either semantically associated to the stimulus word or related to their word knowledge through encyclopaedic associations. Within these, for *comida y bebida*, *profesiones y oficios*, hyponymic associations are most frequent followed by encyclopedic. In *la casa*, and *celebraciones y fiestas* encyclopedic responses are most common followed by meronyms and hyponyms. Meronymic associations are most frequent in the prompts *el campo* and *la ciudad* followed by encyclopedic responses, with very similar figures for both prompts. Special mention needs to be done to the other three prompts. First, in *amar*, encyclopedic associations come first, but lexical collocations appear second to a great distance of the rest of the associative types. This might have to do with the fact that we are dealing with a verb and collocations of the type *amar: mi familia, mi novio, mis padres (love: my family, my boyfriend, my parents)* are frequent. Second, in *acciones cotidianas* we only find two types of associations, a small number of encyclopedic and an overwhelming majority of hyponyms. Basically, here we find lists of everyday events: *lavarse los dientes, desayunar, ir a la Universidad* (*brush my teeth, have breakfast, go to university*). Third, in the case of *bonito*, we find again two main types of associations, synonyms of the adjective: *hermoso*, *agradable* (*beautiful, delightful*), and restricted collocation, adjective plus noun: *perro bonito* (*nice dog*), *día bonito* (*nice day*), *coche bonito* (*nice car*).

The exact figures are offered in tables 11-19 (see appendix B). Again, we want to point out that the order of frequency of the different association types is similar for participants in all three groups.

Our third research question asked for the role of lexical uniqueness as an indicator of L2 proficiency. In this sense, lexical uniqueness, as explained above, was measured as the non-shared or unique lexical items produced by the learners versus their shared vocabulary.

First of all, we tallied the number of word types produced by each learner, via WordList of Wordsmith with one word list per participant, and compared mean results across the three groups. As the results collected in table 7 indicate, we again can rank learners according to their word-types responses with native participants producing most word types, followed by C1 and, finally, B1 learners, who rank last.

In order to check for the statistical significance of the observed differences across groups, we conducted three Mann-Whitney tests for two independent samples (the samples did not meet the normality assumption), which confirmed that native speakers produce significantly more word types than B1 and C1 learners, who in turn produce significantly more word types than B1 learners. The following table 8 offers the exact figures.

TABLE 7
Total types; descriptive statistics

GROUP		
B1	**Mean**	**65.86**
	Standard deviation	31.2
	Min.	26
	Max.	131
C1	**Mean**	**91.67**
	Standard deviation	42.62
	Min.	42
	Max.	205
Native	**Mean**	**174.75**
	Standard deviation	41
	Min.	80
	Max.	246

TABLE 8
Non-parametric means comparison tests for participant groups (word types)

	TOTAL RESPONSES B1-C1	TOTAL RESPONSES B1-NATIVES	TOTAL RESPONSES C1-NATIVES
Mann-Whitney U	191.5	23	130
Wilcoxon W	444.5	276	536
Z	-2.277	-6.271	-5.614
Sig.	.023	.000	.000

However, these results do not throw further light into the lexical uniqueness, so we conducted a more detailed analysis into the specific word types to see which of them were shared by at least two participants and which were produced by one single participant only. In order to get these data, we checked each participant list against a general list including the responses of all participants. We did this manually. Accordingly, we found the number unique word types produced by each participant and only him/her.

With these results, we set out to find correlations between proficiency level and lexical uniqueness. The following table 9 presents the descriptive statistical results, which point to lexical uniqueness increasing with increasing proficiency from B1 to C1 learners and

from C1 learners to native speakers. Table 10 collects the results of non-parametric tests of means comparison between level and non-shared lexical items with all of the comparison displaying statistically significant differences. In this sense, the higher the linguistic knowledge of the speaker, the more unique, original or non-shared words will they produce. Accordingly, we could conclude that lexical uniqueness can serve as a direct measure to test proficiency level.

TABLE 9

Non-shared lexical items; descriptive statistics

GROUP		
B1	**Mean**	**11.09**
	Standard deviation	7.43
	Min.	1
	Max.	28
C1	**Mean**	**19.79**
	Standard deviation	17.1
	Min.	4
	Max.	81
Native	**Mean**	**31.38**
	Standard deviation	14.75
	Min.	7
	Max.	61

TABLE 10

Non-parametric means comparison tests for non-shared lexical items across groups

	NON-SHARED LEXICAL ITEMS B1-C1	NON-SHARED LEXICAL ITEMS B1-NATIVES	NON-SHARED LEXICAL ITEMS C1-NATIVES
Mann-Whitney U	202	96.5	303
Wilcoxon W	455	349.5	709
Z	-2.076	-5.323	-3.712
Sig.	.038	.000	.000

5. Discussion

The present study asked about the similarities and differences in the L1 and L2 lexicons of native Spanish speakers and Greek SFL learners at different proficiency levels. This study shows preliminary results based on responses to 9 prompts; we do not intend this to be exhaustive but to show some tendencies. In this sense, we looked at the quantitative and qualitative results in lexical production with a lexical availability task of the participant groups. More specifically, we could identify lexical uniqueness as a measure of proficiency level.

Other results point to lexical production, as measured by number of associative responses, increasing with proficiency, so that native speakers show higher levels of lexical production in that they produce more word associations in the lexical availability task than C1 and B1 learners. They also produce more word types in their responses, and this is true for all the prompts analysed. This result is in line with Zareva (2007) and Schmitt (1998, 2014) in that C1 learners get closer to the "native norm" taking the native results as a baseline, with B1 learners laying somewhat behind or further away from the baseline. Lower proficiency learners produce fewer responses than more advanced learners and natives (Zareva, 2007).

The rank of most and least productive prompts varies within the three groups, except for *bonito*, which is the least productive all over. This result is not surprising since the prompt is an adjective of subjective nature and this might limit the number of responses. The prompt *Comida y bebida* is also listed as the most productive in the three groups. This is common in the studies about lexical availability (Carcedo González, 1998; Šifrar Kalan, 2009) and also in the study of Verdeses-Mirabal (2012), where it is the second most productive prompt after *animals* (not included here). This prompt is of an open nature, which means that it allows for multiple associations from varied perspectives.

Additionally, we could observe that, as a general norm, the different proficiency groups produce different types of associations with B1 learners producing fewer associations than participants in the other two groups. From B1 to C1 and to native participants we observe an increase in the use of synonyms, collocations, hyperonyms, hyponyms and contextual or encyclopedic associations; this is in line with previous studies such as Fitzpatrick (2006), Precosky (2011) or López González (2016). The number of paradigmatic associations seems to be related to proficiency level in our results (Wolter, 2001). Collocational knowledge has been identified here and elsewhere as an important indicator of lexical proficiency and general linguistic level, as well (cf. Crossley et al., 2014; Precosky, 2011; Fitzpatrick, 2006); our results of associative behaviour confirm this, as well. Hyperonyms, hyponyms and meronyms are also much more recurrent in native responses, probably because the native lexicon is larger and can better account for abstract relationships of belonging. It might give us a hint of the difficulty of these types of associations and allows us to conclude that, in line with Fitzpatrick's (2007) results, learner and native lexicon organization differ to some

extent (Fitzpatrick and Izura, 2011) and that the L1/L2 status might be influencing the type of associations made.

Special notice deserve the cases of restricted collocations and formal associations which are slightly more frequent in C1 learners than in native informants. The latter have been repeatedly found to be more typical of low level learners (e.g. Fitzpatrick, 2006; Zareva, 2007; Precosky, 2011). Our results confirm this. In the case of restricted collocations, one might argue that informants have learned the collocations by heart as a single lexical unit or fixed expression and as such they are produced.

The specific prompt or thematic field is also determining the types of associations found. Thus, noun stimuli trigger mainly hyponyms, meronyms and encyclopedic associations in varying order. However, adjective, phrases or verbs seem to stimulate other types of associations such as collocations. Our results are very preliminary, but they show a tendency and open an avenue worth further investigation.

Lexicon organization might be a factor of vocabulary size, specific word knowledge and especially thematic field. L1 or L2 status might also influence but rather subordinated to semantic field. Accordingly, learners (lexical) knowledge of certain topics might influence the size of their lexicon, and this might have consequences in how their lexicons are structured in terms of the associations or links established between lexical items. As an example, we can think of how learners' world knowledge of holidays and festivities may be reflected in the number of lexical items they can associate to the topic. Similarly, we can assume that the larger their vocabulary on this topic is, the more complex and varied are the links between the lexical items (cf. Meara, 1996; Qian, 2002). Likewise, the nature of the stimuli, e.g. noun, verb, phrase, adjective, might have important consequences in the type of associations triggered in the responses, which again might be a sign of how word class contributes to shaping the mental lexicon (cf. Palapanidi and Agustín-Llach, 2014). In this sense, the results with the lexical availability task in this study highlight the role of sociocultural, world knowledge and pragmatic aspects in the organization of the mental lexicon.

However, when examined across prompts, type of prompt is an overriding factor over proficiency level, since the types of associations vary greatly from prompt to prompt. Thus, hyponimical associations are most frequent in the fields of *comida y bebida*, *profesiones* and *acciones cotidianas*; meronyms appear mostly in *el campo* and *la ciudad*; in the semantic fields *celebraciones y fiestas*, *la casa* and *amar* it is encyclopaedic associations which are most frequent, with lexical collocations for the verbal prompt *amar*; and finally for *bonito* participants resorted to restricted collocations on most occasions. The semantic and categorical value of the prompt is influencing the types of associations generated. These data allows, therefore, to conclude that, in line with Paredes (2006), semantic field or cognitive sphere determines associative relations. Similarly, the familiarity of the learners with the stimulus words turns

out to be relevant in their associative behaviour (see also Zareva, 2007). In this sense, we need to look further into the chain associations within the prompts, and how these relations are established, i.e. the main prompt triggers the whole sequence, one word prompts the next one or a group of associative items. Further research in this field is warranted.

The last set of results revealed that lexical uniqueness or number of non-shared words produced by the learners is a factor of proficiency level. In other words, the higher the proficiency level up to native linguistic command, the more unique or non-shared words participants produce. In this sense, the nature of our data collection task, in which participants were asked to write several responses to each prompt, allows for a better detection of variability in lexical associative behaviour, with special attention to idiosyncratic answers, as this result of lexical uniqueness reveals (cf. Precosky, 2011; Hernández Muñoz, 2014). Similarly, the results obtained in this study can add extra indirect evidence to the relationship between vocabulary size and associative responses in a lexical availability task, showing thus that the larger the vocabulary size, the higher the number of responses in the lexical availability task, the greater connectivity and associations and the lexical uniqueness (cf. Zareva, 2007). Accordingly, we can conclude that lexical availability tasks can serve as a good measure to test language proficiency (cf. Jiménez Catalán and Fitzpatrick, 2014). This result, however, does not exactly concur with previous studies which probed that, the more idiosyncratic words a learner produced, the further they are from the native baseline (cf. Schmitt, 1998; Zareva, 2007). However, the focus of both studies is slightly different, since whereas Schmitt (1998) and Zareva (2007) explored associative behaviour solely, we concentrated on examining non-shared lexical items, which might be a reflection of vocabulary size more than of association behaviour exclusively. This might explain the differences. In this last line, our results concur with the pool of studies and measures that exalt production of idiosyncratic lexical items as a group internal measure indicative of L2 lexical proficiency (David, 2008; Bulté et al., 2008; Crossley et al., 2014; Meara, personal communication).

6. Conclusion

The present study has shown a preliminary attempt at providing a better understanding of lexicon organization and lexical uniqueness in the productions of Spanish native and Greek SFL learners at the B1 and C1 levels in a lexical availability task. As already mentioned above, this study does not intend to be exhaustive, since it offers some tentative findings concerning learners' associative behaviour based on solely 9 prompts. We want to identify some tendencies and open the ground for further research, accordingly should our conclusions be understood. We found that lexical production in a lexical availability task depends on language proficiency, and so does lexical uniqueness. The more proficient the learner is, the more responses they produce in tokens and in types. Similarly, the number of non-shared or idiosyncratic lexical items also increases as a factor of general proficiency.

Lexicon organization revealed itself a measure difficult to systematize, but results point at thematic field as an overriding factor over proficiency level or L1/L2 status. Learners at lower levels produce fewer associations of all types, in general terms, with an increasing tendency parallel to language level. However, results of associative behaviour show much more variability concerning the prompts or semantic fields at stake. Different semantic and categorical prompts give rise to different associative behaviours. This result is interesting, since it opens a new line of research into the field of lexicon organization.

6.1. Pedagogical implications

In light of the results obtained in the present study, we believe that learners could benefit from a teaching approach in which explicit lexical instruction takes the lead (Nation, 2001; Jiang, 2004). Informing students about collocations, teaching them synonyms or approximate synonyms and expanding their semantic networks will bring them closer to a larger vocabulary size and a vocabulary closer to the native one, not only in quantitative, but also in qualitative terms. Morphological awareness stands as an important component of general proficiency as well. Teaching learners word morphology, derivation processes and enlarging their formal networks can largely contribute to increasing their general proficiency level and linguistic knowledge (Sökmen, 1997). Finally, our results point at a need to increase sociocultural and pragmatic knowledge to come closer to the "native model", and to be able to interpret the L2 in its full dimension.

6.2. Limitations

The present study is not without limitations. Probably, the most conspicuous one might be the use of the lexical availability as a WAT. For Jiménez Catalán (personal communication) it is not clear at all that the lexical availability task is a WAT, because there is no systematicity in the responses it obtains. It shows variability in the frequency and order of responses to the different prompts. Our last set of results about lexical uniqueness abound in the lack of systematicity and consistency of responses of native speakers, pointing to more non-shared vocabulary, and thus less consistent and systematic answers for native, more proficient learners. Maybe the fact that it allows for up to 30 responses accounts for this.

6.3. Future research

The results of this study open new interesting avenues for further research. A more qualitative analysis of chain associations and how responses within a prompt are linked to each other, and what are the mechanisms that trigger the answers would be an interesting follow-up to the present study. Additionally, a detailed analysis of the responses is needed to look into how the L1 background, in linguistic and cultural terms, influences responses in the different prompts, especially in those prompts with high cultural load. Similarly, this analysis could provide insights into development of depth of vocabulary knowledge and concept acquisi-

tion, and inform about prototypicality and stereotypy. The present researchers are already working on both lines of research to complement the present study.

7. Bibliographic references

Aitchison, Jean, 2003: *Words in the mind: An introduction to the mental lexicon*, third edition, Oxford: Blackwell.

Alexopoulou, Angelica, 2005: *Contribución al estudio de los errores morfosintácticos en la interlingua escrita de aprendientes de español de origen griego*. PhD dissertation, National and Kapodistrian University of Athens, Greece.

Ávila-Muñoz, Antonio, & José María Sánchez-Saez, 2014: "Fuzzy sets and prototype theory. Representational model of cognitive community structures based on lexical availability trials", *Review of Cognitive Linguistics* 12 (1), 133-159.

Barrow, Sarah, 2011: *First and second language word association. A study of how native English speakers and ESL learners make mental links between English words they have learnt*. Dissertation of Master of Arts in Applied Linguistics, University of Birmingham.

Bulté, Bram, Alex Housen, Michel Pierrard & Siska van Daele, 2008: "Investigating lexical proficiency development over time? the case of Dutch-speaking learners of French in Brussels", *Journal of French Language Studies* 18 (3), 277-298.

Carcedo González, Alberto, 1998: "Desarrollo de la competencia léxica en español LE: Análisis de cuatro fases de disponibilidad", *Pragmalingüística* 5-6, 75-94.

Carcedo González, Alberto, 2000: *Disponibilidad léxica en español como lengua extranjera:el caso finlandés (estudio del nivel preuniversitario y cotejo con tres fases de adquisición)*, Turku: Universidad de Turku.

Costa, Albert, Angles Colomé & Alfonso Caramazza, 2000: "Lexical Access in Speech Production: The Bilingual Case", *Psicológica* 21, 403-437.

Crossley, Scott, Tom Salsbury & Danielle McNamara, 2014: "Assessing lexical proficiency using analytic ratings: A case for collocation accuracy", *Applied Linguistics* 36 (5), 570-590.

David, Annabelle, 2008: "A developmental perspective on productive lexical knowledge in L2 oral interlanguage", *Journal of French Language Studies* 18, 315-331.

Fitzpatrick, Tess, 2006: "Habits and rabbits: Word associations and the L2 lexicon", *EUROSLA Yearbook* 6, 121-145.

Fitzpatrick, Tess, 2007: "Word association patterns: unpacking the assumptions", *International Journal of Applied Linguistics* 17 (3), 319-331.

Fitzpatrick, Tess, & Cristina Izura, 2011: "Word association in L1 and L2: An exploratory study of response types, response times and inter-language mediation", *Studies in Second Language Acquisition* 33, 373-398.

Fitzpatrick, Tess, D. Playfoot, Allison Wray & M. Wright, 2015: "Establishing the reliability of word association data for investigating individual and group differences", *Applied Linguistics* 36 (1), 23-50.

Hernández Muñoz, Natividad, 2014: "Categorías en el léxico bilingüe: perspectivas desde el *priming* semántico interlenguas y la disponibilidad léxica", *Revista Electrónica de Lingüística Aplicada* 1, 19-38.

Hernández Muñoz, Natividad, & Miguel López García, 2014: "Análisis de las relaciones semánticas a través de una tarea de libre asociación en español con mapas auto-organizados", *RLA: Revista de Lingüística Teórica y Aplicada* 52 (2), 189-216.

Higginbotham, George, 2010: "Individual learner profiles from word association tests: The effect of word frequency", *System* 38, 379-390.

Jiang, Nan, 2004: "Semantic transfer and development in adult L2 vocabulary acquisition" in Paul Bogaards & Batia Laufer (eds.): *Vocabulary in a Second Language*, Amsterdam: John Benjamins, 101-126.

Jiménez Catalán, Rosa M.ª, & Tess Fitzpatrick, 2014: "Frequency Profiles of EFL Learners' Lexical Availability" in Rosa M.ª Jiménez Catalán (ed.): *Lexical Availability in English and Spanish as a Second Language*, Dordrecht: Springer, 83-100.

Khazaeenezhad, Bahareh, & Ahmad Alibabaee, A. 2013: "Investigating the Role of L2 Language Proficiency in Word Association Behavior of L2 Learners: A Case of Iranian EFL Learners", *Theory and practice in Language Studies* 3 (1), 108-115.

Kroll, Judith, & Erika Stewart, 1994: "Category interference in translation and picture naming: Evidence for asymmetric connections between bilingual memory representations", *Journal of Memory and Language* 33, 149-174.

Kroll, Judith, Erica Michael, Natasha Tokowicz & Robert Dufour, 2002: "The development of lexical fluency in a second language", *Second Language Research* 18, 137-171.

Kouti, María, 2005: "El español en Grecia: Principales dificultades de los estudiantes griegos en el aprendizaje de E/LE", XV *Congreso Internacional de la AEPE "400 años de Don Quijote: Pasado y perspectivas de futuro"*, 293-304, Valladolid: Universidad de Valladolid.

Kouti, María, 2010: *Análisis contrastivo de los sistemas fonológicos del español y del griego moderno*. MPhil Dissertation. Universidad Internacional Menéndez Pelayo.

Levelt, Willem, 1989: *Speaking: From intention to articulation*, Cambridge, MA: MIT Press.

López González, Antonio, 2016: "Las asociaciones léxicas en el léxico disponible en lengua materna y en lengua extranjera", *Tonos Digital* 31.

Lugo Mirón, S., & Angelica Alexopoulou, 2012: "KPG: Certificado Estatal de Lenguas", *Revista Nebrija de Lingüística Aplicada* 13.

Masrai, Ahmed, & Jim Milton, 2015: "An investigation of the relationship between L1 lexical translation equivalence and L2 vocabulary knowledge", *International Journal of English Linguistics* 5 (2), 1-7.

Mavrou, Irini, 2013: "Memoria de trabajo: su incidencia en la expresión escrita en E/LE", *Revista Nebrija de Lingüística Aplicada* 13.

Mavrou, Irini, 2015: *Memoria operativa y complejidad cognitiva en la expresión escrita de aprendientes griegos de E/LE*. PhD Dissertation, Universidad Antonio de Nebrija.

Meara, Paul, 1983: "Word associations in a foreign language", *Nottingham linguistic circular* 11, 28-38.

Meara, Paul, 1996: "The dimensions of lexical competence" in Gillian Brown, Kirsten Malmkjaer & John Williams (eds.): *Performance and Competence in Second Language Acquisition*, Cambridge University Press, 35-53.

Nation, Paul, 2001: *Learning vocabulary in another language*, Cambridge: Cambridge University Press.

Palapanidi, Kiriaki, 2009: *Análisis de errores léxicos en la lengua escrita de los aprendientes griegos de español*. MPhil Dissertation, Universidad Antonio de Nebrija.

Palapanidi, Kiriaki, 2011: *Factores condicionantes de producción de errores léxicos en la lengua escrita de los aprendientes griegos de español*. PhD Dissertation, Universidad Antonio de Nebrija.

Palapanidi, Kiriaki, & M.ª Pilar Agustín-Llach, 2014: "Can lexical errors inform about word class acquisition? Evidence from Greek learners of Spanish as a foreign language", *Revista de Lenguas y Lingüística Aplicada* 9, 67-78.

Palapanidi, Kiriaki, & Irini Mavrou, 2014: "El efecto del tipo de tarea en la fluidez y la exactitud léxica de la producción escrita de aprendientes griegos de español", *Porta Linguarum* 22, 251-265.

Paredes, Florentino, 2006: "Aportes de la disponibilidad léxica a la psicolingüística: una aproximación desde el léxico de los colores", *Lingüística* 18, 19-55.

Pavlenko, Aneta, 2009: "Conceptual Representation in the Bilingual Lexicon and Second Language Vocabulary Learning" in Aneta Pavlenko (ed.): *Bilingual mental lexicon: Interdisciplinary approaches*, Clevedon, UK: Multilingual Matters, 125-160.

Post, Michael, 2007: *Word Association Responses, Lexical Development and the Relationship Within the Mental Lexicon of Second Language Learners*. MPhil Dissertation, University of Birmingham.

Precosky, Krista, 2011: *Exploring the mental lexicon using word association tests: How do native and non-native speakers of English arrange words in the mind?* [http://www.birmingham.ac.uk/Documents/college-artslaw/cels/essays/lexis/PrecoskyKristaLexisWAT2011.pdf].

Qian, David, 2002: "Investigating the relationship between vocabulary knowledge and academic reading performance: An assessment perspective", *Language Learning* 52, 513-536.

Rodríguez Lifante, Alberto, 2010: *Español como lengua extranjera en Grecia: su aprendizaje en la enseñanza media reglada*. MPhil Dissertation, Universidad de Alicante.

Rodríguez Lifante, Alberto, 2015: *Motivación y actitudes como variables afectivas en aprendices griegos de español como lengua extranjera*. PhD Dissertation, Universidad de Alicante.

Salapata, P., 2012: *Análisis de errores morfosintácticos y discursivos en la interlengua de aprendices griegos de E/LE, nivel: B2: un estudio sobre el impacto de la comunicación en textos escritos*. MPhil Dissertation, Universidad Antonio de Nebrija.

Samper Hernández, Marta, 2002: *Disponibilidad léxica en alumnos de español como lengua extranjera*, Málaga: ASELE.

Samper Padilla, José A., Juan José Bellón Fernández & Marta Samper Hernández, 2003: "El proyecto de estudio de la disponibilidad léxica en español" in Gerd Wotja (ed.): *Pautas y pistas en el estudio del léxico hispano(americano)*, Madrid/Frankfurt: Iberoamericana/Vervuert, 27-140.

Sánchez-Saus Laserna, Marta, 2011: *Bases semánticas para el estudio de los centros de interés del léxico disponible. Disponibilidad léxica de informantes extranjeros en las universidades andaluzas*. PhD Dissertation, Universidad de Cádiz.

Santos Gargallo, Isabel, & Angelica Aalexopoulou, 2014: "Creencias y actitudes de profesores y alumnos griegos de español ante las técnicas de corrección en la interacción oral: estudio comparativo intragrupos", *Didáctica. Lengua y Literatura* 26, 429-446.

Schmitt, Norbert, 1998: "Tracking the incremental acquisition of second language vocabulary: A longitudinal study", *Language Learning* 48, 281-317.

Schmitt, Norbert, 2014: "Size and depth of vocabulary knowledge: What the research shows", *Language Learning* 64 (4), 913-951.

Šifrar Kalan, Marjana, 2009: "Disponibilidad léxica en español como lengua extranjera: el cotejo de las investigaciones en Eslovenia, Salamanca y Finlandia", *Verba Hispánica* 17, 165-182.

Šifrar Kalan, Marjana, 2014: "Disponibilidad léxica en diferentes niveles de español/lengua extranjera", *Studia Romanica Posnaniensia* 41 (1), 63-85.

Sökmen, Anita, 1997: "Current trends in teaching second language vocabulary" in Norbert Schmitt & Michael McCarthy (eds.): *Vocabulary. Description, Acquisition and Pedagogy*, Cambridge: Cambridge University Press, 237- 257.

Verdeses-Mirabal, Roberto Tomás, 2012: "Disponibilidad léxica de los estudiantes hispanos de Redwood City, California", *Revista Nebrija de Lingüística Aplicada* 11.

Wolter, Brent, 2001: "Comparing the L1 and L2 Mental Lexicon", *Studies in Second Language Acquisition* 23, 41-69.

Zerva, Alla, 2007: "Structure of the Second Language Mental Lexicon: How does it Compare to Native Speakers' Lexical Organization", *Second Language Research* 23 (2), 123-153.

Zerva, Alla, & Brent Wolter, 2012: "The 'promise' of three methods of word association analysis to L2 lexical research", *Second Language Research* 28 (1), 41-67.

Zerva, Adamantia, 2009: "La enseñanza del español en Grecia: ¿norma y/o uso?", FIAPE III Congreso Internacional: La enseñanza del español en tiempos de crisis.

Zerva, Adamantia, 2013: "Los principios de cortesía en la enseñanza del español a aprendices griegos: las fórmulas de saludos y despedidas", *Foro de profesores de E/LE*, 9, 153-160.

Zerva, Adamantia, 2014: "La aplicación del enfoque comunicativo a la enseñanza de E/LE: los posesivos. En: La enseñanza del español como LE/L2 en el siglo XXI" in Narciso M. Contreras Izquierdo (ed.): *XXIV Congreso Internacional ASELE*.

8. Appendixes

8.1. Appendix A

Proficiency and placement test

Marque en la hoja de respuestas la opción adecuada.

1. Voy a alquilar una habitación en el ..... piso de la calle Bolivia.
   a. primero b. tercero c. uno d. primer

2. En esta sala sólo ..... tres profesores.
   a. están b. hay c. son d. es

3. ..... sábado próximo voy a tu ciudad. Espero verte ..... el aeropuerto.
   a. En/a b. El/en c. Por el/en d. Al/a

4. -¡Oye!, ¿sabes dónde he puesto mi chaqueta?
-Claro, está ..... de la silla de tu habitación.
   a. sobre b. en c. bajo d. encima

5. El coche de mi padre ..... de color gris metalizado.
   a. es b. hay c. está d. tiene

6. -¿Vienes mucho a este restaurante?
-Pues sí, me gusta muchísimo, por eso vengo .....
   a. casi nunca b. a menudo c. a veces d. raramente

7. -A mí me gusta mucho el fútbol, ¿y a vosotros?
- .....
   a. A nosotros también b. A nosotros sí c. Nosotros también d. A nosotros tampoco

8. ¿ ..... significa *buzón*?
   a. Cuál b. Quién c. Cómo d. Qué

9. -¿A qué hora ..... (vosotros) normalmente?
-A las once o doce de la noche, depende.
   a. acostáis b. os acostáis c. os acostas d. se acuestan

10. En la calle donde vivo hay ..... dos cines.
   a. - b. los c. un d. algunos

11. -¿..... habitaciones tiene tu casa?
-Dos individuales y una doble.
   a. Cuántas b. Qué c. Cómo d. Cuántos

12. -Oye, ¿tú sabes qué ..... hacer para conseguir una dirección de correo electrónico en la universidad?
-No sé... pregunta en Relaciones Internacionales.
a. hay b. tengo que c. tengo de d. tengo a

13. -¿Quieres comer algo?
-No, gracias, más tarde. No tengo .....
a. sed b. hambre c. frío d. calor

14. Este próximo verano ..... un viaje por Chile.
a. vamos b. iremos a hacer c. vamos a hacer d. nos vamos

15. -Niños, ¿os gustan las patatas fritas?
-Sí,..... muchísimo.
a. no nos gustan b. gustan c. nos gustan d. nos las gustan

16. -¿Cómo ..... tu nuevo compañero de piso?
-Pues, guapísimo, alto y muy generoso.
a. está b. estás c. eres d. es

17. (En un bar)
-¿.....?
-Son cinco euros.
a. Cuánto es cuesta b. Qué es c. Cuánto es d. Cuánto son

18. -¿Cuándo fue la última vez que hablaste con Nacho?
-Pues, ...
a. tres meses pasados b. en tres meses c. desde tres meses d. hace tres meses

19. -¿Has comprado el periódico?
-Sí, ... he comprado esta mañana.
a. - b. la c. me d. lo

20. -¿..... alguna película de Almodóvar?
-Sí, he visto todas. La semana pasada ..... *Vover*. Me encantó.
a. Has visto/vi b. Has mirado/miré c. Viste/vi d. Has visto/he visto

21. Ayer mi amigo de Irlanda me ..... una botella de whisky.
a. trayo b. trajo c. traje d. trae

22. -El otro día, mientras estaba comprando, me ..... el bolso.
-¡Qué mala suerte?
a. robaron b. robé c. robó d. robaban

23. Le he comprado un libro a Luisa, voy a enviár..... por correo ahora mismo.
a. se lo b. selo c. se le d. la

24. -Perdone, ¿puedo probarme estos pantalones?
-Sí, claro,..... (usted).
a. pruébelos b. pruébatelos c. pruébeselos d. pruébalos

25. (En un restaurante) -¿Cómo quiere la carne?
- .....
a. Muy hecha b. En punto c. Así hecha d. Mucho hecha

26. En verano, cuando hace mucho calor, algunos españoles después de comer .....
a. hacen siesta b. duermen la siesta c. tienen la siesta d. siestean

27. El miércoles pasado ..... viendo una película muy interesante en la tele y de pronto ..... la luz.
a. estábamos/se fue b. estuvimos/se fue c. estuvimos/se iba d. estábamos/se iba

28. Ya he hecho el pedido para el supermercado, espero que lo ..... pronto, la nevera está vacía.
a. traen b. traerían c. traerán d. traigan

29. Ayer, cuando ..... en el cine, la película ya .....
a. entramos/había empezado b. entrábamos/había empezado
c. habíamos entrado/empezó d. entramos/empezó

30. Esta mañana he hablado con Sara, pero no ..... nada del tema.
a. ha sabido b. supo c. sabía d. sabió

31. -Entonces, el otro día se nos estropeó el coche.
- ¿Ah sí? ¿Y cómo volvisteis a casa?
- ..... pie.
a. De b. Por c. Con d. A

32. -Mañana vamos a una fiesta.
-¡.....!
a. Que lo pasáis bien b. Pasar bien c. Que lo paséis bien d. Que lo pasaréis bien

33. No puedo tolerar que mi jefe ..... así.
a. me trata b. me trates c. me tratas d. me trate

34. Hablaré con ella cuando .....
a. me llame b. me llama c. llámeme d. me llamas

35. Creo que la boda ..... en la catedral de Sevilla.
a. está b. estará c. va a estar d. será

36. Me gusta mucho que me ..... bombones.
a. regalan b. regalen c. regalaran d. van a regalar

37. No ..... (vosotros) muy alto, por favor; los niños están dormidos.
a. habléis b. hablen c. habláis d. hablan

38. Me da mucha pena que Rita no..... a la fiesta.
a. venga b. viene c. vendrá d. va a venir

39. -¡Hola! ¿Está Juan?
-No, ha salido hace un momento.
-¿Puede decirle que.....?
a. llamó b. he llamado c. había llamado d. llamo

40. Es posible que Carlos..... la reunión. Tenía muchas cosas que hacer hoy.
a. se pierde b. se perderá c. se pierda d. se ha perdido

41. Es necesario que..... una política exhaustiva de reciclaje en todos los municipios.
a. hay b. haya c. hayan d. haga

42. En esta clase no hay nadie que..... chino.
a. entiende b. entienda c. entenderá d. entendiera

43. -¿Crees que tendremos suerte con el tiempo?
-No creo que.....
a. llueve b. llova c. lloverá d. llueva

44. -No me encuentro muy bien, me duele todo.
-Pues yo que tú, me..... a la cama con un vaso de leche caliente.
a. iría b. ir c. iré d. voy

45. -Dejé de fumar hace un mes.
-Muy bien, pues yo..... fumar un año.
a. llevo sin b. hace que c. llevaba sin d. desde

46. Me haría mucha ilusión que mis hijos..... varios idiomas.
a. sabieran b. sepan c. habían sabido d. supiesen

47. El otro día Vicente fue a una entrevista de trabajo y con los nervios.....
a. se hizo colorado b. se quedó en blanco c. se quedó sin blanca d. se puso morado

48. En cuanto..... que le..... la beca, llamó a su novia para decírselo.
a. supo/daban b. sabía/dieron c. sepa/daban d. supe/dieron

49. (En el mercado)
-Por favor, póngame seis..... de jamón York, que..... bueno.
a. lonchas/era b. lonchas/sea c. rebanadas/sea d. porciones/es

50. Si..... con él, ahora no..... tan confundida.
a. hubieras hablado/estarías b. habrías hablado/estarías
c. habrías hablado/hubieras estado d. hablarías/habrías estado

51. Juan disfruta mucho en las bodas y celebraciones, siempre.....
a. se pone morado b. se pone verde c. se queda en blanco d. se pone nervioso

52. Como no..... antes de las diez, mañana no saldrás a la calle.
a. vienes b. vinieras c. vengas d. vendrás

53. Le encantan la paella, la siesta, el flamenco, todos los tópicos españoles, la verdad es que..... muy español.
a. se ha vuelto b. se ha puesto c. se ha quedado d. se ha convertido

54. -¿..... español?
-Un año.
a. Cuándo llevas estudiando b. Cuánto tiempo que llevas estudiando
c. Cuánto tiempo hace estudias d. Cuánto tiempo llevas estudiando

55.-¿Has visto todas las ambulancias que hay allí?
-Sí, es verdad, ¿qué .....?
a. le habrá pasado b. habría pasado c. habrá pasado d. hubiera pasado

56. -En cuanto lo....., llámame.
-Serás el primero en saberlo.
a. consigues b. consigo c. consiguió d. consigas

57. ¿Has visto a Carlos? Es que ayer me pidió que le..... este libro y vengo a dárselo.
a. comprara b. compre c. compro d. compraría

58. -La verdad es que este verano he cogido unos cuántos kilos de más.
-Si..... un poco de ejercicio, los..... en un santiamén.
a. hagas/pierdes b. harías/perderías c. hicieras/perderás d. hicieras/perderías

59. Ojalá mis padres me..... el ordenador, pero no creo, porque he suspendido todas.
a. compran b. compraran c. comprarán d. han comprado

60. Antes de que..... tus amigos, limpia tu habitación.
a. vienen b. vengan c. vendrán d. vinieran

61. ..... 50 ejercicios y todavía me quedan otros 50.
a. Ando corrigiendo b. Llevo corrigiendo c. Llevo corregidos d. Quedo corregidos

62. -Yo creo que lo explicará de manera que todos lo .....
-¿Tú crees?
a. entienden b. entendieron c. entendieran d. entiendan

63. Hablaba con él como si..... un nativo, y no se daba cuenta de que no la entendía.
a. era b. fue c. fuera d. sería

64. -¿Cuánto..... llegar a casa desde el trabajo?
-Pues, más o menos cuarenta y cinco minutos.
a. tardas en b. tardas al c. duras en d. es en

65. Como no llegues pronto, no..... a salir más en una semana.
a. vayas b. irías c. fueras d. vas

66. Se lo conté todo y..... anonadado.
a. se volvió b. se puso c. se quedó d. se hizo

67. -Me han tocado dos millones de euros. -¡Quién..... en tu lugar!
a. fuera b. estuviera c. esté d. sea

68. -¡Venid conmigo a la fiesta!
-¿Cómo dices?
-Que ..... a la fiesta.
a. venís b. venir c. venid d. vengáis

69. -Me parece que Antonio..... para este trabajo.
-Pues yo creo que hay que darle otra oportunidad.
a. está verde b. está blanco c. está negro d. está morado

70. En Semana Santa, en muchos países católicos hay..... religiosas por las calles.
a. desfiles b. cabalgatas c. marchas d. procesiones

71. Me temo que Federico..... con nosotros, y no sé por qué.
a. se enfadaría b. se haya enfadado c. se ha enfadado d. se enfade

72. -¡Me alegro un montón..... verte!
-Y yo también, ¡.....!

a. de/cuánto tiempo b. a/qué gordo estás
c. por/estás en los huesos d. para/estás mejorado

73. El presidente del comité de empresa se reunió con los trabajadores a fin de ..... a un acuerdo en lo de la huelga.
a. llegando b. llegan c. llegar d. lleguen

74. Cuando veo estos pasteles de chocolate que hace tu abuela, ...
a. se me hace la boca agua b. se me hace el ojo grande
c. se me hace la boca grande d. se me hace el ojo azúcar

75. Las tormentas de ayer impidieron que..... (nosotros) a la montaña.
a. subimos b. subamos c. subiéramos d. habíamos subido

76. El hecho de que ayer no..... a la reunión, no significó que estuviéramos de acuerdo.
a. habríamos ido b. hayamos ido c. fuéramos d. fuimos

77. -¡Hola, vengo a que..... un poquito de aceite!
-Espera, ahora te lo doy.
a. me das b. me pones c. me pondrás d. me des

78. -¿Fue Pilar con vosotros a ver esa película?
-No, no vino; supongo que ya la.....
a. vio b. veía c. había visto d. hubiera visto

79. ¡..... no te van a creer!
a. Digas lo que digas b.Digas o no digas c. Dígaslo o no d. Di lo que dices

80. Te advertí que no lo....., pero siempre haces lo que quieres.
a. hagas b. hacías c. hicieras d. hiciste

8.2. Appendix B

TABLE 11
Comida y bebida

CATEGORY OF ASSOCIATIONS	GROUPS					
	B1		C1		NATIVES	
	NO.	AV.	NO.	AV.	NO.	AV.
Syntagmatic						
Restricted collocation	6	0.27	25	0.89	64	1.42
Lexical collocation	2	0.09	4	0.14	5	0.11

Paradigmatic						
Synonym	2	0.09	11	0.39	20	0.44
Hyperonym	0	0	0	0	2	0.44
Hyponym	247	11.23	220	7.86	694	15.42
Meronym	0	0	0	0	4	0.09
Formal	3	0.13	15	0.53	7	0.15
Encyclopaedic	20	0.9	124	4.43	254	5.64

TABLE 12

La casa

CATEGORY OF ASSOCIATIONS	GROUPS					
	B1		C1		NATIVES	
	NO.	AV.	NO.	AV.	NO.	AV.
Syntagmatic						
Restricted collocation	10	0.45	26	0.93	19	0.42
Lexical collocation	0	0	14	0.5	23	0.51
Paradigmatic						
Synonym	3	0.14	8	0.29	29	0.64
Hyponym	2	0.09	1	0.04	17	0.38
Meronym	76	3.45	111	4	419	9.31
Encyclopaedic	150	6.82	186	6.64	602	13.68

TABLE 13

Profesiones y oficios

CATEGORY OF ASSOCIATIONS	GROUPS					
	B1		C1		NATIVES	
	NO.	AV.	NO.	AV.	NO.	AV.
Syntagmatic						
Restricted collocation	1	0.05	6	0.22	6	0.13
Paradigmatic						
Synonym	2	0.09	4	0.14	6	0.13
Hyponym	105	4.77	199	7.11	810	18
Formal	0	0	2	0.07	0	0
Encyclopaedic	40	1.82	79	2.82	106	2.36

TABLE 14
El campo

CATEGORY OF ASSOCIATIONS	GROUPS					
	B1		C1		NATIVES	
	NO.	AV.	NO.	AV.	NO.	AV.
Syntagmatic						
Restricted collocation	1	0.05	5	0.18	0	0
Lexical collocation	1	0.05	0	0	7	0.16
Paradigmatic						
Synonym	0	0	0	0	1	0.02
Hyperonym	4	0.18	9	0.32	13	0.29
Meronym	92	4.18	110	3.93	601	13.36
Formal	0	0	7	0.25	1	0.02
Encyclopaedic	45	2.05	140	5	443	9.84

TABLE 15
La ciudad

CATEGORY OF ASSOCIATIONS	GROUPS					
	B1		C1		NATIVES	
	NO.	AV.	NO.	AV.	NO.	AV.
Syntagmatic						
Restricted collocation	0	0	2	0.07	11	0.24
Lexical collocation	1	0.05	0	0	0	0
Paradigmatic						
Synonym	0	0	0	0	2	0.04
Hyponym	1	0.05	5	0.18	15	0.33
Meronym	125	5.68	141	5.04	625	13.89
Formal	0	0	1	0.04	1	0.02
Encyclopaedic	55	2.5	123	4.39	287	6.38

TABLE 16

Celebraciones y fiestas

CATEGORY OF ASSOCIATIONS	GROUPS					
	B1		C1		NATIVES	
	NO.	AV.	NO.	AV.	NO.	AV.
Syntagmatic						
Restricted collocation	0	0	7	0.25	3	0.07
Lexical collocation	0	0	0	0	2	0.04
Paradigmatic						
Synonym	3	1.14	0	0	9	0.2
Hyponym	32	1.45	58	2.07	249	5.53
Meronym	37	1.68	29	1.04	247	5.49
Formal	1	0.05	4	0.14	1	0.02
Encyclopaedic	70	3.18	163	5.82	373	8.29

TABLE 17

Amar

CATEGORY OF ASSOCIATIONS	GROUPS					
	B1		C1		NATIVES	
	NO.	AV.	NO.	AV.	NO.	AV.
Syntagmatic						
Restricted collocation	0	0	0	0	2	0.04
Lexical collocation	45	2.05	82	2.93	184	4.09
Paradigmatic						
Synonym	5	0.28	6	0.21	37	0.82
Hyponym	0	0	0	0	1	0.02
Formal	7	0.32	9	0.32	17	0.37
Encyclopaedic	85	3.87	196	7	509	11.31

TABLE 18

Acciones

CATEGORY OF ASSOCIATIONS	GROUPS					
	B1		C1		NATIVES	
	NO.	AV.	NO.	AV.	NO.	AV.
Paradigmatic						
Hyponym	115	5.23	298	10.64	888	19.73
Encyclopaedic	24	1.09	31	1.11	14	0.31

TABLE 19

Bonito

CATEGORY OF ASSOCIATIONS	GROUPS					
	B1		C1		NATIVES	
	NO.	AV.	NO.	AV.	NO.	AV.
Syntagmatic						
Restricted collocation	83	3.78	154	5.5	614	13.64
Lexical collocation	0	0	0	0	5	0.11
Paradigmatic						
Synonym	11	0.5	30	1.07	101	2.24
Antonym	0	0	0	0	5	0.11
Hyperonym	0	0	0	0	3	0.07
Encyclopaedic	9	0.41	44	1.57	26	0.58