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Native Language Transfer in Target Language Usage: An Exploratory Case Study

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ABSTRACT

In this case study carried out at the University of California, Los Angeles, we explore Second Language Acquisition theory as it relates to negative transfer, apply these principles to three groups of second language learners at the university level, and analyze error types and their frequencies in order to improve our understanding of the transfer process that is occurring in our lower-level classrooms. While results show that transfer errors do not become less relevant as student proficiency increases, the most frequent error types change from level to level. The acquisition patterns identified in this study serve to improve our understanding of the second language-learning process and help us to implement effective changes in our lower-level classrooms.

KEYWORDS: *Second Language Acquisition (SLA), language transfer, L1 interference, language learning, Spanish as a second language.*

1. INTRODUCTION. The process of successfully acquiring a second language requires a language learner to develop competence in the phonology, morphology, syntax, semantics and lexicon of a non–native tongue. Particularly in the beginning stages of acquisition, language learners tend to rely on the structures of their native language (L1) when writing and speaking in the target language (L2). While thinking of an unfamiliar language within the context of a fully-acquired one is inevitable, the varying structures among languages makes this process problematic; the result is a high frequency of errors that can be traced back to habits unsuccessfully transferred over from the speaker's L1 (Dechert, 1983 and Ellis, 1997). As the description suggests, these errors are often referred to as NEGATIVE TRANSFER (as opposed to POSITIVE TRANSFER, when structures

between languages are mutually transferrable, therefore aiding in the acquisition process), although the terms INTERFERENCE and CROSS MEANING have also been employed by researchers and specialists in the past.

In this case study carried out at the University of California, Los Angeles, we explore Second Language Acquisition theory as relates to negative transfer, apply these principles to three groups of second language learners at the university level, and analyze error types and their frequencies in order to improve our understanding of the transfer process that is occurring in our lower-level classrooms.

2. INFORMING OUR STUDY. While the L1-L2 transfer process is applicable to second language acquisition in general, the relationship between the L1 and L2 in question is an important consideration. Before we are able to delve into a case study on negative transfer we must first understand the likelihood of interference occurring between two specific languages. In his 1957 text, Robert Lado proposes the CONTRASTIVE ANALYSIS HYPOTHESIS, which sets forth a method for linguists to systematically study a pair of languages in order to identify their structural similarities and differences. By identifying fundamental differences in a language learner's L1 and L2, Lado argued that we should be able to identify negative transfer errors before they occur and subsequently create teaching materials that hone in on these differences. While Lado's methods for preemptively thwarting negative transfer errors were faced with a number of issues,[1] Contrastive Analysis has proved useful in a retrospective analysis of many errors committed by language learners. In other words, once the errors have been committed, we are able to go back and find their origins by looking at structural differences between the learner's L1 and L2.

Based on Lado's hypothesis, we know that the similarities and differences between a language learner's L1 and L2 are a fundamental factor when doing a retrospective analysis of negative transfer errors. However, are languages with more similar or dissimilar structures most likely to exhibit negative transfer? Albert and Obler (1978) argue that more similar items are more susceptible to confusion as they are harder to differentiate from one another. According to this assertion, two closely-related Romance languages such as Spanish and Portuguese would be more prone to mutual interference than two very distinct languages such as English and Chinese. On the other hand, Dechert (1983) and Ellis (1997) assert that the acquisition of an L2 that is extremely different

from the speaker's L1 is a much more difficult process, therefore resulting in a stronger reliance on the learner's native tongue. While it is clear that there would be far less positive transfer in this latter case, the prevalence of negative transfer remains unclear. Therefore, we theorized that identifying negative transfer in two distantly-related languages,[2] English and Spanish, would produce the most stable result. While both are Indo-European languages, English and Spanish descend from different historical branches (Germanic and Italic, respectively). They share an alphabet as well as a number of structural similarities[3] but are not nearly as closely aligned as two languages derived from the same language.

Additionally, it is important to take into account the age and L2 proficiency of the language learners. As one would expect, negative transfer is significantly more prevalent in adult learners than in children, who are less consciously aware of the constructions in their L1 and have not passed the critical period.[4] While White (1977) reports that 21% of errors in adult Spanish-speakers learning English were rooted in negative transfer, Dulay and Bart (1974) find less than 5% of errors in child Spanish-speakers learning English could be attributed to interference from their L1. Similarly, the learner's proficiency level in the L2 has a strong bearing on his/her reliance on L1. Taylor (1975) posits that learners at the elementary level experience more errors due to negative transfer, whereas L2 production at the intermediate and advanced level is more impeded by intralingual errors[5] such as overgeneralization and incorrect application. As the learner develops more proficiency in the L2, he/she is caught in a limbo in which he/she is no longer relying on the L1 for the majority of constructions but has still not fully mastered the constructions of the L2.

3. STUDY DESIGN: CHOOSING OUR PARTICIPANTS. In order to obtain a high number of negative transfer errors for analysis, we selected young adult participants who are native-speakers of English learning Spanish at the elementary level. Within the elementary level we selected participants from three distinct sub-levels (Spanish I-III) that will be henceforth referred to as Elementary 1, Elementary 2 and Elementary 3. The three sub-levels serve as a sequence in which students learn basic vocabulary and are exposed to all grammatical tenses as well as collocations and colloquial expressions. We selected an equal number of students from each sub-level in order to facilitate a cross-level comparison in accordance with our research questions. Since the purpose of this study is an analysis of the type and frequency of negative transfer errors and not on

the participants themselves, we did not take any sociolinguistic variables into account, although it may be noted that our participants ranged from 18–30 years of age and included both males and females.

It is important to mention that a small number of our participants were exposed to Spanish as children and could, therefore, be considered heritage speakers of the language. Additionally, it is possible that some students were already multilingual (speakers of English and one or more other languages that were not Spanish) when they participated in the study. We will not take these factors into account in our analysis as we focus on transfer errors that can be clearly traced back to English and are assuming no interference of other languages in committing these specific errors.

4. Research questions. This case study was designed to answer the following questions:

1. Which types of lexical and/or grammatical transfer–induced errors can be identified at each sub–level (Elementary 1, 2 and 3)?
2. How does the frequency of each transfer–induced error type vary between levels? More specifically, which error types increase as the learner develops more proficiency? Which error types remain more or less constant among levels?
3. How can a better understanding of transfer–induced error patterns help us develop and improve our strategies for teaching the target language?

The research scope of this case study is limited to the analysis of the semi–spontaneous speech of 71 native English–speaking university students with a focus on syntactic structure. Because second–language production only encompasses speaking and writing, we chose to analyze speech as we believe it to be a more accurate reflection of the transfer–process hindering the students in real time. While written work allows the learner to think carefully about the structures he/she uses as well as the opportunity for revision, semi–spontaneous speech forces the speaker to produce the target language on the spot, resulting in a higher reliance on native language habits.

5. Research methodology. The study was carried out in three sub–levels of Elementary Spanish over the course of one academic year. Each sub–level performed the following task twice, once during the fifth week of the ten–week quarter and again during the final week.

Students were put into groups of 3-4 people and randomly given a 'real-life' scenario written out for them in English. The scenarios were thematically-related to topics covered during the present quarter and provided suggestions for role-play and conversation. Each group was given ten minutes to prepare and was then asked to converse as a group about the given topic for five minutes without the use of any notes or other written aids.

Each conversation group was recorded[6] and transcribed by one of the two researchers. Using the transcribed conversation scripts, we then isolated errors pertaining to different classifications of L1 transfer errors, categorized the errors accordingly, and calculated their relative frequency within levels as well as among levels. We analyzed approximately 70 minutes of data from Elementary 1, 80 minutes from Elementary 2 and 70 minutes from Elementary 3.

6. Theoretical framework. Employing the framework set forth by Lott (1983), we have classified negative transfer errors into the following subdivisions:

1. *Overextension of analogy* occurs when the learner misuses an item or form in the L2 because it shares features with an item or form in the L1; this can occur on the phonological, lexical, or orthographic level. For example, the use of the word *embarazada* ('pregnant') to mean 'embarrassed' by an English speaker learning Spanish.

2. *Transfer of structure* occurs when the learner utilizes a feature of the L1 instead of that of the target language. This is what is typically thought of as negative transfer and can occur on the phonological, lexical, syntactic or pragmatic level.

3. *Interlingual/intralingual errors*[7] occur when there is a particular distinction in one language but not in the other. For example, while English speakers distinguish between the verbs 'to do' and 'to make,' Spanish has the one equivalent 'hacer' that encompasses both meanings.

By employing this framework, we are able to not only identify specific instances of L1 transfer but also to analyze more general patterns as we strive to explore and answer the research questions set forth by this study.

7. Results.

7.1 Elementary 1. In Table 1, we have broken down our results by transfer classification. Not surprisingly, the vast majority of errors attributed to negative transfer in Elementary 1 occurred at the structural level:

Table 1

Elementary 1 Transfer classification	Number of errors	Percentage of total errors
Overextension of analogy	0	0.00%
Transfer of structure	29	74.36%
Interlingual/intralingual errors	10	25.64%
TOTAL	**39**	**100%**

Having mastered such a limited number of structures, it is realistic that three-quarters of transfer errors are caused by students relying on their innate knowledge of English syntax. Table 2 provides a more specific breakdown of the errors that we attributed to each type of transfer as well as their raw (total number) and comparative (percentage of total errors) frequency in Elementary 1.

TABLE 2

	Elementary 1 – Error type 20 students / approx. 70 minutes	Number of errors	Percentage of total errors
Overextension of analogy	False cognate	0	0.00%
Transfer of structure	Weather expressions with *hacer*	1	2.56%
	Prepositional object pronouns	1	2.56%
	Preposition use and/or placement	8	20.51%
	Adverbs of manner (must come directly after verb they modify)	3	7.69%
	Idiomatic phrasing/expressions	1	2.56%
	Adverbs vs. adjectives	3	7.69%
	Syntax—requires relative pronoun	0	0.00%
	Expressions for telling time	0	0.00%
	Verbs like *gustar*	0	0.00%
	Adjective placement	6	15.38%
	Possessives	0	0.00%
	Direct object	1	2.56%
	Indirect object	0	0.00%
	Subject-verb inversion	0	0.00%
	A mí también vs. *Yo también* *A mí tampoco* vs. *Yo tampoco*	5	12.82%
Interlingual/ intralingual errors	Negation	1	2.56%
	Ser vs. *estar*	7	17.95%
	Saber vs. *conocer*	0	0.00%
	Syntax—requires subjunctive	0	0.00%
	Question words	1	2.56%
	Personal '*a*'	1	2.56%
TOTAL		**39**	**100%**

When analyzing this data, it is important to note that a large number of error types were not committed; this is not because the students had already mastered these concepts and/or did not struggle to produce them, but rather because they had not yet been exposed to these structures and therefore did not even attempt to use them. These error types have been included in the data because they become pertinent in more advanced levels.

The most frequent errors at this level are caused by prepositions, which differ immensely across languages. An analysis of prepositional errors committed at this level made us aware of an especially interesting case: that of orthographical transfer. While the Spanish preposition *a* is the equivalent of the English preposition *to* and is never used to mean *at* (which is expressed by *en* in Spanish), the majority of students used the preposition *a* to mean *at*. We have attributed this confusion—which is pertinent at all three elementary levels in this study—to orthography-induced transfer.[8] Because the preposition *a* in Spanish looks and sounds very similar to the English *at,* students are likely to substitute one for the other.

The second most-frequent error type as indicated by Table 2 is the misuse of the two forms of 'to be': *ser* and *estar.* These errors account for almost one-fifth of the total errors committed at this level: while students have been introduced to both constructions and their different uses, the lack of distinction in English—which has only one equivalent—results in a high frequency of this error type.

7.2 Elementary 2

In Table 3, we have broken down our results for the intermediary elementary level. As compared to Elementary 1, the number of total errors has increased dramatically, reflecting the vast increase in input that students have received at this point. Students have been exposed to a larger variety of structures and lexical items, but have not yet mastered their usage and continue to rely heavily on English when expressing themselves. While structural L1 to L2 transfer is still the predominant cause for errors, false cognates and interlingual/intralingual errors are much more prevalent.

Table 3

Elementary 2 Transfer classification	Number of errors	Percentage of total errors
Overextension of analogy	6	7.41%
Transfer of structure	57	70.37%
Interlingual/intralingual errors	18	22.22%
TOTAL	**81**	**100%**

Table 4 provides a more specific breakdown of the errors that we attributed to each type of transfer as well as their raw (total number) and comparative (percentage of total errors) frequency in Elementary 2. Because students have received significantly more input at this point, they are attempting to use a more diverse range of structures than those in Elementary 1. They are more comfortable with the language and therefore taking more risks, but continue to struggle with accuracy despite this increased fluency.

TABLE 4

	Elementary 2 – Error type 26 students / approx. 80 minutes	Number of errors	Percentage of total errors
Overextension of analogy	False cognate	6	7.41%
Transfer of structure	Weather expressions with *hacer*	6	7.41%
	Prepositional object pronouns	2	2.47%
	Preposition use and/or placement	17	20.99%
	Adverbs of manner (must come directly after verb they modify)	5	6.17%
	Idiomatic phrasing/expressions	2	2.47%
	Adverbs vs. adjectives	7	8.64%
	Syntax—requires relative pronoun	3	3.70%
	Expressions for telling time	2	2.47%
	Verbs like *gustar*	2	2.47%
	Adjective placement	3	3.70%
	Possessives	2	2.47%
	Direct object	1	1.23%
	Indirect object	3	3.70%
	Subject-verb inversion	2	2.47%
	A mí también vs. *Yo también* *A mí tampoco* vs. *Yo tampoco*	0	0.00%
Interlingual/ intralingual errors	Negation	0	0.00%
	Ser vs. *estar*	8	9.88%
	Saber vs. *conocer*	1	1.23%
	Syntax—requires subjunctive	2	2.47%
	Question words	1	1.23%
	Personal '*a*'	6	7.41%
TOTAL		81	100%

While the error types are clearly more diverse in this group of students, it is important to note that the misuse of prepositions as well as the two forms of 'to be' (*ser* and *estar*) is still highly problematic. This data is significant as it highlights two aspects of language learning that are particularly difficult for L1 English speakers learning Spanish: despite increased input and improved skill level, students still produce these error types most frequently.

Other structures that prove to be challenging for students at this level are the use of adverbs and adjectives (specifically, they struggle to use *bien/ bueno/a* and *mal/malo/a* in the appropriate grammatical context) and the 'personal *a.*' In Spanish, when the direct object in a sentence is a person or animal (anything animate), it must be preceded by the preposition *a*. This error type falls into the interlingual/intralingual category as this construction does not exist in English.

7.3 ELEMENTARY 3

In Table 5, we have broken down our results for the highest elementary level. By the end of this level, students have been exposed to almost all grammatical constructions; however, due to the accelerated pace of the class, they are still struggling to employ them correctly in spontaneous speech. The number of overall errors is less than in Elementary 2, perhaps because they have begun to master many of the structures that were difficult for them in the previous level.

Additionally, the number of errors caused by transfer of structure has decreased approximately 5% at this stage, as interlingual/intralingual errors have become more problematic, comprising almost one-third of the total error types. This may be attributed to the increased proficiency of the students: they are relying less on their L1 for overall structure.

TABLE 5

Elementary 3 Transfer classification	Number of errors	Percentage of total errors
overextension of analogy	3	4.41%
transfer of structure	45	66.18%
Interlingual/intralingual errors	20	29.41%
TOTAL	**68**	**100%**

Finally, Table 6 provides a more specific breakdown of the errors that we attributed to each type of transfer as well as their raw (total number) and comparative (percentage of total errors) frequency in Elementary 3.

TABLE 6

	Elementary 3 – Error type 26 students / approx. 80 minutes	Number of errors	Percentage of total errors
Overextension of analogy	False cognate	3	4.41%
Transfer of structure	Weather expressions with *hacer*	0	0.00%
	Prepositional object pronouns	0	0.00%
	Preposition use and/or placement	13	19.12%
	Adverbs of manner (must come directly after verb they modify)	1	1.47%
	Idiomatic phrasing/expressions	3	4.41%
	Adverbs vs. adjectives	10	14.71%
	Syntax—requires relative pronoun	1	1.47%
	Expressions for telling time	1	1.47%
	Verbs like *gustar*	2	2.94%
	Adjective placement	6	8.82%
	Possessives	0	0.00%
	Direct object	1	1.47%
	Indirect object	0	0.00%
	Subject-verb inversion	3	4.41%
	A mí también vs. *Yo también* *A mí tampoco* vs. *Yo tampoco*	4	5.88%
Interlingual/ intralingual errors	Negation	4	5.88%
	Ser vs. *estar*	5	7.35%
	Saber vs. *conocer*	0	0.00%
	Syntax—requires subjunctive	6	8.82%
	Question words	3	4.41%
	Personal '*a*'	2	2.94%
TOTAL		**68**	**100%**

While some of the most frequent error types have not changed over time (prepositional use, adjectives and adverbs and *ser* vs. *estar* all continue to be high sources for error), the introduction to more advanced structures in this level renders other error types prevalent as well. For example, students are introduced to the subjunctive (both past and present) at this level. Because there is a greater variety of verbs in Spanish that trigger the subjunctive compared to English, students have trouble identifying its triggers. Additionally, because the Elementary 3 level focuses so heavily on the subjunctive, students begin to over apply the rule and use subjunctive forms when they are inappropriate.

Another error type that can be directly linked to the course material at this level is the misuse of *yo también* and *a mí también* when expressing agreement with another idea. At this level, students are encouraged to use a variety of 'verbs like *gustar*' that take an indirect object when conjugated—for example, *me asusta, me encanta, me preocupa,* among others. While students generally don't struggle to produce these constructions, they may not recognize that the object appears in subject position in these constructions (while the verb still agrees with the subject as usual), therefore, requiring *a mí también* as the response to indicate agreement. When teaching 'verbs like *gustar*,' perhaps it would be beneficial to incorporate the contextualized linguistic goal of agreeing/disagreeing in order to drive home this construction.

8. Conclusions. The major concern of this study has been the role of L1 transfer in the foreign language classroom. Focusing primarily on lexical structures and idiosyncratic differences in verb requirements, we have identified the most common error types of English speakers learning Spanish at three distinct elementary levels, taken over the course of one year at UCLA. With these results, we hope to better-inform our language teaching by honing in on the types of constructions that prove most difficult for students in each level. Additionally, we are able to see changes in error types over time and therefore identify transfer patterns as proficiency level increases.

8.1 Limitations. This case study was based on the transfer errors produced by 72 university-level students in approximately 230 minutes of recorded, semi-spontaneous speech. While this provided us with ample tokens for analysis, a larger sample size would undoubtedly make our results more significant and informative. Additionally, because this study

only looks at transfer for L1 English/L2 Spanish speakers, it is not able to make any greater claims about language transfer in the foreign language classroom.

In a discussion of limitations, it is also important to recognize that we struggled to determine whether or not more ambiguous error types should be attributed to transfer or not. As you can see, we did not include 'agreement' as one of our error types. Spanish requires two types of agreement: that between the noun and adjective (in number and gender) and that between the subject and verb (in number and person). While these error types could have pertained to the interlingual/intralingual group (noun–adjective agreement does not exist in English and verb conjugations do not always change based on number and/or person), we chose to exclude them.
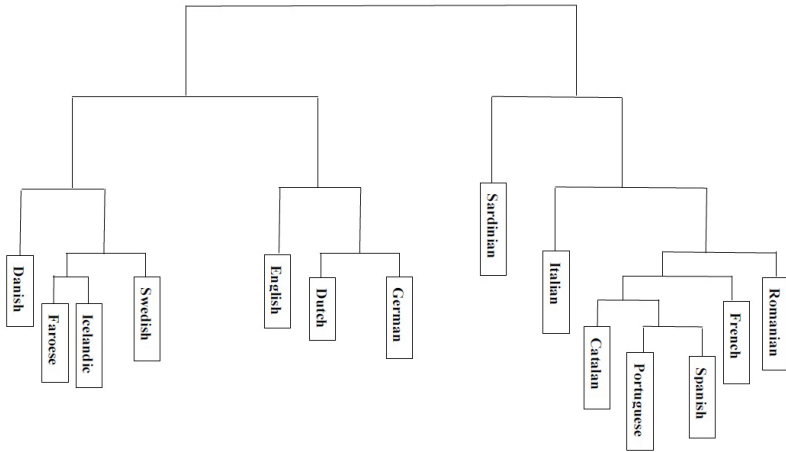
8.2 FUTURE DIRECTIONS

The methodology used for this case study may serve to measure the prevalence of transfer errors in a variety of classrooms among a diverse range of students. Such research serves to inform our foreign language instructors about the progress of their students as well as highlight problem areas that should be addressed. Given the error charts provided, instructors are able to see which structures are difficult for students at specific levels as well as across levels; with increased awareness of these issues, we are able to focus on more difficult constructions and provide additional comprehensible input in the classroom.

NOTES

1. Wardhaugh (1970) argues that, in order to be viable, the Contrastive Analysis Hypothesis makes demands that linguists are in no position to meet. For example, linguists must "have available a set of linguistic universals formulated within a comprehensive linguistic theory which deals adequately with syntax, semantics and phonology" as well as "a theory of contrastive linguistics into which they can plug complete linguistic descriptions of the languages being contrasted so as to produce the correct set of contrasts between the two languages" (125).

2. The relationship between English and Spanish is conveyed in these sub-branches of the Indo-European Language Family Tree, adapted from Clackson (2007):

Danish Faroese Icelandic Swedish English Dutch German Sardinian Italian Catalan Portuguese Spanish French Romanian

Adapted from Clackson (2007)

3. These similarities stem from their shared history as well as modern and contemporary language contact. For example, Middle English experienced an influx of French vocabulary after the 11th century Norman Invasion of England. Similarly, ongoing contact between English and Spanish including (but not limited to) bilingual communities in the United States has resulted in linguistic shifts that have rendered the languages more similar.

4. The Critical Period Hypothesis posits that an individual's ability to acquire language declines significantly with age; while there is no distinct cut-off age, the turning point in ability is generally correlated with puberty.

5. The distinction between transfer error and intralingual error can sometimes be hazy. For the purpose of this study, we will use the framework set forth by Richards (1971) and define intralingual errors as those that fall into the following categories:

1. Overgeneralization: the learner creates a deviant structure based on other structures of the target language
2. Over application of rules: the learner applies rules to context in which they do not apply
3. Incomplete application of rules: the learner has not fully developed a structure
4. False concepts hypothesized: the learner does not fully grasp a distinction in the target language

6. No identifying information was recorded in order to ensure participant anonymity.

7. Not to be confused with intralingual errors, which we previously identified as being unrelated to L1 transfer.

8. Rafat (2012) posits that exposure to orthographic input promotes L1-based phonological transfer, leading to non-target-like productions in English-speaking learners of Spanish.

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