

## CAN LEXICAL ERRORS INFORM ABOUT WORD CLASS ACQUISITION IN THE FOREIGN LANGUAGE?: EVIDENCE FROM GREEK LEARNERS OF SPANISH AS A FOREIGN LANGUAGE

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**Abstract:** *This research study examines the order of acquisition of four different classes of words: verbs, nouns, adjectives, and adverbs in three different levels of proficiency in the FL. We apply the procedure of Error Analysis to a corpus of written compositions and analyze the interlingual and intralingual lexical errors (formal and semantic) of Greek students studying Spanish as a Foreign Language (SFL). Our results have shown i) that there is a relationship between the type of word and the production of lexical errors and ii) that the evolution of lexical errors presents different trends for different word classes. Additionally, our results lead us to the conclusion that word class is a stronger predictor of lexical error type than proficiency level.*

**Keywords:** *error analysis, lexical errors, word class acquisition in FL, vocabulary acquisition in FL, acquisition of Spanish as a FL.*

### 1. INTRODUCTION

Grammar distinguishes two types of words: grammatical and lexical words. Grammatical words are the ones which are used to express grammatical relations, traditionally articles, prepositions, pronouns, and conjunctions. On their part, lexical words are defined as the ones that express meaning or contribute to providing speech with meaning. These are: nouns, verbs, adjectives and adverbs. There may be other classifications of lexical items, but this is the taxonomy most frequently acknowledged in the literature. In the present paper, we will concentrate exclusively on lexical words. Traditionally, there is the firm belief that all types of words are not equally easy to acquire. This belief has its origin in the observation of native language acquisition (Caselli *et al.*, 1995; Bornstein *et al.*, 2004; Gentner and Baroditsky, 2009), where children seem to acquire nouns first, then verbs, and finally adjectives and adverbs, respectively.

Frequency of input, lack of cognitive complexity, which is linked to the quick and easy identification of nouns in real life, those with concrete referents, especially; and conceptual development are the factors alluded to when accounting for order of acquisition of word classes. Verbs are more difficult to acquire than nouns, because they depend on some language-specific knowledge related to syntax and semantic components, such as motion, manner, and other aspects encoded in verbs; and require thus a higher cognitive load (Naigles and Hoff-Ginsberg 1998, Myles 2004, VanPatten 2004). Finally, adjectives and adverbs appear to qualify the nouns, the actions or the processes expressed. They are not always necessary to get the message across, but contribute to making it clear and to eliminating possible ambiguities or misunderstandings.

Although it is difficult to quantify, few studies have addressed the issue of which types of words are acquired first and last in the process of foreign or second language acquisition (Schmitt 1998, San Mateo Valdehita 2003/2004 for Spanish FL). Research notes that nouns and fixed expressions come first in L2 acquisition. In particular, concrete nouns and those easily visualized are learned before abstract ones (Sökmen 1997). Similarly, cognates are also easy and appear early in L2 productions (Jarvis 2000). In studies about lexical availability in Spanish FL, the most frequently available words are nouns, followed by verbs and adjectives in varying positions depending on the semantic field under scrutiny (Šifrar Kalan 2009). Housen *et al.* (2008) found that adolescents produce more verbs than nouns in French L2, whereas David (2008) found nouns to be the first and most frequent

category among younger learners in their oral French L2 discourse, with verbs increasing faster than nouns as learners go up grade.

The early appearance of, more or less, fixed expressions is accounted for by alluding to the assumption that, because they make up a single unit of meaning, they are learned together as if they were a single lexical item. These fixed expressions have been proved highly effective in communication (Wray and Fitzpatrick 2010). This is very much in the line of the *construction theory* within the field of cognitive linguistics. This field of study claims that language is made up of chunks or constructions which constitute a form-meaning unit. Accordingly, L2 learning consists basically in learning different constructions (Robinson and Ellis 2008). The pre-eminence of semi-fixed patterns in early language makes a strong claim for this theory. Chunks are a frequent phenomenon in the productions of young and beginner learners, who are unable to analyse language and linguistic structures and therefore, dissect them into smaller components.

Additionally, research has evidenced that in mother tongue acquisition nouns are the first words to be learned when they refer to realities in the child's world. For instance, according to Gentner and Baroditsky (2009), in the productive vocabulary of the Navajo children, nouns such as those for animals (*cat, dog*), food (*banana, orange, water*), or people (*grandmother, father, brother, teacher*) predominate in their productions. Verbs come immediately after, since they represent actions, or processes needed to link nouns, and therefore are basic for the development of syntax, i.e. to construe meaningful and logical sentences. Adjectives and adverbs appear last, since they are not indispensable to transmit content, although on most occasions they modify or complement the content meaning of nouns or verbs. In general, research with different target languages of Indo-European origin coincide with the same order of acquisition observed when these languages are acquired as a mother tongue (Gentner 1982, Tardif, Shatz, Naigles 1997).

Nevertheless, some years ago, researchers working with L1 development questioned the nouns first hypothesis on the basis of evidence from other non-Indo-European languages (Tardif, Shatz, Naigles 1997, Naigles and Hoff-Ginsberg 1998). The salience of verbs in the input of some languages lies at the origin of this reservation and questioning. Indeed, according to the *usage based model* (e.g. Diessel 2004); the frequency of occurrence of a linguistic element makes its activation easier and quicker. According to this, the elements most frequent or most salient in the input would be acquired most easily. However, research in this respect is scarce and no definite conclusions have been reached. In the present study, we are interested in going deeper into the issue of the order of word class acquisition by examining the lexical errors in each of the categories. This represents a novel perspective in this type of studies, because former research on word class acquisition has not used error analysis as a methodology. Furthermore, studies on lexical errors do not tend to classify the errors identified according to word classes (but cf. Lennon 1991).

## 2. LEXICAL ERRORS AND LANGUAGE ACQUISITION

According to Myles (2004), the linguistic forms (correct and incorrect) produced by foreign language (FL) learners are a window into their mental representations, and hence they serve as indicators of the development of the language acquisition process. According to Agustín Llach and Barreras Gómez (2007), lexical errors represent a hint into vocabulary acquisition in an FL given the fact that they may demonstrate a lack of lexical knowledge, possible communication strategies used by the learners, the organization of the mental lexicon, and/or the development of lexical competence. In this sense, lexical errors can be very useful in helping to delve into the issue of the order of word class acquisition.

Notwithstanding the above claims, Myles (2004) believes that the relationship between the produced linguistic forms, whether they are correct or erroneous, and the mental representations of the learners is not simple and direct. This relationship is more complicated and multidimensional. For instance, lack of lexical errors of a particular word class, or linguistic item can be the result of mastery but also of inhibition in use, a phenomenon generally known as *avoidance* (Schachter 1974).

Although it is difficult to identify the underlying cause of a wrong linguistic form, lexical errors can be very valuable in getting a deeper, clearer, and more accurate picture of the processes of lexical acquisition. Moreover, the positive view of the (lexical) errors has generally been agreed on since Corder (1967, 1973), who claims that (lexical) errors are considered a sign of language acquisition and development rather than lack thereof.

### 3. LEXICAL ERRORS IN THE WRITTEN COMPOSITIONS OF GREEK SFL LEARNERS

With these considerations in mind, this study intends to explore the order of the acquisition of words of four different classes: verbs, nouns, adjectives, and adverbs by detecting the class of word that causes the most difficulties at the different levels of proficiency in the FL. In order to accomplish this objective, we apply the procedure of Error Analysis to a corpus of written compositions and analyze the interlingual and intralingual lexical errors (formal and semantic) of Greek students studying Spanish as a Foreign Language (SFL).

Based on previous research, we are led to believe that lexical errors in nouns and verbs would decrease with increasing proficiency, but errors in adjectives and especially in adverbs would increase as learners proficiency progresses from beginner to intermediate or advanced. Our starting point is the assumption that learners master nouns and verbs before they get to master adjectives and adverbs whose presence augments at higher proficiency levels. We believe that examination of lexical errors will help us throw further light in this issue. We were also interested in examining the types of lexical errors most frequent for each word class and thus in identifying any systematicity in their production that might help unveil the process of acquisition of the specific word classes.

In order to explore the nature of the relationship between word class, lexical error production and proficiency level, in the present study we set out to investigate the following research questions:

1. Is there evidence of a relationship between word class and the production of lexical errors?
2. Does this relationship change with FL proficiency?
3. What is the most frequent lexical error type in nouns, verbs, adjectives, and adverbs?
4. Do types of lexical errors in word class change as proficiency increases?

### 4. METHOD

#### 4.1. Informants

Our sample is composed of 119 Greek SFL learners who have been classified into three different linguistic levels of proficiency: B1, B2, and C1 as defined by the European Reference Framework. Students were classified into the proficiency levels according to the result of a placement test, the Intermediate DELE<sup>1</sup> Exam of November 2008. Thus, those who obtained between 30 and 40 correct answers were ascribed to the B1 level, between 40 and 50 to the B2 and above 50 to the C1 level.

According to this, we assigned 32 students in level B1, 47 students in level B2, and 40 students in level C1. All the participants were adults, of Greek mother tongue, and they were learning SFL in an institutionalized context<sup>2</sup>.

**Table 1.** Summary of informants ascribed to proficiency level.

	<b>B1</b>	<b>B2</b>	<b>C1</b>
No. of students	32	47	40

#### 4.2. Instruments of data collection

The topic of the composition was the narration of a film that they had seen recently (Figure 1). A general and simple topic was chosen which allowed students from all three proficiency levels to complete the writing task successfully. No maximum or minimum word or length constraints were imposed. Participants were not allowed to use any support material such as dictionaries or grammar reference books. They were allotted 30 minutes to complete the writing task.

1) *Probablemente eres aficionado al cine. ¿Recuerdas la última película que has visto? Cuéntala y habla de: dónde, cuándo y cómo se inicia la historia; qué sucede posteriormente; cuál es el momento más importante; cómo termina.*

**Figure 1.** Composition Topic.

<sup>1</sup> DELE is the Spanish acronym which stands for Spanish as a Foreign Language Certificate. It is the official examination of the Instituto Cervantes.

<sup>2</sup> 23 of our participants are Greek students of the Department of Spanish Literature of the National University of Athens and 96 of our participants are Greek SFL students of the Center of Foreign Languages of the National University of Athens.

#### 4.3. Procedures and analysis

Students wrote the essay in regular classes with no extra help from dictionaries or grammar reference books, as stated above. After writing the composition, they were asked to take the placement exam. The subsequent phase in the study consisted in the identification and the classification of the lexical errors found. Taking into account the objective of this study and based on previous studies on lexical errors (Zimmerman, 1987; Fernández, 1997; Jodar, 2006; Palapanidi, 2012), their lexical errors were classified into formal and semantic. In addition to this, lexical errors were also classified into interlingual, or intralingual based on the criterion of the psychological origin of the lexical error, which has been used by previous studies of a similar type (Zimmerman, 1987; Vázquez, 1991; Palapanidi, 2012).

The category of lexical interlingual formal errors includes the following errors subtypes (see also Figure 2):

1. gender (*la comportamiento* for *el comportamiento*)
2. number (*los gentes* for *la gente*)
3. adaptations from other foreign languages (*el senario* for *el guión*)
4. change of code, that is the learner uses a word from the L1 or other known languages (*su atelier* for *taller*)

Whereas, the category of lexical interlingual semantic errors is further subdivided into:

5. lexemes with common semes but not interchangeable in the context (*hacer paseos* for *dar paseos*)
6. literal translation (*la primera actriz* for *la protagonista*)
7. false friends (*el protagonista realició* for *se dio cuenta*)
8. use of inappropriate register (*estación de téle* for *television*)
9. use of circumlocution (*tan mucho ruido* for *mucho ruido*)

The category of lexical intralingual formal errors includes the following types of errors:

10. gender (*muchas problemas* for *muchos problemas*)
11. number (*da comidas y información* for *comida*)
12. use of formally similar target language words (*su viaje madre* for *su madre vieja*)
13. creation of non-existent words (*una vida más sanida* for *sana*)

On its part, the category of lexical intralingual semantic errors includes:

14. use of circumlocution (*segunda guerra del Mundo* for *segunda guerra mundial*)
15. changes in derivatives of the same root (*del muerto de su madre* for *de la muerte de su madre*)
16. lexemes with common semes but not interchangeable in context (*la gente no puede mover* for *no puede transportarse*)
17. errors in the use of *ser* and *estar* (*no está un problema* for *no es un problema*)
18. use of inappropriate register (*ir de compras me da un humor de perros* for *no me gusta ir de compras*)
19. errors in collocations (*en concluso* for *en conclusion*)
20. pleonasm, that is the learners use two words with the same meaning to reinforce the utterance (*lo más mejor* for *mejor*).

Finally, all lexical errors in the present study have been classified according to the word class they belong to, and thus:

- verbs (*la gente comen* for *come*)
- nouns (*un ciudad* for *una ciudad*)
- adjectives (*pequeño ciudad* for *pequeña*)
- adverbs (*enferma en su mente* for *enferma mentalmente*)

Lexical interlingual errors	
Formal 1. Gender. 2. Number. 3. Adaptations of other foreign languages. 4. Change of code.	Semantic 1. Lexemes with common semes but not interchangeable in the context. 2. Literal translation. 3. False friends. 4. Use of inappropriate register. 5. Use of circumlocution.
Lexical intralingual errors	
Formal 1. Gender. 2. Number. 3. Use of formally similar target language words. 4. Creation of non-existent words.	Semantic 1. Use of circumlocution. 2. Changes in derivatives of the same root. 3. Lexemes with common semes but not interchangeable in the context. 4. Errors in the use of <i>ser</i> and <i>estar</i> . 5. Use of inappropriate register. 6. Errors in collocations.

Figure 2. Typology of lexical errors.

## 5. RESULTS

In the first place, we were interested in exploring the relationship between lexical error production and word class. Of the total of 511 lexical errors that have been identified in our corpus, 137 errors were committed in verbs, which make up an average per participant of 1.15 errors, 272 in nouns with an average of 2.28 errors per participant. We identified 89 errors in adjectives with an average of 0.75 errors per participant; and finally, 13 lexical errors in adverbs with an average of 0.11 errors per participant.

In general, therefore, we see nouns as the word class where most lexical errors are produced, followed by verbs, adjectives and adverbs in this order. Lexical errors in adverbs are very few.

Table 2 offers the figures for raw lexical error production, mean productions, and percentage of errors in each word class over total across the three proficiency levels within the study. The table shows thus the evolution in the production of lexical errors for each word class as proficiency increases.

Table 2. Evolution of lexical error production in the different word classes across level.

ProficLevel	Word Class											
	Verb			Noun			Adjective			Adverb		
	No	Av	% over total of errors	No.	Av.	% over total of errors	No.	Av.	% over total of errors	No.	Av.	% over total of errors
B1	47	1.47	33.1	73	2.28	51.41	19	0.59	13.38	3	0.09	2.11
B2	63	1.34	26.92	127	2.7	54.27	42	0.89	17.95	2	0.04	0.85
C1	27	0.68	20	72	1.8	53.33	28	0.7	20.74	8	0.2	5.93

If we examine general lexical error production across levels, as our second research question posed, we observe that at the B1 level, lexical errors in nouns are 73, 2.28 on average. This constitutes 51.41% of total lexical errors. For verbs the figures are 47 instances of lexical error, with an average of 1.47 and 33.1% of total lexical errors. We have identified 19 lexical errors in adjectives with an average of 0.59 errors and 13.38% of total lexical errors. Finally, lexical errors in adverbs are the least frequent with a total of 3 errors, an average of 0.09, and 2.11% over total lexical errors.

Regarding the B2 level, the results of our analysis show that there were 127 lexical errors in nouns, with an average of 2.7 errors, which constitutes the 54.27% of total of lexical errors. A total of 63 errors were committed in verbs with an average of 1.34 errors, 26.92% of the total lexical errors. There were 42 lexical errors in adjectives, with an average of 0.89 errors, 17.95% of total lexical errors. Finally, similar to the B1 level results, lexical errors in adverbs present low numbers, with a total of 2 errors, with an average of 0.04 errors and 0.85% of total lexical errors.

At the C1 level, our analysis reveals that there were 72 lexical errors in nouns with an average of 1.8 errors per participant, 53.33% of total lexical errors. For the verbs, 27 lexical errors were found, with an average of 0.68 errors, which constitutes 20% of total lexical errors. As far as the adjectives, there were 28 errors with an average of 0.7 errors and 20.74% of total lexical errors. There were 8 lexical errors in adverbs with an average of 0.2 per participant and they constitute 5.93% of total lexical errors.

Thus, we observe that as learner proficiency increases, lexical errors in verbs tend to decrease, whereas lexical errors in nouns present a decreasing tendency, with a slight increase at the B2 level and a final decline at the C1 level. It is worth noticing that they are always the most numerous, accounting for around half of all lexical errors. Lexical errors in adjectives tend to increase and finally, lexical errors in adverbs also tend to increase from the B1 to the C1 level.

Nevertheless, taking into account that the frequency of use of each word class is different, we examine our results in relation with the number of produced verbs, nouns, adjectives and adverbs.

Table 3 presents the absolute numbers of produced verbs, nouns, adjectives and adverbs and their mean values. In addition to these figures, Table 3 also offers the percentage of errors in each word class over total of produced verbs, nouns, adjectives and adverbs across the three proficiency levels.

**Table 3.** Total production of every word class and percentage of errors over the total production of every word class across proficiency level.

Pr.L.	Word Class											
	Verb			Noun			Adjective			Adverb		
	No	Av	% over total of verbs	No	Av	% over total of nouns	No	Av	% over total of adj.	No	Av	% over total of adv.
B1	712	22.25	6.6	888	27.75	8.22	294	9.19	6.46	118	3.69	2.54
B2	1174	24.98	5.37	1767	37.6	7.18	585	12.45	7.18	174	3.7	1.15
C1	1175	29.38	2.3	1632	40.8	4.41	580	14.5	4.83	179	4.48	4.47

The results of our analysis indicate that the most used word class is nouns in all proficiency levels, followed by verbs, adjectives and adverbs, in this order. This last category has a very weak presence. Furthermore, our analysis based on the total production of every word class verifies the strong presence of lexical errors in nouns. We found high percentages of lexical errors in nouns when the total production of nouns used by the participants in all proficiency levels was considered.

Regarding the evolution of lexical errors in the four word classes, the results of our analysis show that at the B1 level the percentage of lexical errors in nouns over the total of nouns produced is 8.22%, for verbs we find a percentage of 6.6%, for adjectives 6.46% and for adverbs 3.39%. At the B2 level, our analysis indicates a percentage of 7.18% of nouns affected by a lexical error, 7.18% of the adjectives, 5.37% of the verbs and 1.15% of the adverbs. Finally at the C1 level, we observe a percentage of 4.41% nouns affected, 2.3% verbs, 4.83% adjectives and 4.47% adverbs.

Thus, we can see that these results verify the decreasing tendency of lexical errors in nouns and verbs and the increase of the lexical errors in adjectives and adverbs.

In order to answer our third and fourth research questions, we analyzed lexical error categories to find out the most frequent lexical error type for each of the different word classes generally considered and across the proficiency levels.



Table 4 displays the mean values and absolute numbers of lexical error types as concerns their distribution across the four word classes.

**Table 4.** Distribution of the lexical errors into the different word classes.

Type of lexical error	Word Class											
	Verb			Noun			Adjective			Adverb		
	No.	Av.	S.D.	No.	Av.	S.D.	No.	Av.	S.D.	No.	Av.	S.D.
Interlingual	40	0.34	0.71	137	1.15	1.55	37	0.31	0.6	8	0.07	0.25
a) Formal	28	0.24	0.67	<b>119</b>	<b>1</b>	1.33	<b>33</b>	<b>0.28</b>	0.58	<b>8</b>	<b>0.07</b>	0.25
b) Semantic	12	0.1	0.33	18	0,15	0.48	4	0.03	0.22	0	0	0
Intralingual	97	0.82	1.08	135	1.13	1.3	52	0.44	0.9	5	0.04	0.2
a) Formal	25	0.21	0.5	57	0.48	0.89	<b>33</b>	<b>0.28</b>	0.7	2	0.02	0.13
b) Semantic	<b>72</b>	<b>0.61</b>	0.88	78	0.65	1.08	19	0.16	0.41	3	0.02	0.16

The results of our analysis show that the most frequent lexical errors in verbs are intralingual semantic lexical errors with an average of 0.61 errors per participant. The categories that follow are interlingual formal errors with an average of 0.24, intralingual formal errors (0.21) and interlingual semantic errors (0.1). As far as the most frequent lexical errors in nouns are concerned, the analysis reveals that these are interlingual formal errors with an average of 1 error per participant. The following categories are intralingual semantic errors (0.65), intralingual formal errors (0.48) and interlingual semantic errors (0.15). The most frequent lexical errors in adjectives are interlingual formal errors and intralingual formal errors with an average of 0.28 errors, which are followed by intralingual semantic errors (0.16), and interlingual semantic errors (0.03). Finally, the most frequent lexical errors in adverbs are interlingual formal (0.07). The categories that follow are intralingual formal errors and intralingual semantic (0.02).

To answer our fourth research question, we classified lexical errors into further categories and subtypes and examined their evolution across the proficiency levels. Table 5 offers the absolute number and mean figures for each of the lexical error broad categories at the three proficiency levels for verbs.

**Table 5.** Evolution of the lexical errors in verbs across levels.

Level of proficiency	Interlingual						Intralingual					
	Formals			Semantic			Formal			Semantic		
	No.	Av.	S.D.	No.	Av.	S.D.	No.	Av.	S.D.	No.	Av.	S.D.
B1	9	0.28	0.81	5	0.16	0.37	9	0.28	0.58	24	0.75	0.98
B2	18	0.38	0.79	5	0.11	0.37	8	0.17	0.38	32	0.68	0.84
C1	1	0.03	0.16	2	0.05	0.22	8	0.2	0.56	16	0.4	0.84

The results of our analysis show that the most frequent lexical errors in verbs at all proficiency levels are intralingual semantic errors. An exploration of their evolution reveals that almost all the categories of lexical errors in verbs, interlingual (formal and semantic) and intralingual semantic, tend to decrease as the proficiency level in SFL of the Greek students increases, whereas we can see a slight increase of the intralingual formal errors from the B2 level to the C1 level.

In addition to this, we have also examined the evolution of the different subtypes of lexical errors as classified into the taxonomy presented in the method section. The results of this additional and more detailed analysis show that at the B1 level the most frequent types of lexical error in verbs are errors in the use of *ser* and *estar*, the confusion between lexemes with common semes, adaptations to the FL of L1 or Ln words, and the creation of non-existent words. Similar results as concerning the most frequent lexical error subtypes were found for the B2 level. Finally, at the C1 level, the most frequent types of lexical errors in verbs were the confusion between lexemes with common semes, errors in the use of *ser* and *estar*, and the creation of non-existent words.

Table 6 shows the absolute number and mean figures for each of the lexical error broad categories at the three proficiency levels for nouns.

**Table 6.** Evolution of the lexical errors in nouns.

Level of proficiency	Interlingual						Intralingual					
	Formal			Semantic			Formal			Semantic		
	No.	Av.	S.D	No.	Av.	S.D	No.	Av.	S.D	No.	Av.	S.D
B1	37	1.16	1.22	4	0.12	0.42	13	0.41	0.8	19	0.6	1.21
B2	47	1	1.32	10	0.21	0.59	31	0.66	1.09	39	0.83	1.19
C1	35	0.88	1.44	4	0.1	0.38	13	0.33	0.66	20	0.5	0.78

Regarding the lexical errors produced in nouns, our analysis reveals that the most frequent errors for all proficiency levels are interlingual formal lexical errors. If we examine the evolution of lexical errors in nouns, the results of our analysis generally show that they tend to decrease in all the categories of lexical errors, interlingual (formal and semantic) and intralingual (formal and semantic).

A more detailed analysis of the evolution of different subtypes of lexical errors in nouns shows that, at the B1 level, the most frequent types of lexical error in nouns are adaptations to FL, intralingual errors in gender, and code switching. In the same way, at the B2 level, adaptations to FL are the most frequent type of lexical error in nouns. The types of lexical error that follow are intralingual errors in gender and the creation of non-existent words. Finally, adaptations to FL is again the most frequent type of lexical error at the C1 level followed by confusion between lexemes with common semes, and the creation of non-existent words, respectively.

Table 7 presents the absolute number and mean figures for each of the lexical error broad categories at the three proficiency levels for adjectives.

**Table 7.** Evolution of the lexical errors in adjectives.

Level of proficiency	Interlingual						Intralingual					
	Formal			Semantic			Formal			Semantic		
	No.	Av.	S.D	No.	Av.	S.D	No.	Av.	S.D	No.	Av.	S.D
B1	7	0.22	0.49	0	0	0	9	0.28	0.68	3	0.09	0.3
B2	13	0.28	0.58	3	0.06	0.32	16	0.34	0.76	10	0.21	0.46
C1	13	0.32	0.66	1	0.03	0.16	8	0.2	0.69	6	0.15	0.43

Examination of lexical error production in adjectives reveals that the most frequent errors at the B1 and B2 levels are intralingual formal lexical errors. Whereas the most frequent category of lexical error in adjectives at the C1 level is interlingual formal lexical errors. Additionally, the results of the analysis of the evolution of lexical errors in adjectives show that interlingual formal lexical errors and intralingual semantic lexical errors increase as the proficiency level of participants increases. These are the most outstanding findings for this set of results.

The detailed analysis of the evolution of the different types of lexical errors in adjectives reveals that, at the B1 level, the most frequent type of lexical error in adjectives are the confusion between lexemes with common semes, intralingual errors in gender, and the creation of non-existent words. Regarding the B2 level, the most frequent type of lexical error in adjectives is the creation of non-existent words. The following most frequent types are changes in derivatives of the same root, and interlingual errors in gender. At the C1 level, the most frequent types of lexical error in adjectives are interlingual errors in gender, the creation of nonexistent words, and intralingual errors in gender. Less frequent lexical error categories are confusion between lexemes with common semes, and changes in derivatives of the same root.

Finally, Table 8 displays the absolute number and mean figures for each of the lexical error broad categories at the three proficiency levels for adverbs.



**Table 8.** Evolution of the lexical errors in adverbs.

Level of proficiency	Interlingual						Intralingual					
	Formal			Semantic			Formal			Semantic		
	No.	Av.	S.D	No.	Av.	S.D	No.	Av.	S.D	No.	Av.	S.D
B1	2	0.06	0.25	0	0	0	0	0	0	1	0.03	0.18
B2	2	0.04	0.2	0	0	0	0	0	0	0	0	0
C1	4	0.1	0.3	0	0	0	2	0.05	0.22	2	0.05	0.22

Our last set of results concerns lexical error production in adverbs. They show that the most frequent category of lexical error in adverbs for all proficiency levels is interlingual formal lexical errors. Lexical errors in adverbs have a very weak presence in our corpus. Interlingual formal errors and intralingual semantic errors in adverbs tend to increase as the linguistic level of our participants increases but this increase shows an unstable pattern with a slight decrease at the B2 level, whereas the intralingual formal errors appear only in the C1 level.

Additionally, the analysis of the evolution of the different subtypes of lexical errors in adverbs shows that, at the B1 level, the most frequent types of lexical error are adaptations to FL and changes in derivatives of the same root. At the B2 level, the only type of lexical error that appears is the adaptation to FL. Adaptation to FL is the most frequent subtype of lexical error at the C1 level. These include the creation of non-existent words, errors caused by circumlocution and errors in collocations.

## 6. DISCUSSION

Our results show that there is a quantitative difference in the production of lexical errors in the different word classes. Specifically, lexical errors are most frequent in nouns, followed by verbs, then adjectives and finally adverbs. These findings answer the first research question. Even when relative measures are taken, we found that for nouns, which are the most frequent word class, lexical errors are more common than in the remaining classes. Although figures tend to be similar for adjectives and adverbs at the B2 and C1 proficiency levels.

Previous research has shown (e.g. Kim, McGregor and Thompson, 2000; Bornstein et. al. 2004; Gentner and Baroditsky, 2009; Li and Fang, 2011) that nouns are the first class of words acquired, and in our data nouns were the most frequent word class in the output of Greek students studying Spanish as a foreign language. Besides, lexical errors in nouns present the highest percentage over total words produced of all the word classes. In other words, not only are nouns the most frequent word class, they also present the highest number of lexical errors in relative terms. This can be accounted for by problems in mastering nouns which goes well into high proficiency levels. In conclusion, nouns might be more difficult to command than we had previously assumed. Gender errors and lexical coinages seem to be responsible for these higher numbers.

Lexical errors in verbs have been found to be numerous as well, but smaller percentages than with nouns are found. This might reveal that learners have apparently more problems in mastering nouns than verbs. The multiple content and syntactic information they encode might explain their high cognitive load. Furthermore, verbs have proved the most difficult word class to be acquired and they require the most repetitions to be mastered or acquired successfully (San Mateo Valdehita 2003/2004). Accordingly, assumptions that verbs and the Spanish verbal system are difficult to command might act as a warning for learners to take more caution when producing verbs, and hence the smaller percentage of lexical errors than in nouns.

The weak presence of adjectives and adverbs in our corpus cannot be traced back to learners' good or full knowledge of them, but rather it might be attributed to avoidance of use (cf. Schachter 1974). It seems that our participants preferred to use simple syntax in their written output and they avoided adjectives and adverbs, which are used in long and syntactically more complex phrases and sentences.

Furthermore, the usage based model could also explain the weak presence of adjectives and adverbs in learners' production. According to Diessel (2004), who provides a thorough description of this usage based model of language acquisition and use, the frequency of a linguistic element in the input determines its acquisition and its appearance in the learners' output. It seems that this linguistic theory could explain the lack of adjectives and adverbs in learners' output. It seems reasonable to think that the input that our participants have received from their teachers and from the teaching materials is simplified without complex sentences or complicated syntax. If

we acknowledge that adjectives and adverbs appear in this type of linguistic expression, we can understand the reason for the weak presence of these word classes in the output of our participants.

Additionally, the results of this study have also revealed different development or evolution trends in the lexical errors produced in the different word classes. In particular, lexical errors in verbs and nouns tend to decrease as the proficiency level of the learners increases. On the contrary, lexical errors in adjectives and adverbs show an increasing tendency.

The decreasing tendency of lexical errors in nouns and verbs can be explained if we focus on the characteristics of the process of acquisition of SFL. During the first stages of acquisition, Greek learners studying Spanish as a foreign language seem to use nouns and verbs which they have not yet acquired completely. In other words, they use nouns and verbs whose formal and semantic aspects have not been internalized at the moment of data collection. This may explain the considerable amount of lexical errors produced in these word classes, considered both in absolute and in relative terms. As the proficiency level of learners increases, the formal and semantic characteristics of nouns and verbs are slowly incorporated in the lexical competence of our participants, and lexical errors in nouns and in verbs decrease.

In the same line, the development of lexical errors in adjectives and adverbs, can be accounted for in terms of mastery and use. Again, we are inclined to believe that this reflects real language use. Adjectives and adverbs become increasingly more frequent in learners' output and consistently, they are more subject to lexical errors. As learners' syntax gets more complicated with the use of adjectives and adverbs, lexical errors start cropping up and becoming more frequent as well. The type of adjectives and adverbs used might also contribute to this increasing lexical error production.

According to Schmitt (1998), adjectives and adverbs appear to be learned at later stages of the acquisition of the FL, so learners begin to use them at advanced stages, when their output becomes more complex. Thus, errors in adjectives and adverbs will start to come up at later stages and become increasingly more frequent. Furthermore, taking into account the results by Gentner and Baroditsky (2009) and the studies by Kim, McGregor and Thompson (2000), Ogura *et al.* (2006) and Li and Fang (2011) with regard to the importance of the input, it seems that the input that the learners of the advanced stages receive is richer in adjectives and adverbs. This is also in line with the usage-based model commented previously. In this sense, we might expect more adjectives and adverbs in the output of advanced FL learners. Nevertheless, they still present gaps in their knowledge, and this is the reason for lexical errors in these word classes as well, especially at advanced linguistic levels.

Another interesting result in our study is the different types of lexical errors which are characteristic of the different word classes. Likewise, these lexical error types in word class are constant across all levels. This points to word class as a stronger predictor of lexical error type than proficiency level and answers our third and fourth research questions.

In this sense, the most frequent lexical error type in nouns for all linguistic levels has been found to be formal lexical errors and especially adaptations to FL. This result can be explained by alluding to the process of the acquisition of nouns. As previous research has shown (Gentner, 1981; Kim, McGregor and Thompson, 2000; Bornstein *et al.* 2004; Gentner and Baroditsky, 2009), nouns are the first word class to be acquired because they are more transparent in their meaning, since they are used to label concrete objects. Indeed, the results of our study confirm the early acquisition of the meaning of nouns given the fact that the most frequent lexical errors in nouns are related to their form.

By contrast, the most frequent lexical error type in verbs for all the linguistic levels are intralingual semantic lexical errors. Specifically, we observe a strong presence of lexical errors in the use of *ser* and *estar* and in lexemes with common semes. Similarly, the explanation for these results may reside in the process of acquisition of verbs. According to the studies by researchers such as Gentner (1981) or Caselli *et al.* (1995), and to the results of the study of Matanzo Vicens and Reyes Díaz (1998/1999), the semantic characteristics of verbs are more complex since they indicate actions or states, so the acquisition of their meaning is more difficult than the acquisition of the meaning of nouns. Our results are consistent with this finding, since we observe that the most frequent lexical errors in verbs are semantic.

Cognitive models of language acquisition and use predict that learners will have problems with linguistic items that encode conceptualizations not present in their native languages (Pavlenko 2005). This can account for the frequent learner errors in the Spanish *ser-estar* distinction, lacking in Greek L1. The process of L2 acquisition will bring forth a re-conceptualization of the world, and consequently of the distinction deployed by *ser* and *estar*.

The most frequent lexical error type in adjectives for all linguistic levels is intralingual formal lexical errors and more specifically errors because of the creation of non-existent words. According to Matanzo Vicens and Reyes

Díaz (1998/1999), the nominal categories of words (nouns, adjectives) present a lower degree of semantic difficulty than the verbal categories of words. Our results are in the same line with the study of Matanzo Vicens and Reyes Díaz (1998/1999) given the fact that the highest number of lexical errors in adjectives is located in their form.

Finally, the results of our analysis have shown that the most frequent lexical error type in adverbs are interlingual formal lexical errors and especially errors because of the adaptations of L1 words to the FL. In this case, it seems that the formal aspect is the most difficult to be acquired, as well. Nevertheless, the weak presence of lexical errors in adverbs does not allow to reach an accurate and definite conclusion and further research in this respect is called for.

## 7. CONCLUSION

Data of the present study points to the fact that there is a relationship between the type of word and the production of lexical errors. Furthermore, the evolution of lexical errors presents different trends in the different word classes. Accordingly, our results lead us to the conclusion that word class is a stronger predictor of the production of specific lexical error types than proficiency level.

Nevertheless, the lack of studies in the acquisition of the different word classes in FL, has forced us to base the explanations of some of our results on studies that have investigated the order of acquisition of the word classes in the mother tongue. Interpretations of results must, therefore, follow with caution and further research is warranted to further understand the relationship between word class, lexical error production and proficiency level.

Given this lack of studies in FL, we believe that future research is needed in the field of the acquisition of the different word classes in FL. Linguistic production of learners of Spanish of different mother tongues should be included in future research in this area in order to find out the parameters of this process.

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