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Assessing L1 Interference on English spelling among Spanish EFL students

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ABSTRACT

Some problems in the second language acquisition process may be caused by the mother tongue. Specifically, in most cases, the Spanish language impedes or makes the learning of a second language difficult. With this fieldwork study, I have managed to assess the extent to which the Spanish language interferes with the process of EFL acquisition of seventy-seven young students, and how this is reflected in their production of certain spelling errors. The empirical data obtained showed that learners make a higher quantity of errors due to the interference of their L1 than other error categories.

Keywords: Error Analysis – Contrastive Analysis Hypotheis – Cross-linguistic influence – Orthographic interference – Spanish natives – ESL

RESUMEN

La lengua materna puede ocasionar problemas durante el proceso de adquisición de una segunda lengua. Concretamente, en la mayoría de los casos, la lengua española impide o dificulta el aprendizaje del inglés. En este trabajo, se ha intentado valorar hasta qué punto la lengua española interfiere en el proceso de la adquisición del inglés como lengua extranjera de setenta y siete estudiantes, y cómo ello se ve reflejado en la producción de ciertos errores ortográficos. Los datos empíricos obtenidos mostraron que los estudiantes producen en mayor cuantía errores debidos a la interferencia de su lengua materna que otros pertenecientes a otras categorías.

Palabras clave: Análisis de errores – Hipótesis del análisis Contrastivo – Influencia interlingüística – Interferencia ortográfica – Nativos de español – Inglés como segunda lengua

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FOREWORD

This dissertation is a final formal requirement to complete the Degree in English Studies at the University of Valladolid. The content of this dissertation is related to the A2 subject "Scientific description of the English Language" as reflected in the 2015 Teaching Guide.

Specifically, this paper deals with the mother tongue interference on the English spelling of Spanish EFL students. I have chosen this aspect of second language acquisition because I consider the L1 interference should be taken more into account in our educational methodology, since the interlinguistic interaction of the mother tongue can be problematic for second language learners. In this dissertation, I will carry out an analysis on the spelling errors supposedly generated by L1 interference. The identification and analysis of written errors generated by Spanish EFL students would provide us with very useful information on the process of learning English as a foreign language.

This study has given me the opportunity to put into practice some aspects I have learned during the different courses of my degree. These aspects involve some phonetics background (Instrumental I and English Phonetics and Phonology) learned during my first and third year; and organization of the data and presentation of the extracted information (Information and Communication Technology), learned during the fourth year of my degree.

I would like to take the opportunity to thank to the English teachers and the students who made this dissertation possible by giving me thirty minutes of their time in order to do the test.

I am very grateful to all of the teachers that I had, who have contributed to my work by sharing their knowledge in their classes.

I would like to express my gratitude to the supervisor of this dissertation, Dr. Enrique Cámara Arenas, my English Phonetics professor at the University of Valladolid, for his support, guidance and patience during our graduate studies.

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1. INTRODUCTION

During the past decades, the Spanish society has been showing an enormous interest in the learning of English as a second language. This has caused a rise in the number of research projects on SLA (second language acquisition) developed with the aim of helping learners to acquire a high level of English (Mukoroli 2011). Prestigious linguists have argued that a second language is not acquired the same way as the mother tongue (Krashen 1982); besides, the L1 can cause problematic interference in the process of SLA (Ellis 1994). As Saville-Troike claims, the prior knowledge of L1 is a major component in the process of L2 acquisition (18). Scholars have done extensive research on L1 transfer during the process of L2 acquisition (Chomsky and DiNozzi 1972). According to Saville-Troike, there are two types of transfer: positive and negative (18). In positive transfer, the use of an L1 structure in the L2 renders a correct L2 structure, whereas in the negative transfer the use of an L1 structure renders an incorrect one. This incorrect structure is considered an "error"; however, errors have to be distinguished from mistakes. According to Ellis, the difference between them is that errors represent a gap in the learners' knowledge: they are made when learners do not know the correct choice. By contrast, mistakes occur occasionally when learners are unable to apply their knowledge (17).

Spanish native speakers are occasionally aware of the interference of their mother tongue in the process of our EFL (English as a Foreign Language) development. In consequence, we decided to investigate the extent to which L2 writing errors are made due to L1 interference. Baetens (1982) suggests that FL students have many difficulties learning an L2 due to the interference of the L1 in phonology, vocabulary and grammar. As Alonso demonstrated in her study, Spanish students have problems when dealing with phonetic, orthographic, semantic, morphological and syntactic items which are similar to their L1 (13). In her study, she asked 28 participants to write a composition on the topic "describe the last film you have seen". She found that the most common interlingual errors were those constituted by transfer of structure deviant forms (Alonso 13). Cabrera (2014) carried out an analysis of the most common errors produced by Spanish EFL students. The participants were asked to write a narrative passage and to answer to a students' questionnaire with 11 questions. She found out that English grammar and vocabulary are the areas with the highest level of L1 interference

(Cabrera 47). However, although she dealt with orthographic interference, in her study orthographic errors were categorized as "low frequency interference errors" (Cabrera 41).

In this dissertation, our purpose is to assess to what extent Alonso (1997) affirmation that "L2 orthography is a problematic area for Spanish EFL students" is true. Additionally, we questioned if orthographic errors do actually show a low L1 interference, as Cabrera (2014) says in her study. Thus we decided that our research project should be focused on the L1 interference in the spelling of EFL students. In order to prove this influence, we decided to design an experimental study that would recreate the optimal conditions for the participants to make spelling errors due to the interference of their L1. Nonetheless, we would not use a written composition as Alonso (1997) or a narrative passage and a questionnaire Cabrera (2014); instead, we adopted a different approach: a test made up by a translation, a dictation and a judgment task.

1.1. Contrastive Analysis Hypothesis and Error Analysis

For carrying out our research, we took into consideration two important approaches on SLA: Contrastive Analysis Hypothesis (CAH) and Error Analysis (EA). The Contrastive Analysis Hypothesis compares L1 and L2 extracting their differences and similarities in order to predict and explain learners' problems with the learning of a second language (Saville-Troike 34). According to this approach, the errors learners will do in their L2 can be predicted by comparing both languages, since FL errors are caused exclusively by L1 interference (Machado 6). Moreover, this theory assumes that there will be a positive or negative transfer in the learning process (Saville-Troike 35). Contrastive Analysis Hypothesis' generalizations have been criticized, firstly because many L2 errors predicted by this theory were not observed in the learners' L2 and, secondly, because many common errors were made by learners from different L1 irrespectively from their mother tongue (Machado 6). Alternatively, Error Analysis analyzes and describes errors independently from L1 (Saville-Troike 37). According to it, errors are not caused just by language transfer but they may also proceed from internal L2 structures（Machado 6). EA states that learners produce two types of errors: intralingual or developmental, and interlingual or interference. Intralingual errors are due to the overgeneralization of L2 rules and take place within a language; conversely, interlingual errors happen between languages because of the L1 interference (Saville-

Troike 39). Recently, EA has been given more importance, while CAH has been considered more as an explanatory theory than a theory that allows prediction (Machado 10-14).

Many works on the field have shed light on the L1 interference on the L2. Particularly, Bhela's (1999) study demonstrated that learners tend to use L1 structures in the FL. Watcharapuyawong (2013) showed that L1 interference can be classified into 16 categories. Albert and Obler (1978) claimed that FL students show a higher interference in similar items or structures. Those items or structures which are similar in both languages, L1 and L2 can represent an important obstacle in the acquisition of the L2. Additionally, Ringbom (1977) showed that a direct interference happens when the words are similar in both languages, L1 and L2. Therefore, we decided that an ideal procedure to demonstrate the L1 interference in the EFL spelling of Spanish students could be done through a test with cognate words. We assumed that, when participants had to deal with cognates in English and Spanish, they would make errors due to the interference of their mother tongue.

1.2. Our hypothesis

Despite the considerations of the Error Analysis approach, we thought that some of the L2 errors learners make can be predicted if we take into account learners' L1, in accordance to the previous works that some researchers have carried out and their results. Although Spanish students may make some orthographic errors which cannot be attributed to the interference of their mother tongue, we assumed they would produce a higher amount of errors that reflect L1 orthographic interference than *other error categories*. We called *other error categories* to those errors that occur in the cognates, but which cannot be attributed to L1 orthographic interference. In order to prove this, we designed an experiment based on cognate nouns, aimed to unveil interlingual spelling errors generated by Spanish EFL students. Thus in our analysis we would only focus on the errors made in those cognates.

2. THEORETICAL FRAMEWORK

Experts have given different denominations to L1 interference errors. According to Ringbom (1977), one common method of classification of these errors distinguishes omission, addition, substitution and transposition of letters. In his study, Ringbom (1977) investigated the different spelling errors Finns and Swedish EFL students make in English. He analyzed words from different word classes and classified those spelling errors taking into account the difference between the L1 and L2 pronunciation. According to him, errors caused by L1 interference can be categorized as: the omission of a letter not pronounced, the omission of a sounded letter, the addition of a letter, the transposition of letters, the substitution of a letter which in native English words does not represent the phoneme of the intended word, and the substitution of a letter which may stand for the phoneme of the intended word (Ringbom 2). In this dissertation, we did not take into account the L1 interference in L2 pronunciation and its reflection on the L2 spelling. Instead, our purpose was to focus our study only in the L1 orthographic interference. Therefore, we could not use exactly the same classification as Ringbom (1977).

Similarly, Alonso (1997) classified the errors made by Spanish EFL students as errors which present a transfer of structure, an overextension of analogy, the substitution of an English word by a Spanish one found in verbs and nouns, and interlingual- intralingual errors. As Ringbom (1977), she also analyzed words that belonged to different word classes. However, in this dissertation, our aim was to focus our analysis on the errors made in noun cognates. As a consequence, we considered that we should create our own classification of errors, taking into account the previously mentioned classifications. Nevertheless, we considered that Ringbom classification was richer and more appropriate to our research project than Alonso's. As Spanish native speakers, we assumed that L1 orthographic interference causes Spanish EFL students to produce more *substitution*, *elimination* and *addition errors* than other errors which are not caused by this interference. Thus we decided our research would be focused on the production of *substitution*, *elimination* and *addition errors* in the English spelling of cognate words.

In this dissertation, we have considered *substitution error* those where one letter of the English cognate has been substituted by another letter which is present in a Spanish word. For instance, an example of this error would be the writing of "acquisition" ("adquisición" in Spanish) as "adquisition", since the letter "c" is being replaced by a letter which is present in the Spanish word ("d").

Similarly, we have denominated *elimination error* those in which a letter is elided in an English word because it is not present in the Spanish word. An example of this error can be illustrated with the cognate word "cathedral" ("catedral" in Spanish). This error will occur when the English word is written without the "h" ("catedral") because that letter is not present in the Spanish word.

Thirdly, we have named *addition error* those where a letter is added to an English word because that letter is in the Spanish word. This error can take place when writing the word "ability" ("habilidad" in Spanish). For example, if a person is influenced by Spanish (L1), he may write "hability" instead of "ability" because the Spanish word has an "h" at the beginning.

Additionally, we have denominated *other error categories* those made by phonetic interference, lack of English knowledge or other factors which are not related to L1 orthographic interference. For instance, errors such as "cheminey" ("chimney") or "bycycle" ("bicycle") were included in this category.

3. METHODOLOGY

3.1. Participants

A cross-sectional research study has been carried out. The test was given to a group of Spanish high school students who study English as a foreign language. Participants were teenagers on their second and third year of ESO who had been studying English as their L2, since they were 6 years old. Furthermore, they were part of the bilingual group of the institution and received a number of English mediated lessons every week. We expected they had a higher level of English than an average Spanish teenager. The group of participants, chosen on a completely random basis, was made up by 77 students: 37 of these were 14 years old, while the others were 15.

3.2. Procedure

The tool used to collect data was an anonymous questionnaire test. The test included three different tasks –translation, judgment and dictation. The time given to the students to complete the test was half an hour. Second and third year participants did the test separately. Furthermore, both groups were divided into two in order to hand out two types of test: type A and type B. During the test, participants were not allowed to use dictionaries, so they had to resort to their own knowledge on the English language. Thus, in the end the results could constitute a reliable indicator of the extent to which Spanish interferes in the English spelling of Spanish students of English as a Foreign Language.

3.3. The test

A major challenge in the present research project was the design of the data collecting instrument in terms of validity. Designing an adequate test to prove L1 interference on L2 orthography was a slippery endeavor. Actually, we designed other three tests before finding the ideal one that would help us to demonstrate the L1 interference in the English spelling.

During the test's design, we realized it was not possible to find and to develop a unique type of task that would be fully satisfactory. As a consequence, we used three tasks which complemented each other in order to offer a reliable image of L1

orthographic interference. Thus the deficiencies of each task were balanced by the other two tasks.

We decided that participants should generate the errors by themselves. Therefore, we designed open modality tasks to serve that purpose, instead of multiple choice tasks. In the translation task, participants had to generate words instead of choosing or selecting them. This task was preferable to a multiple choice one, since it did not allow the presence of randomized responses. On the other hand, this type of task had its limitations, since some words could be translated not with the cognates we expected to get but with synonyms. For instance, "habilidades" could be and was translated in many cases as "skills" and not as "abilities". Moreover, unknown words could be invented ad-hoc by participants. The judgment task allowed us to assess if participants were used to make *substitution*, *elimination* and *addition errors*, and if they had learnt an incorrect form of a word because of L1 interference. Nonetheless, participants would not generate the errors by themselves in this task. Instead, they were asked to judge some words, and not to produce them. In the dictation task, participants would generate the errors by themselves and they would not be able to use synonyms of the words they were hearing as in the translation task. Nevertheless, it could be possible that participants did not understand what they were listening to or that they did not know how to write it.

Considering this, we believed that through the combination of the three tasks we could obtain more reliable information, since the advantages of each task cover the other tasks' disadvantages. In these tasks, we incorporated a total of 34 cognates which we assumed the participants would write with *substitution*, *elimination* and *addition errors*. Nevertheless, we did not incorporate the same number of cognates meant to cause errors of the three categories. Instead, we gave more importance to *substitution errors* which, according to Alonso (1997), are more frequent than *addition* and *elimination errors*. As a consequence, we incorporated to the test more cognates which we assumed participants would write with *substitution errors*.

In order to get a more reliable and richer amount of information on the generation of these three types of errors, we designed two types of test: type A and type B. Both tests had the same words; however, some of the cognates of the judgment task were edited. While some of them presented an orthographic interference of the Spanish

language, others had different types of errors that do not present any L1 orthographic interference. Thus a word could appear in test A with an error caused by L1 orthographic interference and in test B with an error which was not caused by negative transfer, or vice versa. For instance, in test A, we included the word "carpinter", which presents a *substitution error*, while in the test B, the word "carpenter" was written as "carpeenter". This form of the word cannot be considered *an addition error*, since in the Spanish word there is no "e" in the second syllable; therefore, it is not produced because of orthographic interference. Through the inclusion of these different forms of a word, we intended to see if participants made a bigger amount of L1 orthographic interference errors than other errors which are not made because of this interference. The test was designed in order to create the optimal conditions to allow participants to make *substitution, elimination* and *addition errors*, but being possible to avoid them. It was expected in advance that the number of *substitution, elimination,* and *addition errors* considered as correct would be higher than the *other error categories* considered as correct.

3.3.1. Translation task

The first task was a translation exercise in which students were asked to translate 10 sentences. These sentences had 86 words, 10 of which were cognates. One of these sentences had no cognates, while the others had one or two. For instance, the first sentence, *Ayer fui al zoo, y vi las habilidades de los monos y los chimpancés,* had two cognates: "habilidades" ("abilities" in English) and "chimpancés" ("chimpanzees). The inclusion of "habilidades", for example, was intended to make participants produce an *addition error*; while "chimpancés" was intended to make them generate a *substitution error*. We assumed that participants would write "chimpancees" or "chimpances" because in the Spanish word there is no "z". For the completion of this task, it was preferable to use those words which meaning was clear for the participants. If we did not incorporate words which were familiar for them, they would not be able to translate them. Therefore, they would not be able to develop the task and L1 influence would not be possible to assess. Consequently, we tried to use words that would be familiar for them.

3.3.2. Judgement task

In Task 2, students were asked to judge the correctness of 10 sentences which had a total of 54 words. For this judgment task, they did not need to be familiar with the words they had to judge. Therefore, we included words which participants may not be familiar with, since interference can happen not only in words FL students know and have incorrectly learnt, but also in unknown words. As we intended to assess these two different interference contexts and to reflect them in our dissertation, in this task students were asked to use their imagination. Hence, L1 orthographic interference could happen not only in a learnt but also in a creative context. In the sentences, there were 9 cognates which had *substitution* and *elimination errors*. For example, words like "embassador" ("ambassador" in English) and "hipopotamus" ("hippopotamus") were included in this task. Moreover, we included other six spelling errors that reflected not an orthographic but a phonemic influence of the Spanish language. These words were "yiar" ("year"), "frend" ("friend"), "feimus" ("famous"), "mai" ("my"), "laif" ("life"), and "laik" ("like"). They were incorporated to the test on the assumption that participants would identify these errors, whereas identifying all the *substitution* or *elimination errors* would suppose a higher difficulty for them.

In this task, participants were also asked to mark their degree of familiarity with each word by using the Likert Scale: 1 (Never); 2 (Almost never); 3 (Sometimes); 4 (Often); 5 (Very often). This section was included to assess the frequency with which participants make *substitution*, *addition* and *elimination errors*. If the participants showed that a word with a *substitution*, *elimination* or *addition error* was correct and that they were familiarized with it, we considered that error is frequently made by them. Conversely, if they showed they had never seen the word they were assessing (1 degree), we considered that interference was taking place in an imaginative context and that, therefore, they do not frequently write it with that kind of error. Thereby, we assumed we would be able to establish a difference between the participants' degree of familiarity with *substitution*, *elimination* and *addition errors* and with *other error categories*. We considered that because of L1 orthographic interference, they would show a higher familiarity with the errors caused by it than with the *other categories*.

At the beginning of this task, we incorporated an example which was aimed to clarify to the participants what they were expected to do. This example appears in Table 1:

A	V	V	V	X
S	The	car	was	empti
B	5	4	5	1

The	car	was	empti
			empty

Table 1. Judgment task: Example.

In box A, participants were expected to write if they considered the words below were correct (V) or incorrect (X), whereas in box B they had to indicate their degree of familiarity with each of the words by using Likert scale. In the second table, they should write the correct form of the words they considered necessary. In this case, the word "empti" appeared as incorrect (X) and thus its correction was written in the table below.

3.3.3. Dictation task

Task 3 was a dictation composed of ten sentences. During the task, students were asked to write a total of 81 words. Fifteen of them were cognates designed to produce the three types of errors. However, some of the sentences had no cognates: they were not intended to generate any L1 transference error. The words of this task should be familiar for the participants, so they could identify them when they heard them. Participants should know the words they were listening to; if not, they would not be able to write them and to develop the task.

4. RESULTS

4.1. Data analysis

After collecting data, we analyzed the cognate words that the 77 participants had generated. According to our initial expectations, there were cases in which participants omitted some information in the tasks; as they did not know some words, they did not generate some of the cognates we expected or they did not judge them in the judgment task. Consequently, we did not get 2618 cognate words (34 cognates x 77 participants) but just 2393. We processed the number of errors made in the 2393 cognates. Specifically, we analyzed the three tasks separately and the errors the participants had generated in each of them. Additionally, we computed the amount *of substitution, elimination* and *addition errors* that were produced in comparison to *other error categories*. As more than one error can happen in each word, we could process each of them more than once. For instance, when we found the word "habilitis" instead of "abilities", we computed is as an *addition error* because of the "h" but also as *other error categories* because of the elimination of the "e". Besides, we analyzed the different amount of errors made by 2ºESO and 3ºESO participants. Moreover, we calculated the participants' average degree of familiarity with the cognates of the second task. Namely, we worked out the average degree of familiarity in *substitution, elimination* and *addition errors* in order to contrast it with the participants' degree of familiarity with *other error categories* which do not reflect an L1 orthographic interference.

4.2. Global results

Table 2 deals with the number of errors detected in the 2393 cognates. As it shows, we detected a total of 1468 errors which were caused by L1 orthographic interference and other factors. We assumed that some cognates would be written with a certain kind of error. For example, we considered that the word "bicycle" would be written with a *substitution error (*"bicicle"). Nevertheless, we found out that, in some cases, it was written with an *addition error* "bicyclet" or "biciclet". The errors we detected were not only in the cognates in which we assumed that each type of error would happen, but also in other cognates.

	Global results	Translation task	Dictation task	Judgment task
Total of words	2393	870	830	693
Errors	1468	519	356	593
Substitution, elimination and addition errors	1152	374	274	504
% Substitution, elimination and addition errors	78,4	72	76,9	84,9
Other error categories	283	116	82	89
% other error categories	19,2	22,3	23	15

Table 2: Global results

The data in table 1 show that participants generated a higher amount of errors made by L1 orthographic interference than *other errors categories*. As Figure 1 shows, a 78,4% of the detected errors were *substitution*, *elimination* and *addition errors*, while 19,2% belonged to *other error categories*.

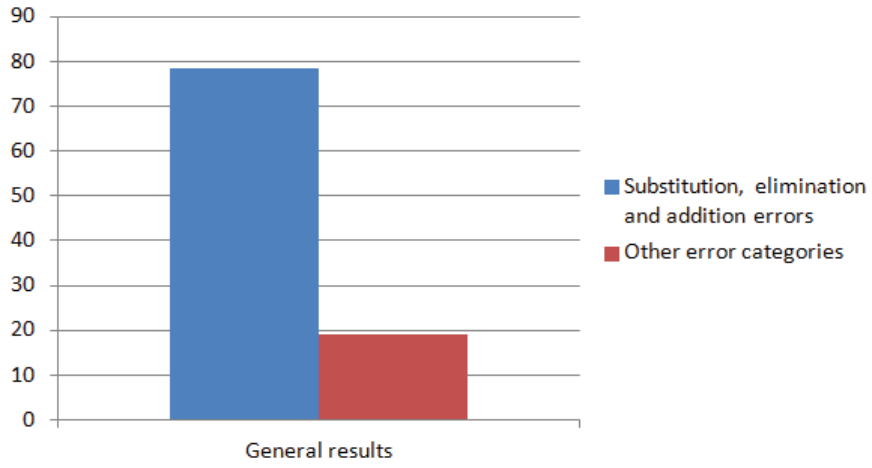

Figure 1: General results in percentage

As Figure 2 shows, *substitution*, *elimination* and *addition errors* were more frequent than *other error categories* in the three tasks. In the translation task, L1 orthographic interference errors turned out to be a 72% of the total of errors found in the exercise; in the dictation task, their presence increased to a 76,9%; and in the judgment task, these errors were a 84,9% of the total.

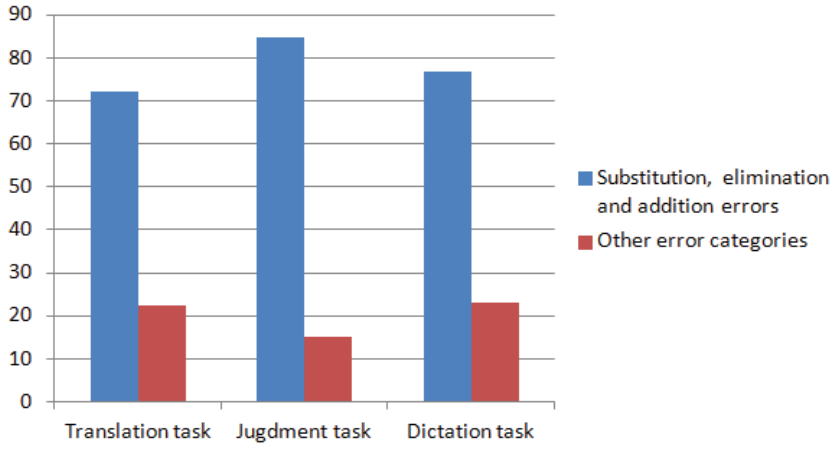

Figure 2: Substitution, elimination and addition errors vs. other error categories

As Table 3 reflects, we noticed that 2º ESO and 3º ESO participants made a different amount of *substitution*, *elimination* and *addition errors*. Indeed, 2ºESO students showed a higher tendency to make these errors than the other group.

	2 º ESO Participants	3º ESO Participants
Nº of L1 orthographic interference errors	584	568

Table 3: Total of errors made by 2º ESO and 3ºESO participants

As the data shows, 2º ESO participants made 584 *substitution, elimination* and *addition errors*. Since this group was made of 37 participants, we calculated the average number of errors made by each of the participants, which are 15'7 errors. On the other hand, 3ºESO participants made 568 errors of these three categories, which corresponds to 14'2 errors per participant.

4.3. Addition errors

Table 4 deals with the number of *addition errors* made by 2º ESO and 3º ESO participants.

Cognates	**2 ESO Participants**	**3 ESO Participants**	**Total of errors**
Abilities	37	8	45
Airport	4	18	22
Chimney	17	13	30
Nervous	20	24	44
Scorpions	4	5	9
Other cognates which contained addition errors			
Architecture	0	1	1
Bicycle	1	2	3
Crocodile	14	11	25
Hippopotamus	7	3	10
Penguin	3	4	7
TOTAL	107	89	196

Table 4: Addition errors

As the data shows, we incorporated 5 words which we considered that participants could write with *addition errors*. Indeed, in these words, we found 150 errors of this category. Furthermore, there were other cognates which we did not incorporate in the test to give rise to *addition errors* but which participants wrote with this type of error. Moreover, we detected that, in most cases, 2º ESO participants made more *addition errors* than 3º ESO participants.

4.4. Substitution errors

Table 5 deals with the generation and the consideration as correct of *substitution errors* made by participants.

Cognates	**2 ESO Participants**	**3 ESO Participants**	**Total of errors**
Acquisition	38	37	75
Airport	4	20	24
Ambassador	23	30	53
Analysis	24	20	44
Archeologist	12	22	34
Architecture	9	14	23
Assassinated	30	19	49
Bicycle	5	7	12
Carpenter	22	12	34
Catastrophe	26	33	59
Chimpanzee	19	19	38
Comfortable	36	28	64
Condition	5	4	9
Elephant	7	12	19
Immigrant	28	23	51
Library	2	5	7
Mobile	1	2	3
Mystery	34	28	62
Penguin	14	15	29
Photographer	7	8	15
Other cognates which contained substitution errors			
Chimney	0	3	3
Hippopotamus	1	0	1
TOTAL	347	367	708

Table 5: Substitution errors

As the data shows, we incorporated in the test 20 cognates which we assumed that participants could write by making *substitution errors*. As it has been explained in the Theoretical Framework section, we included a higher amount of these errors, since we assumed they would be more frequent than the others according to previous research. As Table 4 reflects, together 2º ESO and 3º ESO participants made a total of 708 *substitution errors* in our test. In contrast to what was the case in *addition errors*, 3º ESO participants made more *substitution errors* than the other group: while 3ºESO students made 367 errors in the noun cognates, 2ºESO students made 347. There were some words which had a considerable amount of *substitution errors*. This is the case of the word "acquisition", in which we found 75 errors, and of "comfortable", which was written with 64 errors of this category. This table also reflects the *substitution errors* we detected in other cognates in which we did not assume they would happen. This is the case of the words "chimney" and "hippopotamus".

4.5. Elimination errors

Table 6 deals with the *elimination errors* that the 77 participants made in the three tasks.

Cognates	**2º ESO Participants**	**3º ESO Participants**	**Total of words**
Adventure	1	2	3
Cathedral	1	0	1
Crocodiles	15	11	26
Hippopotamus	21	10	31
Incredible	2	1	3
Tourist	18	19	37
Professional	22	27	49
Other cognates which contained elimination errors			
Ambassador	8	12	20
Assassinated	37	24	61
Chimpanzee	4	11	15
Nervous	1	1	2
TOTAL	130	118	248

Table 6: Elimination errors

As Table 6 shows, we could say that 2ºESO participants made more *elimination errors* than 3ºESO participants. However, their difference it is not very significant, since the total of errors made by each group was almost the same: 2ºESO participants made 130 errors, while the other ones made 118. As it is reflected in this table, we detected a considerable amount of errors in words such as "assassinated", which reflect a high level of L1 orthographic interference.

4.6. Degree of familiarity

Table 7 deals with the participants' different degree of familiarity with the cognates they were considering as correct in the judgment task.

Cognates	**Degree of familiarity with substitution, elimination and addition errors**	**Degree of familiarity with other error categories**
Hippopotamus	1,37	1,3
Acquisition	2,67	0
Ambassador	1,33	0
Immigrant	2,4	2
Comfortable	3,18	0
Carpenter	1,85	2
Analysis	2	1,78
Catasprophe	2,01	1,28
Mystery	4,46	2,4
AVERAGE	2,36	1,19

Table 7: Degree of familiarity

As the data reflects, participants showed different degrees of familiarity with the cognates of the test. Nevertheless, we found out that their degree of familiarity depended on the error they were making. Participants showed a higher familiarity with the errors we consider that are made by L1 orthographic interference, while they showed a lower familiarity with those errors we denominated as *other error categories*. Indeed, as Table 7 shows, the average degree of familiarity with *substitution*, *elimination* and *addition errors* was of 2,36, while with *other error categories* was of 1,19. There were words in which participants showed a very high familiarity with *substitution*, *elimination* and *addition errors*, as it is the case of the word "mystery".

5. DISCUSSION

The results obtained in our research coincide with our initial predictions. As it has been reflected in the previous section, Spanish EFL students tended to make more *substitution*, *elimination* and *addition errors* than *other error categories* in their English spelling. They made a higher quantity of the errors that, according to our assumption, imply an interference of the Spanish orthography (L1). The fact that 78,4% of the detected errors were of *substitution, elimination* and *addition* reflects that the Spanish language actually intervenes decisively in the English spelling of Spanish EFL students. The cognates we incorporated to the study presented a high L1 orthographic interference, since only a minority of the errors belonged to *other error categories*. Thus we considered that L1 interference is a bigger cause of orthographic error than other factors such as L2 lack of knowledge or L1 phonetic interference. Additionally, the participants' degree of familiarity was higher with words that had *substitution*, *elimination* or *addition errors* than with other errors which are not caused by L1 orthographic interference.

We assumed that this phenomenon may be caused by the fact that L2 learners tend to rely on their L1 when they write the FL. As a consequence, we considered that our participants, when they had a "void" in their English knowledge while doing the tasks, they resorted to their mother tongue. Therefore, when they did not know some L2 features, they applied their L1 knowledge, as Alonso (1997) proved in her research through the use of a written composition test. For that reason, our participants made in our test the errors we were looking for. Thus the interference of the Spanish language in the L2 spelling cannot be denied.

The obtained data reflected that 2ºESO participants showed to make more *substitution*, *elimination* and *addition errors* than 3º ESO students. Thus we assumed that L1 orthographic interference was lower in the students who had been studying English for a longer period of time. Therefore, we could think that this interference could be reduced over the years through the study of L2.

One problem we faced during this study was the participants' omission of some words. In the three tasks, participants sometimes showed they did not know some of the words they were dealing with. Some of them did not know how to translate certain

words, the existence some words, or what words they were hearing. As a consequence, we got less cognate words than we had expected and, therefore, less data.

After analyzing the data, it cannot be denied that Spanish language intervenes in the English spelling of Spanish EFL students. Indeed, it has been shown its interference, which is reflected in the significant production of *substitution, elimination* and *addition errors*. Additionally, in the judgment task, through the question of the degree of familiarity, we attained to detect two possible kinds of interference: a *crystallized* and a *creative* one. We called *crystallized interference* to the one produced when a participant showed that he or she had learnt a word which contained a *substitution*, *elimination* or *addition error*. In some cases, participants made these errors and showed a very high degree of familiarity with the word (5 or 4 degrees). Because of that, we assumed that those participants had incorrectly learnt the words with those errors and that, therefore, the interference had been "solidified" or "fossilized" in their L2 knowledge. For example, one participant who considered that "adquisition" was correct showed that he was very familiar with the word (5 degrees). Thus we considered that he had learnt that word with the *substitution error* it contained and that therefore L1 orthographic interference had been *crystallized* in his L2 lexicon.

On the contrary, participants also made *substitution, elimination* and *addition errors* and then they showed they did not know the words (1 or 2 degrees of familiarity) they were dealing with. Their degree of familiarity showed that they had made up the word and that, therefore, the interference of the Spanish language had taken place in an imaginative context. Because of that, we called this phenomenon *creative interference*. For instance, another participant who considered that "adquisition" was correct showed that, on the contrary, he was not familiar with it (1 degree). As a consequence, we considered that he had judged the word in an imaginative context: he had spontaneously devised the word, basing his choice on the Spanish orthography. Thus the interference had been *creative*.

In this research, we just analyzed the spelling errors made in the cognates. Nonetheless, we considered that part of the errors we included in *other error categories* were also due to the interference of the Spanish language. For instance, in the dictation task, we encountered a surprising phenomenon which we did not expect to happen: eight of the study's participants wrote the word "cathedral" as "cocido". In this

situation, participants got the pronunciation of the English word mixed up with the pronunciation of the Spanish one. Furthermore, this phenomenon did not consist on the influence of their pronunciation of the Spanish word on their spelling of the word "cathedral", but the participants' writing of a Spanish word instead of an English one. Therefore, although this is not the case of a spelling error, it cannot be ignored that this phenomenon is due to the interference of the Spanish language in the writing of the EFL students.

The collected data showed that our participants did more *substitution*, *elimination* and *addition errors* than *other error categories* in the test. As it has been previously explained, in the second task, we incorporated six words ("feimus", "laik", etc) which reflected a phonemic influence of the Spanish language. As we expected, only a minority – just one of the participants – made one of these errors. We saw that Spanish EFL students easily identified these types of errors, while they did not identify so easily the spelling errors we were looking for. Furthermore, these words were not cognates. Therefore, we considered that through our test, we demonstrated that a higher L1 interference is shown in similar items both languages have. Indeed, other studies have investigated this phenomenon, such as Alberto and Obler (1978).

Another phenomenon we encountered during the development of our research was the participants' tendency to make up words. Before making our questionnaire, we tested it with one individual. In this test, we discovered that, surprisingly, she translated "translating" as "traducing". In view of this, we realized that the individual had certain knowledge on her L2, since she correctly added the suffix "ing" to the verb in gerund. Similarly, we considered she had a "void" in her L2 knowledge, which made her turn to her L1 lexicon. Considering this, we realized Spanish EFL students could not only guess by taking risks in their spelling but also by inventing words with the L1 and L2 knowledge they have. Other studies have been carried out on this interlinguistic interaction, such as Bhela (1999). Although this phenomenon cannot be considered as a spelling error, we assumed its production was due to the L1 interference in the FL.

6. CONCLUSION

In our hypothesis we proposed that the spelling errors of *substitution*, *elimination* and *addition* are a sign of L1 interference in the writing of Spanish EFL students. As a result of our research process, we can conclude that our assumption has been satisfactory proven. The analysis of data obtained through the three tasks suggested that students experiment interference in the process of L2 acquisition produced by the effect of the L1 transfer. In particular, this study provides evidence that L1 transfer and L2 development may be connected in terms of impediment. The results obtained through the experiment showed that the production of errors, which according to our hypothesis entails L1 orthographic interference, was higher than the generation of *other error categories*, due to the participants' reliability on their L1 when they write in English. Therefore, we proved that L1 interference causes more errors than factors such as L2 lack of knowledge or L1 phonetic interference.

The data reflected that 2ºESO students showed a higher L1 orthographic interference than 3ºESO students, which allowed us to think that it could be possible to reduce the negative effects of L1 interference over the years through the study of L2.

Part of the errors we included in *other error categories* was also due to the interference of the Spanish language. It should be kept in mind, however, that this does not imply that all the errors a learner may produce are due to the L1 interference. Indeed, in the dictation task, some errors could be produced due to some problems the participants had when perceiving and discriminating which words they were listening to. Apart from this, we appreciated that two kinds of interference can take place in SLA process: a *crystallized* and a *creative interference*.

Despite having reached different conclusions, further research should explore this fieldwork more deeply. It would be interesting to establish a comparison between the production of *substitution*, *elimination* and *addition errors*.We consider that a future research in this respect would highlight the production of these errors caused by the interference of the L1.

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APPENDIX

Appendix 1. Test A

TEST A

Initials of your name and surname, and your date of birth:

Year:

Average mark:

Exercise 1. Translate the following words. Please, do not leave any space in blank. If you do not know the exact word in Spanish, think and write another word which is similar in order to complete the translation.

Sentence 1. Ayer fui al zoo, y vi las habilidades de los monos y los chimpancés.

_____

_____

Sentence 2. Los animales que menos me gustaron son los cocodrilos y los escorpiones.

_____

_____

Sentence 3. En el zoo, también vi pingüinos y elefantes.

_____

_____

Sentence 4. Los turistas comenzaron su viaje en Bilbao.

_____

_____

Sentence 5. Me gusta leer en frente de la chimenea.

_____

_____

Sentence 6. Cuando era pequeño, me caí de la bicicleta y me rompí un brazo.

_____

_____

Sentence 7. Para. Me estás poniendo nervioso.

_____

_____

Sentence 8. Mi gran aventura empezó cuando te conocí.

_____

_____

Sentence 9. Santander tiene un aeropuerto pequeño.

_____

_____

Sentence 10. Querría beber una Coca Cola, por favor.

_____

_____

Exercise 2. Decide if the spelling of the following words is correct or not. Also, answer the questions A and B by filling the gaps.

Question A. Is the word correct? V (Yes) or X (No)

Question B. From 1 to 5. Have you ever seen this word? 1 (Never); 2 (Almost never); 3 (Sometimes); 4 (Often); 5 (Very often).

If you consider that a word is incorrect, please write it correctly in the table below.

Example:

A	V	V	V	X
S	The	car	was	empti
B	5	4	5	1

The	car	was	empti
			empty

1.

A					
S	Hipopotamus	are	very	dangerous	animals
B					

Hipopotamus	are	very	dangerous	animals

2.

A							
S	The	adquisition	of	mobiles	increased	this	yiar
B							

The	adquisition	of	mobiles	increased	this	yiar

3.

A						
S	Yesterday	I	met	the	Spanish	embassador
B						

Yesterday	I	met	the	Spanish	embassador

4.

A						
S	My	best	frend	is	an	enmegrant
B						

My	best	frend	is	an	enmegrant

5.

A						
S	My	cousin	is	a	feimus	athlete
B						

My	cousin	is	a	feimus	athlete

6.

A					
S	Mai	sofa	is	very	confortable
B					

Mai	sofa	is	very	confortable

7.

A					
S	Pinocchio’s	father	is	a	carpinter
B					

Pinocchio’s	father	is	a	carpinter

8.

A					
S	Yesterday	I	did	some	analysys
B					

Yesterday	I	did	some	analysys

9.

A					
S	My	laif	is	a	catastrofe
B					

My	laif	is	a	catastrofe

10.

A				
S	I	laik	mistery	movies
B				

I	laik	mistery	movies

Exercise 3. Listen and write the sentences you hear.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Appendix 2. Test B

TEST B

Initials of your name and surname, and your date of birth:

Year:

Average mark:

Exercise 1. Translate the following words. Please, do not leave any space in blank. If you do not know the exact word in Spanish, think and write another word which is similar in order to complete the translation.

Sentence 1. Ayer fui al zoo, y vi las habilidades de los monos y los chimpancés.

_____

_____

Sentence 2. Los animales que menos me gustaron son los cocodrilos y los escorpiones.

_____

_____

Sentence 3. En el zoo, también vi pingüinos y elefantes.

_____

_____

Sentence 4. Los turistas comenzaron su viaje en Bilbao.

_____

_____

Sentence 5. Me gusta leer en frente de la chimenea.

_____

_____

Sentence 6. Cuando era pequeño, me caí de la bicicleta y me rompí un brazo.

_____

_____

Sentence 7. Para. Me estás poniendo nervioso.

_____

_____

Sentence 8. Mi gran aventura empezó cuando te conocí.

_____

_____

Sentence 9. Santander tiene un aeropuerto pequeño.

_____

_____

Sentence 10. Querría beber una Coca Cola, por favor.

_____

_____

Exercise 2. Decide if the spelling of the following words is correct or not. Also, answer the questions A and B by filling the gaps.

Question A. Is the word correct? V (Yes) or X (No)

Question B. From 1 to 5. Have you ever seen this word? 1 (Never); 2 (Almost never); 3 (Sometimes); 4 (Often); 5 (Very often).

If you consider that a word is incorrect, please write it correctly in the table below.

Example:

A	V	V	V	X
S	The	car	was	empti
B	5	4	5	1

The	car	was	empti
			empty

1.

A					
S	Hippoppotamous	are	very	dangerous	animals
B					

Hippoppotamous	are	very	dangerous	animals

2.

A							
S	The	adquisition	of	mobiles	increased	this	yiar
B							

The	adquisition	of	mobiles	increased	this	yiar

3.

A						
S	Yesterday	I	met	the	Spanish	embassador
B						

Yesterday	I	met	the	Spanish	embassador

4.

A						
S	My	best	frend	is	an	inmigrant
B						

My	best	frend	is	an	inmigrant

5.

A						
S	My	cousin	is	a	feimus	athlete
B						

My	cousin	is	a	feimus	athlete

6.

A					
S	Mai	sofa	is	very	confortable
B					

Mai	sofa	is	very	confortable

7.

A					
S	Pinocchio ‘s	father	is	a	carpeenter
B					

Pinocchio’s	father	is	a	carpeenter

8.

A					
S	Yesterday	I	did	some	analisis
B					

Yesterday	I	did	some	analisis

9.

A					
S	My	laif	is	a	catastrofe
B					

My	laif	is	a	catastrofe

10.

A				
S	I	laik	meestery	movies
B				

I	laik	meestery	movies

Exercise 3. Listen and write the sentences you hear.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.