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ASSESSING THE SWITCH COST IN CODESWITCHED SPANISH-ENGLISH SENTENCES

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ABSTRACT

Codeswitching is the linguistic phenomenon that refers to the alternation between two languages within the same utterance. Codeswitches may occur in between within a sentence or sentence fragment (intrasentential codeswitching) or between sentences (intersentential codeswitching). Bilinguals utilize a cognitive control mechanism that allows them to switch from one language to the other, with seemingly effortless ease. However, it is often believed that codeswitching incurs a switch cost in production and comprehension. If this were true, why would bilinguals codeswitch? The present study aims to answer the question: is codeswitching costly? By using eye-tracking methodology, readers' eye movements were recorded while they read unilingual and codeswitched sentences. The analyses consisted of comparing the time taken to read different unilingual and codeswitched sentences. Longer reading times are normally associated with some type of processing cost. The results show that bilinguals read codeswitched sentences at around the same speed as unilingual sentences. This observation reveals that codeswitching is not costly for bilinguals for whom codeswitching is part of their linguistic repertoire.

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Chapter 1 : Introduction

1.1 What is codeswitching?

At some time or another, you may have overheard speakers having a conversation in more than one language. In places such as Miami, Florida, conversations in both Spanish and English are not uncommon – they might even be considered customary for the bilingual community.

Codeswitching occurs when a bilingual alternates between two languages or linguistic varieties within the same utterance. Such switches may take the form of a single lexeme (1) or a larger segment of discourse (2).

(1) “Salían en sus carros y en sus *snowmobiles*”
 [They would go out in their cars and in their snowmobiles] (Poplack 1980:589)

(2) “Sometimes I’ll start a sentence in Spanish [sic] y *termino en español*”
 [Sometimes I’ll start a sentence in Spanish and end in Spanish] (Poplack 1980)

Most researchers seem to agree on this definition, although there is much discord within linguistic literature that fails to define the phenomenon in a concrete manner. Because codeswitching takes many different forms, investigators analyze codeswitching from different perspectives and often use various terminologies. For example, some researchers prefer to distinguish codeswitching and codemixing. McClure (1977) identifies *code-changing* (codeswitching) as the “alternation of languages at the level of the major constituent (e.g. NP, VP, S) and *codemixing* as a switch that takes place within constituents (Treffers-Daller 2009).

Olshtain and Blum-Kulka also refer to codemixing as a shift of “smaller units, usually words or idiomatic expressions” (1989:61). Examples (3a-c) illustrate these definitions. Grosjean (1995) approaches codeswitching in a more general manner, defining it as a complete shift to the other language in the form of a word, phrase, sentence, etc. (Treffers-Daller 2009). Examples (3a-c) would all be considered codeswitches according to Grosjean.

(3) a. Code-changing

Érase una vez una linda princesita blanca como la nieve. Her stepmother, the queen, had a magic mirror on the wall.

[Once upon a time there was a beautiful princess as white as snow.]

(Toribio 2001:404)

b. Codemixing within constituents

to *el parque*

[to the park]

c. Codemixing of smaller unit

The driver of the speeding car was given a *multa*.

[The driver of the speeding car with given a ticket.]

(Moreno 2002:188)

Myers-Scotton, on the other hand, does not look at codeswitching in terms of switching from one language to another. In her Matrix Language Formula (MLF) model, she proposes that one language inherently takes a more dominant role that defines the grammatical framework in which the codeswitch will occur. According to her MLF model, a codeswitch may occur within a sentence or sentence fragment (intrasentential codeswitching) or between sentences (intersentential codeswitching).

(4) Intrasentential codeswitch

El profesor dijo that the student had received an A.

[The professor said that the student had received an A.]

(Belazi et al. 1994:224f)

(5) Intersentential codeswitch

Si, pero le hablo en español. When I don't know something, I'll talk to her in English.
 [*Yes, but I talk to her in Spanish.* When I don't know something, I'll talk to her in English.]

(Zentella 1997: 80)

A more in-depth explanation of the Myers-Scotton's MLF will be discussed later in Chapter 2.4.

As a result of varying definitions, it is not surprising that there are many misperceptions when it comes to understanding bilingual speech production. For those unfamiliar with codeswitching, they might be inclined to believe that portmanteau creations such as *spanglish* are a random combination of Spanish and English, and therefore constitute as codeswitching. These terms carry the stigma that bilinguals are “uneducated and incapable of expressing themselves in one language or the other” (Bullock and Toribio 2009:4). However, this understanding could not be further from the truth. Codeswitching is not random. Bilinguals possess a unique cognitive command that allows them to control the access and usage of both of their languages. Codeswitching is not a result of breakdown in communication, but rather “a skillful manipulation of two language systems for various communicative functions” (Bullock and Toribio 2009:4).

1.2 Why do bilinguals codeswitch?

Bilinguals codeswitch because they can. They have conscious control to switch between languages, meaning that they are aware of their codeswitching patterns and as to why they do so.

Codeswitching is a tool that is exclusive to only bilinguals and can be used to negotiate “difficulties in sentence-planning” by using both of their languages as resources (Myers-Scotton 1993:2). For example, if a monolingual is struggling to think of a particular word, he or she will either hesitate and produce interjections such as “um”, or try to describe the target word until the

other listener has fully understood what he or she is trying to say. Bilinguals, on the other hand, can fill the linguistic gap by referring to their other language to find the appropriate target word. However, “bilinguals only code-switch with other bilinguals with whom they share a dual language identity” (Myers-Scotton 1993:10). Otherwise, the dialogue would be incomprehensible to the other speaker. However, the possession of such ability does not necessarily entail that all bilinguals codeswitch. There are many social and discursive factors that influence a bilingual’s decision to codeswitch.

Language is closely related to culture and identity, so it is not surprising that social factors heavily influence a bilingual’s production of codeswitching. Gumperz (1982) argues that codeswitching has pragmatic value and is often used to signal membership and solidarity with other members of the same bilingual community. He describes diglossic situations (communities with two languages or dialects) as having two different codes: the home language is considered the ‘we’ code, and the institutional language the ‘they’ code (Callahan, 2004:18). The home language is associated with intimacy and personal involvement, whereas the institutional language denotes authority and distance. Bilinguals generally will not codeswitch with other bilinguals until they are comfortable around them and know that the other interlocutor (speaker) codeswitches as well. Thus, codeswitching allows bilinguals to express their membership in both the dominant and minority language (Bullock and Toribio, 1993:10).

In regards to cultural influence, it is also important to consider the environment in which a bilingual speaker was raised. For example, we can presume that a bilingual raised in Puerto Rico is more likely to codeswitch as opposed to a bilingual who grew up in the Netherlands. The presence and frequency of the two languages will largely determine how the two interact with

one another. Due to the strong presence of the English language in Puerto Rico, speakers may be more likely to incorporate both English and Spanish in their communication.

Poplack (1988) supports the notion that the environment in which two languages interact influences the likelihood of codeswitching. In her study she compared codeswitching patterns in French-English bilinguals in two Canadian neighborhoods. In Quebec (Hull), French is the official and majority language, and in Ontario (Ottawa) it is the minority language. Because both communities use the same two languages, the only comparison that can be made must be attributed to the different status of French within the two communities (Bullock and Toribio, 1993:103). Poplack considered any utterance of English in the context of a French conversation to be considered a codeswitch. What she found was particularly interesting: codeswitching was “three to four times as frequent” in Ottawa where French is a minority language, than in Hull (Poplack 1988:226). The types of switches were the same in both communities, however their frequency was remarkably different. Thus, we can conclude that the stronger influence of English is directly related to the amount of codeswitches.

Bilinguals may also codeswitch due to specific social settings and context. Blom and Gumperz (1972) explain this idea by dividing codeswitching into three categories: situational, metaphorical and conversational. Both situational and metaphorical codeswitching refer to the alternating use of two languages. In situational switching, “the two codes are likely to be separated by physical distance, and only one is used in each environment” (Callahan, 2004:17). An example of situational codeswitching is the use of one language at home and another at work. In these different settings (or ‘domains’), the particular language is selected by the setting. Callahan cites other domains as church, school, court, and other public institutions (2004:17). Metaphorical codeswitching occurs when a bilingual switches to a language that is not

characteristic of that particular setting in order to discuss a specific topic. Blom and Gumperz (1972) cite the example of a retail transaction in standard Norwegian and the following conversation in a local dialect between a clerk and a customer. There is no physical change of setting, however the change of topic corresponds with the change of language.

There are also discursive intentions that influence a bilingual's production of codeswitching. In his seminal work on bilingual discursive strategies, Gumperz (1976, 1982a) argues that bilinguals make the conscious choice to codeswitch, with their discursive intentions being to mark quotations, emphasis, realignment of speech, reiteration and elaboration (Bullock and Toribio, 1993:10). For example, in (6), the speaker uses English to translate an ungrammatical French sentence that he is quoting. In (7), the Spanish speaker switches to English to mark a role shift.

(6) *Frenchville, PA, French-English*

"Elle m'a dit, 'il pleuve [sic] maintenant.' It's raining now. That's not good French, is it?"

[She said to me 'it's raining now.' It's raining now. That's not good French, is it?]

(7) *Spanish-English*

"*Mi nombre es Lourdes.* Now we turn to my sister."

[*My name is Lourdes.* Now we turn to my sister.]

While it is true that bilinguals codeswitch for communicative purpose, more often than not codeswitching simply represents another way of speaking that allows for flexibility in language expression and production

1.3 Codeswitching versus Borrowing

There are several types of contact phenomena that resemble codeswitching, thus making it difficult to draw clear distinctions between them. In recent years, many scholars have addressed the issue of distinguishing between codeswitches and borrowed words. Borrowing is an umbrella term that refers to the process of borrowing and incorporating word forms from one language into another. Codeswitching and borrowing differ in the sense that borrowed forms become part of the mental lexicon of a bilingual's language, while codeswitch forms do not (Myers-Scotton, 1993:163). Borrowed words are typically words that are frequently used and widespread in the bilingual community, and are often also learned during child acquisition (Poplack, 1989:136).

At the intersentential level, it is easy to identify codeswitching because the switch from one language to the other occurs in between sentences and is made up of a segment of words. At the intrasentential level, it becomes more difficult to identify single lexemes (words) as codeswitches or borrowings. A more in-depth analysis is needed to distinguish between the two.

Borrowed words can be identified as either established or nonce borrowings. Established borrowing involves “the morphological and phonological integration of a single lexeme” (Bullock and Toribio, 2009:5). Poplack illustrates the difference between a codeswitch and a phonetically integrated borrowing in the following example (1980:583). The utterances in example (8) keep the English pronunciation, and were therefore considered to be codeswitches. However in Example (9), the words *magazine* and *layoff* are considered borrowings because they are phonetically integrated into Puerto Rican Spanish patterns.

- (8) a. Leo un MAGAZINE [maegs'ziyn]
[I read a magazine]

- b. Me iban a LAY OFF [lEy ohf]
 [They were going to lay me off]
- (9) a. Leo un *magazine* [maya sin]
 [I read a magazine]
 b. Me iban a dar *layoff* [ˈleiof]
 [They were going to lay me off]

Established borrowings may also undergo morphological modifications to fit the patterns of the recipient language. For example, the English word *fax* has been integrated into Spanish lexicon as the verb *faxear*. Spanish verbs have three infinitive endings: *-ar*, *-er* and *-ir*. The morpheme *-ar* was added because it is the most common verb ending in the Spanish language.

Another example of morphological modification is the Spanish word *esmóquin* that was derived from the English word *smoking*. Several changes had to be made in order for the word to be properly adapted into the Spanish language. In Spanish, words cannot begin with an /s/ consonant cluster, such as *sm-* in *smoking*, and therefore the letter *e* must be added at the beginning of the word. Also, the letter *k* does not exist in Spanish, however the combination of the letters *qu* produce the same /k/ sound (same phoneme /k/). Next, the ending *-ing* must undergo morphological modification. In English, *-ing* is pronounced /ɪŋ/. In Spanish, the same /ɪŋ/ sound corresponds with the letters *-in*.

In addition to codeswitching and established borrowing, some researchers believe a special category of nonce borrowings must be considered as well (Halmari, 1997:167). Poplack (1988) introduced nonce borrowings as single lexemes that are morphologically and syntactically integrated into the host language, but show little phonological integration. Sankoff et al. (1990:94) note that there is “no difference between nonce borrowings and established loans... with respect to their morphological and syntactic integration into host language contexts.” The main difference between codeswitches and nonce borrowings is their frequency of use. Nonce

borrowings abruptly enter the lexicon to fill a lexical gap, and are used only temporarily. Nonce borrowings are neither recurrent nor widespread, and therefore do not occur frequently enough to meet the criteria of an established borrowing.

1.4 Types of codeswitches

Over the last few decades, researchers have studied codeswitching from several different perspectives: linguistic, psycholinguistic and sociolinguistic. Up until the 1980s, psycholinguistic research on codeswitching was conducted separately from linguistic research. Cognitive psychologists were interested in the mental processes that affect the production and comprehension of codeswitches, whereas linguists studied the phenomena from a morphological, syntactic and sociolinguistic point of view. There was no overlap between the two domains. It wasn't until the late 1960s and early 1970s when studies provided insight that sparked new discussion in codeswitching research.

In his 1971 publication *Linguistic independence of bilinguals: The input switch*, psychologist John Macnamara studied a bilingual's capacity to interpret linguistically mixed passages. He had participants silently read four paragraphs: one in English; one in French; one with French words and phrases incorporated into English sentences; and one with English words and phrases incorporated into French sentences. When he compared the monolingual and bilingual response times, he found that it took a significant amount of time for bilinguals to switch from one language to the other. From Macnamara's psychological perspective, codeswitching comes with a considerable processing cost. Around the same time, linguist Michael Clyne (1967) studied language patterns of immigrants in Australia. He was interested in

how German and Dutch immigrants incorporated the English language into their speech. In his study he proposed the triggering theory. The premise of his theory is that words with similar form and meaning in two languages can cause or facilitate a codeswitch from language to another (Broersma and De Bot, 2006:2). He found that anticipational codeswitching occurred at the beginning of a prepositional phrase or noun phrase. As a result, Clyne's study revealed codeswitching patterns that bilinguals *actually* employ during conversation, whereas Macnamara's (1971) codeswitching stimuli were uncommon and unnatural of typical bilingual speech. It's not surprising that Macnamara found a substantial difference in processing costs – the participants were not anticipating those types of codeswitches, and therefore it took them longer to process the switches.

Both Macnamara's (1971) and Clyne's (1967) studies revealed an important observation about codeswitching: there are two types of codeswitches. Linguists began to notice that bilinguals either switched at sentence boundaries (intersentential codeswitching) or within the same sentence (intrasentential codeswitching). Through further investigation, researchers determined that there are certain constraints that allow and prohibit codeswitching to occur.

Muysken (2000) proposed that there are three strategies that bilinguals employ when codeswitching. He identified these three strategies as *alternation*, “where the two languages remain relatively separated in an A-B configuration”; *insertion*, “involves the embedding of a constituent – usually a word or phrase – in a nested A-B-A structure” and *congruent lexicalization*, “in which the two languages share a common grammatical structure that can be filled with lexical elements from either language (Myers-Scotton 1993:3). The examples below illustrate each strategy (10-12):

- (10) *Alternation*
That's too much. *Sina pesa.*
[That's too much. *I don't have much money.*]
(English/Swahili; Myers-Scotton, 1993a:41)
- (11) *Insertion*
xob pas *falsk-an* pesa-â
[Well then boys are false.]
(Persian/Swedish; Naseh Loftabbadi, 2002:101)
- (12) *Congruent lexicalization*
wan heri *gedeelte* de ondro *beheer* fu gewapende machten
[One whole part is under control of the armed forces.]
(Dutch/Sranan; Bolle 1994:75)

Codeswitches are not random, but rather occur at specific points during conversation. For this reason Muysken wanted to account for such patterns and organize the results from studies, such as Poplack (1980), Myers-Scotton (1993), Clyne (1967). He concluded that these three patterns are different from one another, and actually result from different processes. These processes are “constrained by different structural conditions,” for which different models have been proposed (Muysken, 2000:3).

Poplack's (1980) model accounts for alternation strategies, which are also referred to as intersentential codeswitching. Intersentential codeswitching involves switching from one language to the other between sentences. A complete sentence is produced before there is a switch to the other language, as shown in the example below (13).

- (13) *Si, pero le hablo en español.* When I don't know something, I'll talk to her in English.
[Yes, but I talk to her in Spanish. When I don't know something, I'll talk to her in English.]
(English/Spanish Zentella, 1997:80)

Poplack suggests two syntactic constraints: codes may be switched after any constituent

provided that constituent is not a bound morpheme (*Free Morpheme Constraint*), and codeswitches will “tend to occur at points in discourse where juxtaposition of L₁ and L₂ elements does not violate a syntactic rule of either language (*Equivalence Constraint*) (1980:586). She examines codeswitching in terms of compatibility between the two languages. That is, codeswitching may occur within two languages that share the same syntactic rules and features. These constraints will be discussed in further detail in Chapter 2.

The production of intersentential codeswitches is not surprising and does not pose any trivial problems, as it does not require an advanced level of bilingualism. We naturally expect bilinguals to utilize both of their languages. Intrasentential codeswitching, however, requires much more linguistic control.

Intrasentential codeswitching involves a switch within the same sentence or sentence fragment (14).

- (14) Her mother *le habló* and sent her to make, to take...
 [Her mother *spoke to her* and sent her to make, to take...]
 (English/Spanish Toribio, 2001:417)

“True” codeswitch material can be of any size, from a single morpheme or lexeme to several constituents (Myers-Scotton, 1993:5). In (15), the insertion is a single lexeme, whereas in (16) the insertion takes the form of a phrase.

- (15) na'iish-*crash* lá
 [I am about to *pass out*.]
 (Navaho/English; Canfield 1980:219)
- (16) Yo anduve *in a state of shock* por dos días
 [I was in a state of shock *for two days*.]
 (Spanish/English Pfaff 1979:296)

Unlike intersentential switches, it is more challenging to account for “where *within a sentence* a CS form or constitution may occur” (Myers-Scotton, 1993:5). It is for this reason that Myers-Scotton chooses intrasentential codeswitching as the focus of her MLF model.

Myers-Scotton’s (1993) Matrix Language-Frame model is popularly associated with Muysken’s insertion strategy. In her MLF model, she defines codeswitching as “the selection by bilinguals or multilinguals of forms from an embedded variety (or varieties) in utterances of a matrix variety during the same conversation” (1993). She views codeswitching constraints based on the structural properties of the Matrix language (ML), in which she hypothesizes that “the specialized syntactic procedures... from the matrix language” will set the morphosyntactic frame for ML and EL constituents (Myers-Scotton, 1993:7, 66). Typically, the main language (Matrix Language) is more dominant than the language that holds the lesser role (Embedded Language). The MFL model resembles borrowing in the sense that there is an “insertion of an alien lexical or phrasal category into a given structure” (Muysken, 2000:3). The difference between the two would be the size and type of element that is inserted into the sentence, such as a noun versus a noun phrase.

Myers-Scotton’s (1993) hypothesis includes two principles: “the Morpheme-Order Principle (‘Morpheme order must not violate ML morpheme order’) and the System Morpheme Principle (‘All syntactically relevant system morphemes must come from the ML’)” (Myers-Scotton, 1993:230). These two hypotheses will be further discussed later in this chapter.

Given the parameters of Muysken’s (2000) codeswitching strategies, he also considers congruent lexicalization as a form of intrasentential codeswitching. Congruent lexicalization occurs when “the grammatical structure is shared by languages A and B, and words from both languages *a* and *b* are inserted more or less randomly” (Muysken, 2000:8) In example (17a), the

codeswitch takes the form of a noun and a verb, which is not expected or traditional of intrasentential codeswitching. However, the similar syntactic structures of both Spanish and Portuguese allow for this non-constituent codeswitch. Example (17b) shows the full translation of the sentence in each respective language, ultimately demonstrating how syntactically equivalent the two grammars are.

(17a) la otra *loja* é tradicional
[The other *store* is traditional.]

(Spanish/*Portuguese* Lipski, 2009:15)

(17b)	Spanish:	la	otra	tienda	es	tradicional
	Portuguese:	a	outra	loja	é	tradicional
	English:	the	other	store	is	traditional

Congruent lexicalization differs from the insertion strategy of intrasentential codeswitching with respect to how speakers use and process the both languages. When a bilingual produces a codeswitch of the congruent lexicalization type, he or she will produce a grammatical structure that is split between the two varieties. However, when an insertional codeswitch is produced, the bilingual fully maintains both language systems (Myers-Scotton 2003).

Muysken claims that “these different models or approaches in fact correspond to different phenomena: there *is* alternation between languages, insertion into a matrix language, and congruent lexicalization, in the code-mixing data reported in the literature” (2000:4).

Codeswitching takes several forms (i.e. intrasentential and intersentential), therefore it is logical to believe they result from different processes.

Chapter 2 : Constraints on codeswitching

2.1 Types of constraints

In 1973, E. Haugen published a research report that analyzed bilingualism in the United States over the course of 14 years (1956-1970). Within his report, only a short section is dedicated to the phenomenon of codeswitching. He cites the research of J.J. Gumperz and E. Hernández-Chávez (1969) and D. L. Lance (1969), all of whom discuss the extra-linguistic factors which may motivate or trigger codeswitches (Timm 1975). Up until this point, researchers were interested in answering as to *why* bilinguals codeswitch – perhaps in attempt to conclude whether or not codeswitching is a consequence of a bilingual’s lack of proficiency in their two languages, or rather a skilled cognitive command. It wasn’t until 1975 when linguist L. A. Timm began to look at the codeswitches themselves. She was the first to notice codeswitching patterns within bilingual speech, specifically how “some segments of speech were never internally switched” (Timm, 1975:474). Her generalizations of these linguistic constraints set the foundation on which codeswitching constraint hypotheses would be based.

The following examples demonstrate some of Timm’s (1975) constraints on codeswitching. Codeswitches may not occur between:

- (18) Pronominal subjects or objects and the finite verb
 **Yo went*; **he quiere*; **She sees lo*
 [*I went*; *he wants*; *she sees it*]
- (19) Finite verb and their infinitive complements
 *(*they*) *want a venir*; **quieren to come*; **voy a decide*
 [*They want to come*; *they want to come*; *I’m going to decide*]

- (20) Auxiliary and main verbs
 *(I) must *esperar*; *(he) has *visto*; **estaba* walking
 [I must *wait*; he has *seen*; *he was* walking]
- (21) Verbs and negative elements
 *(I) do not *quiero*; *(I) *no* want; *(I) not *quiero*
 [I do not *want*]

(English/*Spanish* Timm, 1975:477-479)

Timm's (1975) initial research of linguistic restrictions on codeswitching concludes that although extra-linguistic factors affect *how* and *why* bilinguals codeswitch, the syntactic structures of the languages themselves play an equal role in restricting or permitting a codeswitch to occur.

2.2 Linear approach

Up until the late 1970s, investigators viewed codeswitching from a unilingual perspective. They studied only one language to predict the occurrence or non-occurrence of a codeswitch rather than consider the linguistic context of both languages (Lipski 1978). Although bilinguals possess a lexicon and grammar rules for each of their languages, the two languages are anything but separate in the bilingual mind. Kroll (2008) dismisses the assumption that a bilingual is simply two monolinguals in the same mind, but rather suggests that bilinguals have the ability to juggle their two languages. Lipski suggests that if one considers bilingual competence as a form in interlanguage (Selinker 1972), it is then possible to study codeswitching as an "interlingual set of surface structures" (1978:254). Around the same, linguists (Lipski 1978, Pfaff 1976, 1979, Poplack 1980) did just that: they began to examine constraints on codeswitching with respect to the surface structure of languages. The surface structure of a

sentence is the string of words a speaker actually produces – in other words, it is exactly what one reads on a page or hears a person say. These hypotheses (Lipski 1978, Pfaff 1979, Poplack 1980) have been formulated on the basis that codeswitching can occur at any points where the linear order of the constituents is the same.

The notion that the linear order of words can create boundaries that prohibit codeswitches from occurring is also referred to as the equivalence constraint. The *Equivalence Constraint*, as defined by Poplack (1980), predicts “code-switches will tend to occur at points in discourse where juxtaposition of L₁ and L₂ elements does not violate a syntactic rule of either language, i.e. at points around which the surface structures of the two languages map onto each other” (1980:586).

Lipski (1978) provides the Spanish-English sentence *Terminé la escuela in the Navy* as an example (22). In comparing the syntactic structures of the three sentences, there is almost perfect congruency among the constituents, as shown in example (23). The only discrepancy between the two is the use of the definite article *la* in front of the word *escuela*. In Spanish, it is an explicit rule that an article must precede a noun. Although this rule does not always apply to English, this construction is automatic in Spanish, and therefore does not impose any restrictions on codeswitching.

- (22) a. *Terminé la escuela in the Navy.*
 [I finished school in the Navy.]
- b. *Terminé la escuela en la Marina.*
 [I finished school in the Navy.]
- c. I finished school in the Navy.

(English/Spanish Lipski, 1978:255)

(23) Terminé la escuela en la Marina.
 | | | | |
 I finished school in the Navy.

However, the surface structures of Spanish and English sentences are not always congruent. In example (24), the Spanish sentence is a direct translation of the original in English. For the most part, each English word lines up directly with its Spanish equivalent. The only difference, however, is the location of the object clitics in Spanish. In Spanish, the object clitics (e.g. *lo* and *la* in Spanish) must precede the verb, whereas in English they come after the verb. The barriers shown in example (24) indicate that codeswitches may not occur within those boundaries (marked in italics). The accepted codeswitch is read as “I told him that *pa’que la trajera ligero.*”

(24)	Eng	I		<i>told him</i>		that	so that	he		<i>would bring it</i>		fast.
	Sp	(Yo)		<i>le dije</i>		eso	pa’ que	(él)		<i>la trajera</i>		ligero.
	CS	I told him that <i>pa’que la trajera ligero.</i>										

(English/Spanish Poplack 1980: 586)

The strongest argument against the equivalence constraint is that it does not account for codeswitches that occur between languages that are typologically and structurally different (for example, a codeswitch occurring between SVO and SOV word order). Although these instances

are not as common, they have been observed. Chan (2009) cites the example below to illustrate a codeswitch that occurred between English (VO word order) and Japanese (OV word order). The speaker employs an object-verb structure, while also using the verb from the OV language (Japanese). This example suggests that the word order will follow the language of the verb.

- (25) Only small prizes *moratta ne*
 only small prizes get-PAST
 [We only *got* small prizes.]

(English/*Japanese* Nishimura, 1985:128)

Poplack (1980) also proposed a second kind of linear constraint. The Free Morpheme Constraint allows codeswitches to occur after any constituent “provided that constituent is not a bound morpheme” (Poplack, 1980:585-586). This constraint is held true at all levels (morphological and syntactic) except the phonological. In example (26), the stem *flip* is phonologically integrated into the Spanish language, and therefore the bound morpheme *eando* (‘-ing’) can be affixed to the stem. In example (27), however, *eat* is clearly an English word that has not been phonologically integrated into Spanish. Poplack (1980) notes that items such as example (27) have not been found in any studies on codeswitching, “unless one of the morphemes have been integrated phonologically into to the language of the other” (1980:586).

- (26) *flipeando*
 flip-*eando*
 [Flipping]

(English/*Spanish* Sankoff & Poplack, 1981:5)

- (27) *eat-iendo
 [Eating]

(English/*Spanish* Poplack, 1980:586)

2.3 Hierarchical approach

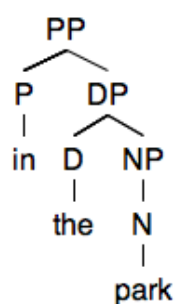
Around the same time Poplack (1980) had published the Equivalence Constraint theory, syntactician Noam Chomsky (1981) developed a new framework of syntactic theory (See Chomsky's *Government and binding theory*).

Di Sciullo et al. (1986) applied this notion of government to codeswitching constraints. Known as the *Government Constraint*, their theory predicts that codeswitches may not occur when there is a government relation between two syntactic elements. By using a system of language indexing, the *Government Constraint* predicts that “the governor and the highest lexical elements in the governed maximal projection have to have the same language index” (Halmari, 1997:104-105). Essentially, this constraint predicts where codeswitches *cannot* occur.

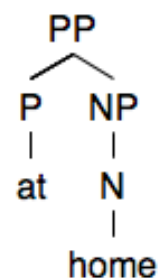
For example, the phrase *in the park* in (28) is made up of a prepositional phrase (PP), a determiner phrase (DP), and a noun phrase (NP). The PP directly governs the DP, and the highest lexical item within the governed maximal projection (DP) is the determiner *the*. Therefore, both the preposition *in* and the determiner *in* must be in the same language. However, the NP is not directly governed by the PP. Given that there is no governing relation between the PP and the NP (i.e. the NP is deeply embedded within the structure), the latter may take the form of a codeswitch.

In comparison, example (29) shows that within the prepositional phrase *at home*, the syntactic node PP governs both the preposition *at* and the noun phrase *home*. According to the *Government Constraint*, both items must appear in the same language due to their governing relation.

(28)



(29)

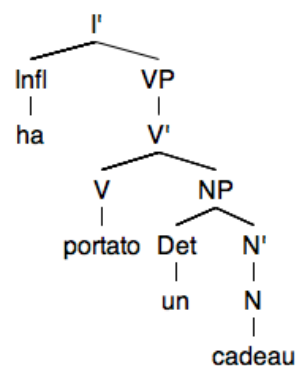


Di Sciullo et al. (1986) use their Italian-French data to provide examples of the *Government Constraint*. In (30), the verb *portato* dominates the determiner *un*, therefore requiring that both of these elements be in the same language (i.e. Italian). However, similar to the construction in (28), there is no governing relation between the Italian verb *portato* and the French noun *cadeau*. Example (30a) visually depicts the hierarchic structure of the sentence. According to the Government Constraint, (30) represents a grammatical codeswitch.

(30) Ha potato un *cadeau*.
[He brought a *gift*.]

(Italian/French Di Sciullo et al., 1986:13)

(30a)



The *Government Constraint* is unique in that it is the first constraint to consider the hierarchical structure of languages, rather than their linear form as proposed in Poplack's (1980) *Equivalence Constraint*. Since most principles and theories of grammar are formulated in a hierarchical order, it is logical that constraints on codeswitching should also adhere to a structural approach.

2.4 Other constraints

Myers-Scotton (1993), known for her *Matrix Language-Frame* model (MLF), disregards the linear and hierarchical structures of language, and instead developed a model based on speech production theory.

The idea behind the MLF is that of the two languages involved in codeswitching, one plays a more dominant role. This language, labeled the Matrix Language (ML), sets the morphosyntactic structure in which a codeswitch will occur. Elements from the second language, labeled the Embedded Language (EL), are then inserted into the ML. Therefore the EL islands (well-formed constituents entirely in the EL) are under the constraint of the ML grammar.

Myers-Scotton (1993) predicts three types of Complementizer Phrases (CP) will exist:

- a. ML islands which have only ML morphemes
- b. Mixed constituents including morphemes from both the ML and EL
- c. EL islands which consist of only EL morphemes

CPs of mixed constituents from both the ML and EL provide the most insight on codeswitching constraints, as two language systems are being activated at the same time. What is

interesting, however, is how bilinguals (regardless of levels of proficiency) are able to control the morphosyntactic frames of two languages. Although the language in which the bilingual is more proficient will set the morphosyntactic structure, the bilingual must be able to produce and insert elements from the EL. When formulating the MLF from a psycholinguistic perspective, Myers-Scotton did not expect bilinguals to be completely fluent in both of their languages (1993). However, she does note that it does require a higher level of fluency in order to produce EL islands.

The MLF is realized as the following principles: “the Morpheme-Order Principle (‘Morpheme order must not violate ML morpheme order’) and the System-Morpheme Principle (‘All syntactically relevant system morphemes must come from the ML’)” (Myers-Scotton, 1993:7). However, in order to identify the ML, a clear distinction between content and system morphemes must be made.

Content morphemes can be categorized as nouns, verbs, adjectives, and some prepositions. These morphemes express semantic meaning, and either assign or receive thematic roles. More specifically, Jake and Myers-Scotton (1992) identify content morphemes as [+/- Quantification], [+/- Thematic Role-Assigner], and [+/- Thematic Role-Receiver]. For example, in (31), the verb *sent* has a theta grid indicating that the verb will take a subject, indirect object, and direct object. The words *sent* and *letter* are considered to be content morphemes because their lexical meanings contribute to the overall semantic interpretation of the sentence.

(31)	John	sent	a	letter	to	Mary.
	AGENT			THEME		GOAL
	Subject			Direct object		Indirect object

System morphemes, on the other hand, do not assign or receive thematic roles. They serve a grammatical function (e.g. articles, conjunctions, prepositions, and inflectional affixes) and express the relation between content morphemes. Example (32) supports the application of the System-Morpheme Principle. The system morphemes *le* ('the') and *est* ('is') are considered imperative to the syntactic structure of the sentence, as the article *le* selects the following noun, and the verb *est* selects the adverb. French is therefore confirmed as being the ML. This is also evident because the content morphemes *brain* and *completely finished* serve no purpose (to the syntactic structure) other than providing lexical information, and are therefore considered being elements of the EL (English).

- (32) A moins qu'ils diraient que le *brain est completely finished*, pis que toute, toute, toute est fini.
 [Unless they say the brain is completely finished, and absolutely everything is finished.]
 (French/*English* Poplack 1988b: 99)

The example below (33) demonstrates the application of the Morpheme-Order Principle. The Hindi modifier follows the English noun, confirming that the morpheme order originates from the ML, which is Hindi in this case.

- (33) *Idea bura: nahi:hai*
idea bad
 [It's not a *bad* idea.]
 (Hindi/*English* Vaid, 1980:39)

Chapter 3: The present Study

The present study aims to examine codeswitching from a psycholinguistic point of view. More specifically, it aims to answer the question, “Is codeswitching costly?” By combining our knowledge of linguistic constraints on codeswitching with lab based approaches that are sensitive to the time course of language processing, we can begin to ask the questions of how bilinguals comprehend sentences and how they manage both of their languages.

The lab-based method used in the study will be eye-tracking. The recording of eye movements is more complex than simply following the participants’ pupil and determining how fast or slow they read – it gives us insight on how speakers interpret words and sentences based on how long they fixate on certain words and the characteristics of these words (Dussias 2010; Ehrlich & Rayner, 1981; Just & Carpenter, 1980; Rayner 1978, 1983). For example, readers are likely to spend more time on longer and more important words (verbs and nouns), than on shorter words or function words (articles and prepositions). As we read, our eyes make small jumps called saccades. McConkie (1983) has cited four different types of saccadic movement: forwards or rightward movements, regressions, return sweeps, and corrective movements. These saccades are separated by what are known as fixations: moments when our eyes remain fixed and still. An average fixation lasts 200-250 milliseconds, although it can range from under 100 milliseconds to more than 500 milliseconds depending on the size and importance of the word (Rayner, 1998). The information that appears to right of each fixation is just as important as the duration of the fixation itself. As we read, we obtain information from both the foveal and parafoveal regions. The foveal region provides the highest degree of visual resolution, and the parafoveal region immediately follows the foveal region. As soon as we detect characters in our foveal region, we begin to prepare ourselves to process this incoming information. (For more

information the reader is referred to Rayner 1978, 1983, 1994, 1998; Rayner & Duffy 1986; Rayner, Well, Pollatsek & Bertera 1983)

In order to examine whether code-switching incurs processing costs, I will be comparing the eye movement records of bilingual codeswitchers while they read unilingual Spanish sentences and codeswitched sentences. To investigate whether switching is costly, I will be using an eyetracking method called the “gaze-contingent display technique.” In this method, text is concealed (by way of a series of X masks) that might be perceptible in parafoveal vision until it is brought into the reader’s fovea by a saccadic movement. Once the reader’s gaze reaches an invisible boundary line, the X mask switches to the target word (see Figure 1; blue dot represents eye-fixation). The target word will always be a noun, and will either be in Spanish, completing a unilingual sentence, or in English, making it a codeswitched sentence.

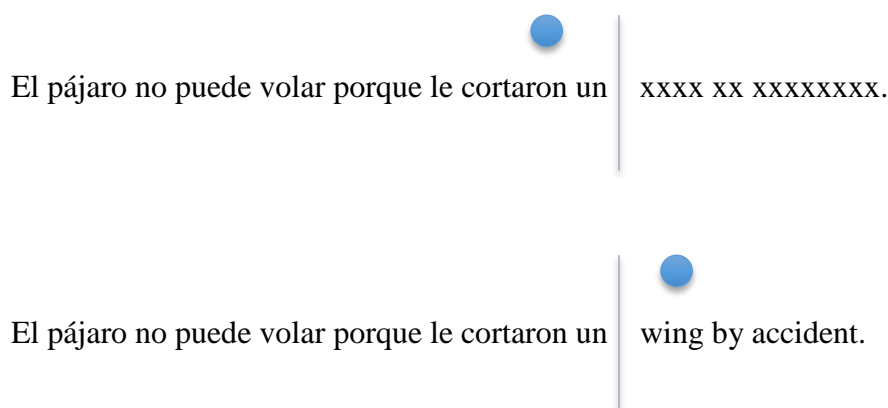


Figure 1. Example of gaze-contingent display technique. The vertical line represents the invisible boundary line, and the small circle represents the reader’s fixation. As the reader’s fixation lands on the target word, the remaining phrase switches.

The X mask serves to evaluate whether it is more costly to switch without having the advantage of being able to preprocess the codeswitch. By applying an X mask to both unilingual and codeswitched sentences, we can determine if the switch cost is equal for both sentences, or greater for codeswitched sentences.

3.1 Participants

A total of 16 Spanish-English bilingual speakers (11 females and 5 males) between the ages of 18 and 29 years (mean age 21) were paid for their participation in the study. All participants have spoken Spanish and English from an early age – either as simultaneous bilinguals (having spoken Spanish and English since birth) or sequential bilinguals (having spoken English since a pre-K level). Thirteen participants indicated that Spanish was their first language, two indicated that English was their first language, and only one participant indicated that he acquired both Spanish and English at the same time. Of the 16 participants, 9 were from Puerto Rico; 2 from Mexico; 2 from Venezuela; 1 from Colombia; 1 from Argentina; and 1 from the Dominican Republic.

Participant's proficiency with each language was assessed in three ways. First, vocabulary skills in English and Spanish were assessed using a Verbal Fluency task and Picture Naming task. The Verbal Fluency task was conducted separately for both languages. In this task, participants were asked to name as many items as they could that pertained to a specific category within 30 seconds. Some examples of the categories were clothing, furniture, fruits, and animals. Each participant was given four categories for both languages. Participants named an average of 47 exemplars in English (range 30-69) and 41 in Spanish (range 29-61). There was a slight

difference in the scores for Spanish Verbal Fluency ($M=41$, $SD=7.98$) and English Verbal Fluency ($M=47.87$, $SD=9.99$); $t(14) = -2.5747$, $p = 0.02204$. The Picture Naming task consists of 66 drawings of objects and animals that the participants are asked to name. Participants correctly named an average of 66 items in English (range 51-66) and 59 items in Spanish (range 45-65). There was not a significant difference in the scores for Spanish Picture Naming ($M=59$, $SD=6.06$) and English Picture Naming ($M=62.4$, $SD=3.94$); $t(14) = -1.7942$, $p = 0.09469$. Participants also completed the DELE test (Diplomas en Español como Lengua Extranjera) to assess proficiency in Spanish, and the MELICET test (Michigan English Language Institute College Entrance Test) to assess English proficiency in English. There was a significant difference in the scores for the DELE test ($M=33.8$, $SD=4.73$) and the MELICET test ($M=41.2$, $SD=7.52$); $t(14) = -3.0582$, $p = 0.008511$.

Table 1 | Language Proficiency Scores.

	Mean	Std. Deviation	Std. Error Mean	t	df	p
Spanish Verbal Fluency	41	7.982123	2.060975	-2.5747	14	0.02204
English Verbal Fluency	47.87	9.999048	2.581743			
Spanish Picture Naming	59	6.059231	1.564487	-1.7924	14	0.09469
English Picture Naming	62.4	3.942443	1.017934			
DELE	33.8	4.73	1.18392	-3.0582	14	0.008511
MELICET	41.2	7.52	1.882374			

At the very end of the study, participants completed a questionnaire asking them to rate their proficiency with comprehension, speaking and reading for each language. Self-reports were

on a scale of 0-10, where 0 was *no competence* and 10 was *perfect competence*. The average English proficiency (range in proficiency) was: 9.25 (7-10) for reading, 9.18 (7-10) for speaking, and 9.38 for comprehension (6-10). Spanish proficiency was reported to be slightly lower overall: 8.7 (6-10) for reading; 8.93 (7-10) for speaking; and 9.31 for comprehension (8-10). In all cases, participants believed to have relatively high proficiency with all subskills in both languages.

In a previous study, the subjects participated in a Map Task activity. The task involves two participants sitting opposite one another and each has a laptop in front of them. Both participants were presented with six PowerPoint slides, each containing various objects. The participants are told that their goal is to make both of their screens look alike by moving the objects around on the PowerPoint. One participant – the Director – gives directions to the other participant as to where to move the objects based on their screen, and the other participant – the Matcher – uses the laptop mouse pad to click on the objects and move them based on the Director's directions. During this task, all subjects produced fluent noun phrase codeswitches. Based on their performance, these subjects were identified as codeswitchers.

3.2 Materials

One hundred and sixty item sets were created for this study. Each item set was composed of four conditions, for a total of 640 sentences (a complete list of the items is found in Appendix A):

Condition 1: codeswitched sentence with gaze switch

Condition 2: codeswitched sentence without gaze switch

Condition 3: unilingual sentence with gaze switch

Condition 4: unilingual sentence without gaze switch.

The 160 items sets were distributed across four files, following a Latin Square design, as outlined below:

Table 2 | Latin Square.

		Conditions			
		C1	C2	C3	C4
Subject Groups	Group I	1-40	41-80	81-120	121-160
	Group II	41-80	81-120	121-160	1-40
	Group III	81-120	121-160	1-40	41-80
	Group IV	121-160	1-40	41-80	81-120

For half of the conditions, an X mask was applied to create the effect of a gaze switch. The X mask covered the English codeswitch for the codeswitched sentences, and the Spanish equivalent for the unilingual sentences. Half of the target words were cognates and half were non-cognates. I included cognates words because they allow us to examine whether similar orthography facilitates a less costly switch. After all, because cognates look alike and have the same lexical meaning, we would not expect that different orthography would affect a bilingual's

ability to access a word's lexical meaning. The use of cognates also helps to evaluate the advantage of having an orthographic preview (see more below).

Figure 2 illustrates how a reader's perceptual span changes as they read through a text. The region of vision reveals more text as the reader's gaze advances to the right, eventually being able to recognize the first few characters of the target word. In the case of a cognate, the reader is not yet able to determine if it is a Spanish word or an English word. However, just by perceiving the first few characters of the word, the reader can begin to make predictions about which word it will be.

Normal viewing

ha cerrado la puerta de la oficina tras la reunión.

Moving window

xx cerrado la puerta xx xx xxxxxxxx xxxx xx xxxxxxxx

xx xxxrado la puerta de lx xxxxxxxx xxxx xx xxxxxxxx

xx xxxxxdo la puerta de la ofxxxxxx xxxx xx xxxxxxxx

Figure 2. Example of the moving window paradigm. The first phrase shows a normal line of text from Example 34a.

Example (34) illustrates the four conditions containing cognate target words and example (35) demonstrates the four conditions containing non-cognate target words.

(34) Conditions with cognate target word

Unilingual-NoGazeSwitch-Cognate

a. Nuestro jefe debe de estar de mal humor porque ha cerrado la puerta de la oficina tras la reunión.

[Our boss must be in a bad mood because he closed the office door after the meeting.]

Unilingual-GazeSwitch-Cognate

b. Nuestro jefe debe de estar de mal humor porque ha cerrado la puerta de la
xxxxxxx xxxx xx xxxxxxxx.

Codeswitch-NoGazeSwitch-Cognate

c. Nuestro jefe debe de estar de mal humor porque ha cerrado la puerta de la
office after the meeting.

Codeswitched-GazeSwitch-Cognate

d. Nuestro jefe debe de estar de mal humor porque ha cerrado la puerta de la
xxxxxxx xxxxxx xxx xxxxxxxx.

(35) Conditions with non-cognate target word

Unilingual-NoGazeSwitch-NonCognate

a. El parajo no puede volar porque le cortaron un ala por accidente.
[The bird cannot fly because they cut a wing by accident.]

Unilingual-GazeSwitch-NonCognate

b. El pájaro no puede volar porque le cortaron un xxx xxx xxxxxxxxxxxx.

Codeswitch-NoGazeSwitch-NonCognate

c. El pájaro no puede volar porque le cortaron un wing by accident.

Codeswitch-GazeSwitch-NonCognate

d. El pájaro no puede volar porque le cortaron un xxxx xx xxxxxxxxxxxx.

The X mask prevents the participants from perceiving the target word in their parafoveal vision. For example, if the bilingual is reading the sentence and begins to see an English word (as shown in Example 34c and 35c) in their parafoveal vision, it is possible that they will begin

to preprocess the codeswitch. That is, they are preparing their “mental processes” (so to speak) to switch from one language to the other. If this is true, then we can expect it to be more difficult for bilinguals to switch without an overt preview advantage.

3.3 Procedure

For this study, we used the SR Eyelink 1000 and the BenQ computer monitor. The monitor was placed 72 centimeters away from the chin rest on which the participants placed their head.

When participants arrived to the session, they were first given a consent form to indicate their agreement upon keeping and collecting the data from the session. The researcher then took the participant into the eye-tracking booth. The researcher wiped down the chin rest and forehead rest using a sanitizing wipe, allowing them to dry while the researcher gave the instructions.

The participants were told they would be reading sentences on a screen, and then answering a yes-or-no comprehension question after each sentence. In order to answer the questions, participants used two small controllers: pressing the green button to answer yes, the red button to answer no. They were instructed to stare at a black dot that would appear on the left-hand side of the screen before each new sentence. The researcher told them that once the camera detected their gaze on the camera, the sentence would appear. After they were done reading the sentence, the participant pressed either the green or red button to make the question appear. Once they answered the question, the black dot would reappear, and they continued to read the next sentence. A break was programmed halfway through the session. Depending on how fast participants read, the break occurred on average 15-20 minutes into the session. This

break allowed participants to relax, refocus, and give their eyes a break from staring at a computer monitor. When the participant was ready to continue, the researcher recalibrated their eye movement, and then continued with the session.

The first step in getting started was calibrating the participant's eye. To do so, the researcher asked the participant to place the chin on the chin rest to reach a comfortable state. It was also necessary to adjust the height of both the chin and forehead rest if needed. To begin calibration, the researcher aimed the camera lens at the participant's right eye. On the computer monitor, the image of their right eye was positioned in the upper left hand corner. Then, using the computer mouse, the researcher clicked on the participant's pupil. The researcher zoomed in on the right eye, and adjusted the focus of the camera lens. Using the up and down arrows on the keyboard, the researcher adjusted the threshold so that only the pupil was selected and highlighted.

In order to calibrate the eye movements, the participant was told to stare at the black dot in the center of the screen. The black dot would jump to different spots on the screen, and the participant was instructed to stare at the dot only after it was done moving. The researcher emphasized the importance of not *following* the dot or anticipating where it would move it, rather staring at it *after* it was done moving.

After the calibration was completed, the participant began to read the sentences. The same black dot that was used during calibration appeared on the left-hand side of the screen. In order to trigger the sentences, the participant had to stare at the black dot. The researcher sat behind the participant at the other computer monitor to verify that the camera was correctly tracking the participant's pupil. It is important to note that the participant's gaze did not trigger

the appearance of the sentences; the researcher clicked the Enter button on the keyboard each time she saw that the participant was indeed staring at the black dot.

After both blocks of the session were completed, participants were asked to fill out a receipt form.

Chapter 4: Results

The site of the codeswitch (the noun) was examined in terms of first run dwell time, which is the sum of all fixations in that region. This time was measured in milliseconds. The four conditions were compared by taking the average of all first run dwell times for each participant. After comparing the reading times of unilingual sentences and codeswitched sentences, it appears that codeswitching is not costly. Other generalizations can also be made based on the first run dwell time graphs shown below.

The data suggests that the readers were able to preprocess the codeswitch when there was no gaze switch (i.e. when there was not X mask). The fixation durations (when the X mask was covering the target word) for both unilingual and codeswitched sentences were longer than the fixation durations for when there was no gaze switch (when there was no X mask covering the target word). In Figure 3, the average dwell time of cognate sentences with a gaze switch (Uni-GazeS-Cog and CS-GazeS-Cog) is 331.24 milliseconds, and the average dwell time of cognate sentences without a gaze switch (Uni-NoGazeS-Cog and CS-NoGazeS-Cog) is 287.84 milliseconds. Figure 4 exhibits the same pattern, as the average dwell time of non-cognate sentences with a gaze switch (Uni-GazeS-NonCog and CS-GazeS-NonCog) is 317.82 milliseconds, and the average dwell time of non-cognate sentences without a gaze switch (Uni-NoGazeS-NonCog and CS-NoGazeS-NonCog) is 273 milliseconds. This difference in reading time indicates that previewing the next word in parafoveal vision facilitates reading. This finding replicates past literature (see Rayner 1978, 1983, 1994, 1998; Rayner & Duffy 1986; Rayner, Well, Pollatsek & Bertera 1983).

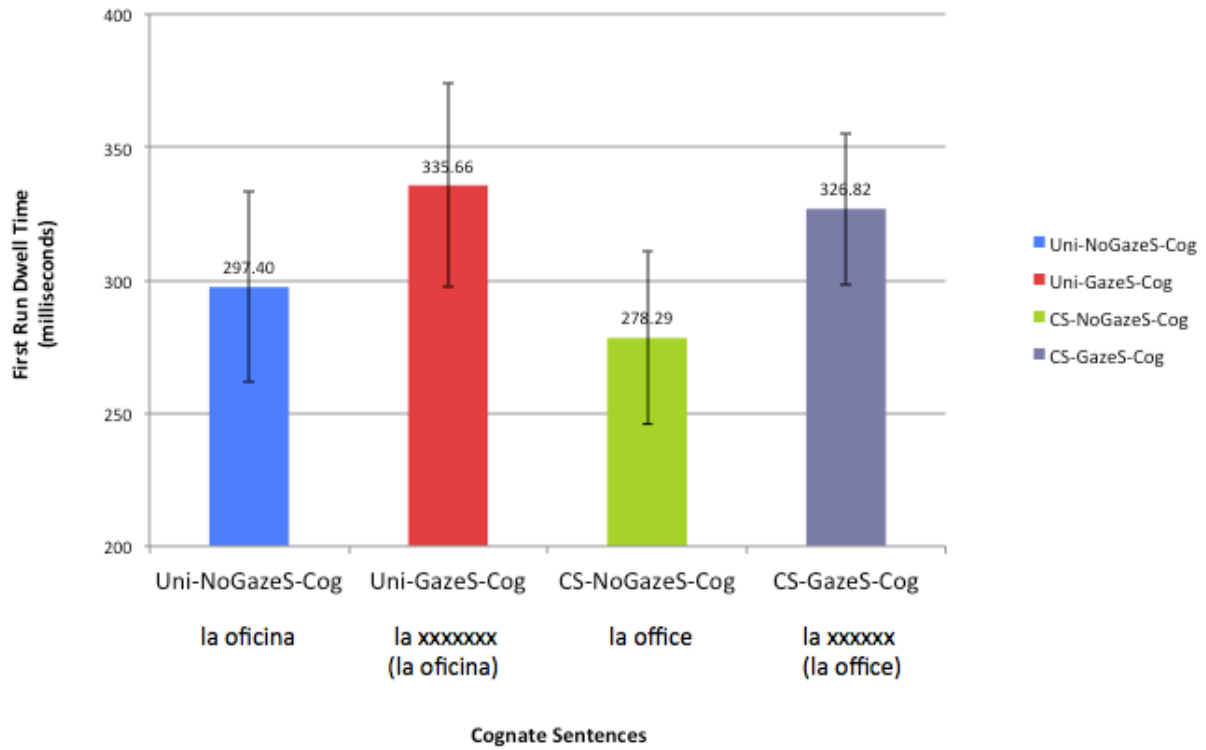
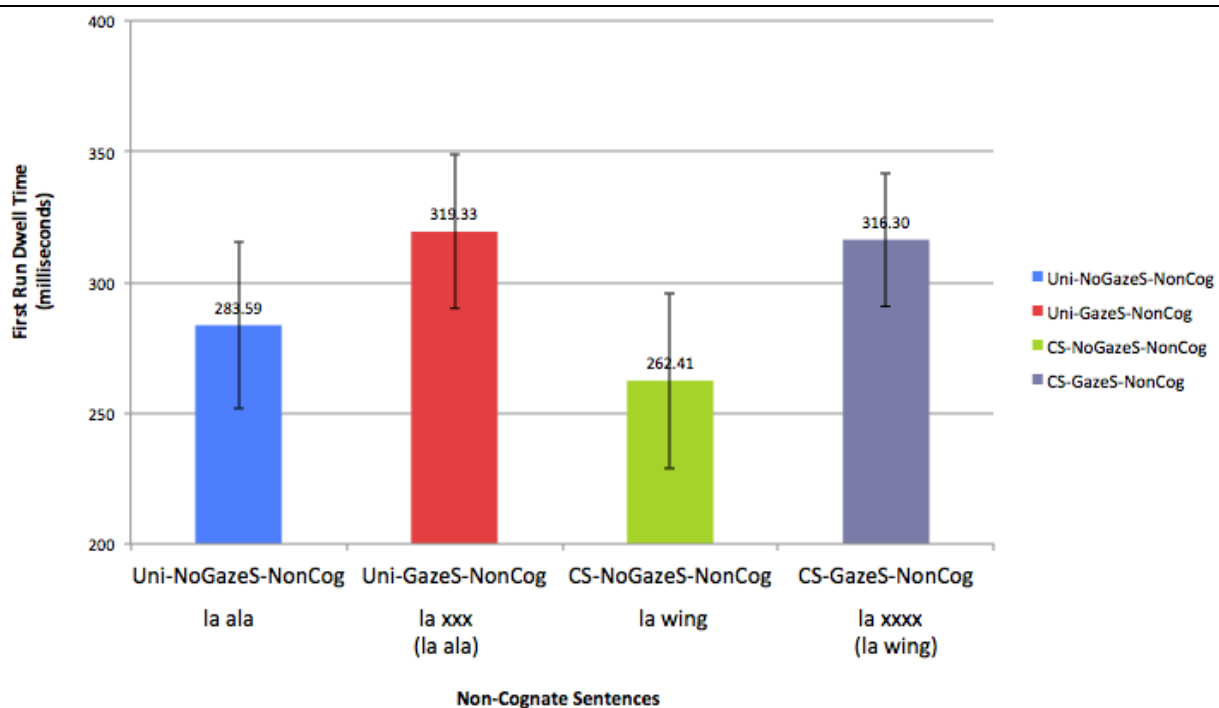
Figure 3. Cognate Sentences

Figure 4. Non-Cognate Sentences

The graphs also reveal another important observation: the average reading times for codeswitched sentences closely resemble the average reading times for unilingual sentences. That is, bilinguals read *la oficina* ($M=297.40$ milliseconds) with relatively the same reading speed as *la office* ($M=278.29$ milliseconds). The same can be said for non-cognate target words, such as *la ala* ($M=283.59$ milliseconds) and *la wing* ($M=262.41$ milliseconds). Based on this comparison, it can be said that the participants are equally proficient reading English as well as Spanish. This can also be attested based on the language proficiency evaluations as reported in Chapter 4.1.

Chapter 5: Discussion

The purpose of the work presented here was to determine whether codeswitching is costly. Based on this first analysis, it appears as though the answer is no: codeswitching is not costly. Bilinguals read unilingual sentences with the same speed and ease as codeswitched sentences. The manipulation of what readers saw in their parafoveal vision (the gaze switch condition containing an X mask) appears to suggest that it was equally difficult for readers to process unilingual sentences as to process codeswitched sentences. The average reading times for both unilingual and codeswitched sentences with a gaze switch were longer than the average times for unilingual and codeswitched sentences without a gaze switch. That is, it took bilinguals longer to read sentences that contained a gaze switch, regardless of whether it was a unilingual sentence or a codeswitched sentence. As expected, being able to preview words in the parafoveal was equally advantageous when reading unilingual and codeswitched sentences.

What is interesting, however, is that the bilinguals in this study read codeswitched sentences faster than unilingual sentences. One possible explanation for this difference may be that these bilinguals are more dominant in English than in Spanish. That is not to say that they are not proficient in Spanish, as the Verbal Fluency test and standardized DELE test showed that clearly they are able to comprehend and produce Spanish sentences. Several factors may explain their dominance in English: attending a university where English is the language of instruction, their social groups, how much exposure they have to Spanish on a daily basis in comparison with English, the context in which they were raised, etc.

Another possible explanation may be that these bilinguals are accustomed to reading written codeswitches. It is commonly thought that codeswitches are only produced orally. However, this is not the case. Written codeswitches have been found in literary contexts such as the short stories and novels of Latino writers Alurista and Ricardo Sánchez. Codeswitches are also found in advertisements, newspapers, email and chat. Montes-Alcalás (2005) also has created an extensive written corpus containing of emails containing codeswitches. Written codeswitches are strikingly similar to oral codeswitches (Guzzardo Tamargo, Valdés Kroff & Dussias, 2016), which is why it is not surprising that text messages and emails contain codeswitches: in informal contexts, people are prompted to write as how they speak.

One final important observation is in order regarding the stigmatized nature of codeswitching. The sixteen bilinguals who participated in this study were specifically recruited because they had codeswitched in a previous Map Task study. After completing the present study, participants were also asked to answer 12 questions about their daily use of English and Spanish, and specifically about codeswitching. In response to the question “How often do you think that you codeswitch between languages?,” participants could choose one of the following five options: *never*, *very infrequently*, *occasionally*, *frequently* and *always*. One participant responded *never*, 1 responded *very infrequently*, 4 responded *occasionally*, 9 responded *frequently*, and 1 responded *always*. The two participants who answered *never* and *very infrequently* raise curiosity as to why they selected their response. It is clear that if they had codeswitched with another bilingual during a previous study, they are accustomed to codeswitching. This alludes to the stigmatism that is associated with codeswitching. Perhaps these two particular participants did not wish to be affiliated with the negative connotation that

mixing language is viewed as uneducated. One goal is that studies such as the one presented here will help eradicate the negative and socially-stigmatized views of codeswitching.

Appendix A

DELE

Participante:

SECCION 1: Texto Incompleto

INSTRUCCIONES:

Complete el siguiente texto eligiendo para cada uno de los huecos una de las tres opciones que se le ofrecen.

NIÑOS SALUDABLES

Los padres siempre se están preguntando cómo conseguir que sus hijos sean unos niños talentosos y sanos y las soluciones pueden estar más cerca de lo que creemos. Ni tónicos, ni vitaminas, ni cursos de lectura veloz pueden conseguir tantos resultados en los niños 1 la práctica constante de hábitos saludables, Un sueño reparador, una alimentación sabia, 2 a una actividad física constante y el control del estrés son claves a la hora de potenciar habilidades naturales de los más pequeños.

3 contrario de los que se creía, el sueño está lejos de ser una fase de hibernación mental. 4 que se descansa es la musculatura, pero en el cerebro se inician procesos fisiológicos fundamentales 5 el adecuado funcionamiento del niño, indispensables en la prevención de 6 enfermedad. El sueño es como el supermercado de noche, al momento del 7 no se apagan las luces, 8 que se encienden muchas más para limpiar las instalaciones y reponer los productos.

No solo 9 vital para el niño dormir las horas recomendadas, también que lo 10 a la hora del crepúsculo, pues en ese momento se 11 la disminución gradual de su actividad y la cantidad de estímulos que acuden a su cerebro desciende.

En la comida están los nutrientes básicos, 12 cumplen importantes funciones estructurales. 13 nacimiento en adelante, el niño obtendrá de ahí la materia prima para formar su cerebro y organismo. Si se 14 un niño talentoso, lo primero es aplicar en 15 mismo las normas de alimentación saludable.

Las frutas, por ejemplo, deben consumirse más 16 tres veces al día, no hay que permitir que el yogur, otro gran alimento, les 17 protagonismo en la dieta de los chicos.

A pesar de los conocimientos, padres con las mejores intenciones se han topado con la barrera del gusto. Pero la preferencia por la comida sana también se puede educar, acostumbrándolos desde pequeños y explicando el 18 siempre.

El cuerpo humano está diseñado para moverse. Pero, en la actualidad, el sedentarismo ha limitado el crecimiento intelectual y emocional. Para evitarlo es crucial que los niños 19 una actividad física constante, en forma sistemática. Lo preferible es la práctica de un deporte, por ejemplo, el tenis de mesa, que le 20 mucho al niño en términos de coordinación y estrategia.

[Adaptado de *El Mercurio*, Chile]

[Adapted from DELE test]

SECCION 2: Vocabulario

INSTRUCCIONES: elige el significado de la palabra en negrita.

21. Tengo la impresión de que los libros que yo tenía de pequeña están **dispersos** por la casa de mis padres.

elige uno

22. Estábamos en plena reunión y, **de buenas a primeras**, la directora empezó con el tema de la subida de impuestos.

elige uno

23. Es un club muy exclusivo. Tiene una **contraseña** para poder entrar en determinados días.

elige uno

24. Esa decisión es **inapelable**; ahora que, si tú quieres, puedes hablar con Juan a ver qué te dice.

elige uno

25. Es necesario **restituir** el honor de esa persona porque, si no, no querrá asistir a una reunión con todos los demás representantes.

elige uno

26. Llegamos al aeropuerto a las tres y a **duras penas** cogimos el avión, no sin antes hablar por teléfono con una de nuestras familias.

elige uno

27. Decidieron tener una conversación previa a la firma del tratado para **limar asperezas**.

elige uno

28. En medio de los exámenes el hijo de Marta tuvo un **bajonazo**: por eso sigue preparándose para ellos.

elige uno

29. La situación familiar hizo que mi abuelo **tomara cartas en el asunto** en aquella época.

elige uno

30. Con ese aspecto de **pasmado**, es el mejor escritor de su generación.

elige uno

SECCION 3: Gramática

INSTRUCCIONES: Elige la opción correcta para cada una de las siguientes oraciones.

31. En la compañía se está decidiendo estos días si _____ nuevos horarios para los trabajadores.

elige uno

32. María no era de la opinión de que _____ todos a casa de Juan, pero al final fuimos.

elige uno

33. En las vacaciones en Brasil gasté mucho dinero, más _____ pensaba: es que era todo tan bonito...

elige uno

34. A Luisa le dio _____ decir que tenía sueño y se fue a casa.

elige uno

35. No tenemos _____ idea de qué habrá podido pasar en la última jornada de Bolsa porque hemos estado de vacaciones.

elige uno

36. Yo creo que a Carlos no le gustó nada que _____ en su casa sin avisar.

elige uno

37. No estoy dispuesta a irme sin que _____ la verdad.

elige uno

38. No sé si a Clara _____ han devuelto ya las maletas que perdió en el aeropuerto.

elige uno

39. ¿Dónde han estado los chicos toda la tarde, que no los he visto?

- No sé, _____ porque mañana tienen un examen importante.

elige uno

40. ¿Vas a asistir a la inauguración de la nueva sede?

- Si tengo tiempo, _____ hoy.

elige uno

41. Yo _____ tú, hablaría con ella, es lo mejor para aclarar la situación.

elige uno

42. Ella le dijo que, si de verdad la _____, se lo demostrara.
elige uno
43. El hecho _____ lo eliminaron de la lista de candidatos todavía no está claro.
elige uno
44. _____ que se traslade a vivir a esta casa estará encantado con el paisaje alrededor.
elige uno
45. Nadie conseguirá aprobar ese examen _____ se prepare a conciencia: es muy duro.
elige uno
46. _____ salir de casa, se dio cuenta de que había dejado las llaves dentro.
elige uno
47. _____ haber sabido que ibais a venir, habríamos preparado más comida.
elige uno
48. Había mucha gente que quería acudir al estreno de la película, _____ decidiéramos ir otro día a verla.
elige uno
49. Cuando llegamos a la oficina _____ 15 personas esperando para hablar con nosotros.
elige uno
50. Nuestros hijos ya son mayores. _____ arreglan muy bien en casa solos.
elige uno

Appendix B**MELICET****Participant:****SECTION 1: Grammar**

INSTRUCTIONS: Choose the word or phrase that best completes the conversation.

1. "What time will we arrive in San Francisco?"
"I'm not sure, because I don't know _____ from here."
choose one
2. "Did George enter the photography contest?"
"No, but if he had, I think he _____."
choose one
3. "What's the matter?"
"I feel _____ out."
choose one
4. "May I bring you a cup of tea?"
"I prefer coffee _____ tea."
choose one
5. "Have you ever gone to Tahiti?"
"No, but I have _____ for a long time."
choose one
6. "Will you come to my party on Saturday?"
"_____ I'd like to, I can't."
choose one
7. "Don't forget to pay the rent tomorrow!"
"Please remind _____ in the morning."
choose one
8. "Susan plays the piano very well."
"_____ that, she's an excellent singer."
choose one
9. "Which chair should I take?"

- “The _____ over there.”
choose one
10. “Mark isn’t very smart, is he?”
“Actually, he’s smarter than he _____ to be.”
choose one
11. “What do you think of American football?”
“I think it’s _____ sport.”
choose one
12. “What shall we do about this problem?”
“John suggests _____ a meeting.”
choose one
13. “Where did you get those curtains?”
“My wife made them _____ an old tablecloth.”
choose one
14. “Do you like sugar in your coffee?”
“Yes, _____ better.”
choose one
15. “Why did John refuse to pay for his dinner?”
“Because _____ two hours by the time he was served.”
choose one
16. “When is the meeting going to begin?”
“_____ Fred comes, we can get started.”
choose one
17. “Does John have a lot of accidents at work?”
“Yes. He isn’t _____ he should be.”
choose one
18. “Did David enter the writing contest?”
“Yes, he thinks he has _____.”
choose one
19. “Does Barbara have a difficult job?”
“Yes. She is responsible _____ many important decisions.”
choose one
20. “You gave me the wrong amount of money.”
“How _____? I gave you what you asked for.”
choose one

21. "Will Bill's report be ready by Friday?"
"No, I don't think he _____ it by then."
choose one
22. "When will this paint be dry?"
"Not long. This is very _____ paint."
choose one
23. "Does Sue like circuses?"
"Yes, the clowns always make _____."
choose one
24. "Did you do well on the history test?"
"No. I studied all night _____ failed."
choose one
25. "How do those shoes fit?"
"My feet are too big _____ them."
choose one
26. "Do Mary's children help with the housework?"
"Yes, if she asks _____."
choose one
27. "Where's the box I asked for?"
"Over there, _____ on the table."
choose one
28. "Let's plan a picnic for Saturday."
"_____ it rains?"
choose one
29. "Is Lynn going to buy a new suit?"
"Yes, she's looking for a suit like _____."
choose one
30. "That movie isn't very good."
"Just wait. The best part _____."
choose one

SECTION 2: Cloze

INSTRUCTIONS: Read the passage, then select the word which best fills the blank in both grammar and meaning.

Color is such a constant part of our environment that we tend to ignore its messages. Many people with perfect vision suffer 31 a sort of cultural color blindness. But 32 unnoticed color influences feelings as well. 33 of experiments with both infants and 34 indicate that blue light tends to 35 activity and produce a state of restfulness. 36 more tense a person is, the 37 blue will act as a tranquilizer. Red, 38 the contrary, excites the nervous system, 39 that if this page were printed 40 red paper, electrodes attached to your skin 41 show a definite increase in muscle 42 , restlessness, and eye movements compared with 43 reactions to the white page. Studies 44 found that patients in hospital rooms 45 red or other bright colors require 46 attention from nurses than patients in 47 painted in more subdued colors. Furthermore, 48 has been found that school children 49 more alert and learn faster in 50 painted rooms. However, this is unfortunately accompanied by an increase in restlessness and noisiness.

[Adapted from MELICET test]

Appendix C

Language History Questionnaire

Marian, Blumenfeld, & Kaushanskaya (2007).
Northwestern Bilingualism & Psycholinguistics Research Laboratory

Traducción por Rojas & Iglesias (2008)

Temple University Bilingual Language Laboratory

Cuestionario de Experiencia y Competencia Lingüística

Apellido(s)		Nombre(s)		Fecha	
Edad		Fecha de Nacimiento		Masculino <input type="checkbox"/>	Feminino <input type="checkbox"/>

(1) Por favor indique todos los idiomas que conozca **en orden de dominio**:

1	2	3	4	5
----------	----------	----------	----------	----------

(2) Por favor indique todos los idiomas que conozca **en orden de adquisición** (su idioma materno primero):

1	2	3	4	5
----------	----------	----------	----------	----------

(3) Por favor indique que porcentaje del tiempo UD *actualmente* y *en promedio* está expuesto a cada idioma.
(Los porcentajes deben de sumar a 100%):

Indique idioma:					
Indique porcentaje:					

(4) ¿Al escoger leer un texto disponible en todos sus idiomas, en que porcentaje de los casos escogería leerlo en cada idioma? Asuma que el texto original fue escrito en un idioma que UD no conoce.

(Los porcentajes deben de sumar a 100%):

Indique idioma:					
Indique porcentaje:					

(5) ¿Al escoger que idioma usar para hablar con una persona igualmente fluida a UD en todos sus idiomas, que porcentaje del tiempo escogería UD hablar en cada idioma? Por favor indique el porcentaje del tiempo total.

(Los porcentajes deben de sumar a 100%):

Indique idioma:					
Indique porcentaje:					

(6) Por favor indique las culturas con las cuales UD se identifica. En una escala del cero al diez, por favor valore hasta qué punto UD se identifica con cada cultura. (Ejemplos de culturas posibles incluyen Estado Unidense, China, Judío-Ortodoxo, etc.):

Indique cultura:					
-------------------------	--	--	--	--	--

(7) ¿Cuántos años de educación tiene UD? _____

Por favor indique su nivel más alto de educación (o la aproximación Estado Unidense equivalente a un título obtenido en otro país):

- | | | |
|---------------------------------|-------------------------------|-----------------|
| Menos que escuela secundaria | Algo de Universidad | Maestría |
| Escuela secundaria/preparatoria | Universidad | Ph.D./M.D./J.D. |
| Entrenamiento Profesional | Algo de Escuela Post-Graduado | Otro: |

(8) Fecha de inmigración a los Estados Unidos, si aplicable _____
Si UD ha inmigrado a otro país, por favor indique el nombre del país y la fecha de inmigración aquí abajo.

(9) ¿UD ha tenido un problema de visión , impedimento de audición , incapacidad de lenguaje , o incapacidad de aprendizaje ? (Indique todo lo aplicable). Si es el caso, por favor explique (incluyendo cualquier corrección/es necesaria/s):

Idioma:

Este es mi idioma (por favor seleccione del menú extraído).

Todas las preguntas que siguen se refieren a su conocimiento de _____.

(1) Edad cuándo UD...:

<i>empezó a adquirir:</i>	<i>llegó a ser fluido en:</i>	<i>empezó a leer en:</i>	<i>llegó a leer fluidamente en:</i>

(2) Por favor indique el número de años y meses que UD pasó en cada ambiente lingüístico:

	Años	Meses
Un país donde _____ es hablado		
Una familia donde _____ es hablado		
Una escuela y/o ambiente de trabajo donde _____ es hablado		

(3) En una escala del cero al diez, por favor seleccione su *nivel de **competencia*** al hablar, comprender, y leer de los menús extraídos:

Hablar	Comprender lenguaje hablado	Leer

(4) En una escala del cero al diez, por favor seleccione cuanto los siguientes factores contribuyeron a su aprendizaje de _____ :

Conviviendo con amistades		Cintas de lenguaje/auto instrucc	
Conviviendo con familia		Viendo televisión	
Leyendo		Escuchando la radio	

(5) Por favor valore hasta qué punto UD actualmente está expuesto a _____ en los contextos siguientes:

Conviviendo con amistades		Escuchando la radio/música	
Conviviendo con familia		Viendo televisión	
Leyendo		Cintas de lenguaje/auto instrucc	

(6) ¿Según a su percepción, cuánto acento extranjero tiene UD en _____?

(pulsar aquí para escala)

(7) Por favor valore que tan frecuentemente los demás lo identifican a UD como un hablante no nativo basado en su acento en ____:

(pulsar aquí para escala)

Idioma:

Este es mi idioma (por favor seleccione del menú extraído).

Todas las preguntas que siguen se refieren a su conocimiento de _____.

(1) Edad cuándo UD...:

<i>empezó a adquirir:</i>	<i>llegó a ser fluido en:</i>	<i>empezó a leer en:</i>	<i>llegó a leer fluidamente en:</i>

(2) Por favor indique el número de años y meses que UD pasó en cada ambiente lingüístico:

	Años	Meses
Un país donde _____ es hablado		
Una familia donde _____ es hablado		
Una escuela y/o ambiente de trabajo donde _____ es hablado		

(3) En una escala del cero al diez, por favor seleccione su *nivel de **competencia*** al hablar, comprender, y leer de los menús extraídos:

Hablar	Comprender lenguaje hablado	Leer

(4) En una escala del cero al diez, por favor seleccione cuanto los siguientes factores contribuyeron a su aprendizaje de _____ :

Conviviendo con amistades		Cintas de lenguaje/auto instrucc	
Conviviendo con familia		Viendo televisión	
Leyendo		Escuchando la radio	

(5) Por favor valore hasta qué punto UD actualmente está expuesto a _____ en los contextos siguientes:

Conviviendo con amistades		Escuchando la radio/música	
Conviviendo con familia		Viendo televisión	
Leyendo		Cintas de lenguaje/auto instrucc	

(6) ¿Según a su percepción, cuánto acento extranjero tiene UD en _____?

(pulsar aquí para escala)

(7) Por favor valore que tan frecuentemente los demás lo identifican a UD como un hablante no nativo basado en su acento en _____:

(pulsar aquí para escala)

Appendix D

Codeswitching Questionnaire

Please, try to answer to what degree the following questions are representative to talk or speak in the language you know (e.g., English–Spanish). Many of them report your tendency to switch or mix languages during a conversation. Switching is a characteristic of some bilingual contexts or environments. The present questionnaire examines the language switching patterns that exist in these languages. If you have done yourself in the following questions, please try to compare your manner of speaking of most people, or with those who you know very well.

1. I do not remember or I cannot recall some English words when I am speaking in this language:
Your answer: Never
Very Infrequently
Occasionally
Frequently
Always
2. I do not remember or I cannot recall some Spanish words when I am speaking in this language:
Your answer: Never
Very Infrequently
Occasionally
Frequently
Always
3. I tend to switch languages during a conversation (for example, I switch from Spanish to English or vice versa).
Your answer: Never
Very Infrequently
Occasionally
Frequently
Always
4. When I cannot recall a word in Spanish, I tend to immediately produce it in English.
Your answer: Never
Very Infrequently
Occasionally
Frequently
Always
5. When I cannot recall a word in Spanish, I tend to immediately produce it in English.

Your answer: Never
Very Infrequently
Occasionally
Frequently
Always

6. I don not realize when I switch the language during a conversation (e.g., from English to Spanish) or when I mix the two languages; I often realize it only if I am informed of the switch by another person.

Your answer: Never
Very Infrequently
Occasionally
Frequently
Always

7. When I switch languages, I do it consciously.

Your answer: Never
Very Infrequently
Occasionally
Frequently
Always

8. It is difficult for me to control the language switches I introduce during a conversation.

Your answer: Never
Very Infrequently
Occasionally
Frequently
Always

9. Without intending to, I sometimes produce the Spanish word faster when I am speaking in English.

Your answer: Never
Very Infrequently
Occasionally
Frequently
Always

10. Without intending to, I sometimes produce the English word faster when I am speaking in Spanish.

Your answer: Never
Very Infrequently
Occasionally
Frequently
Always

11. There are situations in which I always switch between the two languages.

Your answer: Never
Very Infrequently
Occasionally
Frequently
Always

12. There are certain topics of issues for which I normally switch between the two languages.

Your answer: Never
Very Infrequently
Occasionally
Frequently
Always

Appendix E

Material

1. Mi padre me regaña todo el tiempo cuando salgo en motocicleta sin el casco bien colocado.
Mi padre me regaña todo el tiempo cuando salgo en motocicleta sin el helmet secured tightly.
2. Ha ido a la estación de ferrocarril, porque su hija llega en el train with her uncle.
Ha ido a la estación de ferrocarril, porque su hija llega en el tren con su tío.
3. Como no había llegado a casa todavía, antes de salir le dejé escrita una nota en el frigorífico.
Como no había llegado a casa todavía, antes de salir le dejé escrita una note on the fridge.
4. Hacía mucho tiempo que quería escucharlos tocar y mi marido me regaló unas entradas para el concert tonight.
Hacía mucho tiempo que quería escucharlos tocar y mi marido me regaló unas entradas para el concierto esta noche.
5. No pude recibir ningún mensaje en el celular durante la tarde porque se había gastado la batería por la mañana.
No pude recibir ningún mensaje en el celular durante la tarde porque se había gastado la battery in the morning.
6. Aunque parezca sencillo, escribir es un arte que se desarrolla con la práctica a diario.
Aunque parezca sencillo, escribir es un arte que se desarrolla con la practice everyday.
7. Después de acostarme en la cama, me tuve que levantar otra vez porque no había apagado la light in the kitchen.
Después de acostarme en la cama, me tuve que levantar otra vez porque no había apagado la luz de la cocina.
8. Mi padre considera que las navidades son unas fiestas para estar sólo con la familia y nadie más.
Mi padre considera que las navidades son unas fiestas para estar sólo con la family and nobody else.
9. Antes de las vacaciones vaciamos la nevera, así que mañana hay que ir sin falta a hacer la compra al supermarket nearby.
Antes de las vacaciones vaciamos la nevera, así que mañana hay que ir sin falta a comprar al supermercado más cercano.
10. Su casa parecía una biblioteca y un museo, pues era un amante de la literatura y el arte desde que era un niño.
Su casa parecía una biblioteca y un museo, pues era un amante de la literatura y el art since he was a child.
11. Lástima que para encontrar empleo, nos tengamos que mudar del campo a la ciudad lejos de la familia.
Lástima que para encontrar empleo, nos tengamos que mudar del campo a la city far from our family.
12. Mi vecina es atleta y siempre que gana una competencia me enseña la medalla de la victoria.

Mi vecina es atleta y siempre que gana una competencia me enseña la medal obtained after winning.

13. El chef nunca ha revelado el secreto de la receta que su madre le había enseñado.
El chef nunca ha revelado el secreto de la recipe that her mother taught him.
14. Por los problemas de su matrimonio, Paco le comunicó a su esposa que deseaba terminar la relación tan pronto como fuese posible.
Por los problemas de su matrimonio, Paco le comunicó a su esposa que deseaba terminar la relationship as soon as possible.
15. El granjero se levanta muy temprano todas las mañanas para ordeñar la vaca en el establo.
El granjero se levanta muy temprano todas las mañanas para ordeñar la cow in the barn.
16. La señora siempre lleva un paraguas en la mano para cubrirse de la rain for days like this.
La señora siempre lleva un paraguas en la mano para cubrirse de la lluvia en días como hoy.
17. A su maestra le preocupaba que tener novia ahora le fuese a perjudicar en sus estudios en el instituto.
A su maestra le preocupaba que tener novia ahora le fuese a perjudicar en sus studies in highschool.
18. Fuimos a bucear y encontramos una ostra que tenía dentro una pearl of great beauty.
Fuimos a bucear y encontramos una ostra que tenía dentro una perla de gran belleza.
19. Para poder usar el agua del mar en las casas, hay un proceso para quitarle la sal y la purifican.
Para poder usar el agua del mar en las casas, hay un proceso para quitarle la salt and treat it.
20. Hacer ejercicios es saludable para el corazón porque mejora la circulación de la sangre.
Hacer ejercicios es saludable para el corazón porque mejora la circulation of the blood.
21. En el menú tenemos para elegir como entrante una sopa o una salad without dressing.
En el menú tenemos para elegir como entrante una sopa o una ensalada sin aliño.
22. Cuando estoy cerca del mar, me apetece escribir un mensaje y meterlo en una bottle like a castaway.
Cuando estoy cerca del mar, me apetece escribir un mensaje y meterlo en una botella como un náufrago.
23. Esta mañana fui a correos para comprar estampillas y mandar la carta a la compañía.
Esta mañana fui a correos para comprar estampillas y mandar la letter to the company.
24. El símbolo de la religión judía es la estrella, para los árabes la media luna y para los cristianos la cruz con Jesús.
El símbolo de la religión judía es la estrella, para los árabes la media luna y para los cristianos la cross with Jesus.
25. Quiero tomar notas en la reunión ¿podrías traerme un lápiz y un trozo de papel de mi libreta?
Quiero tomar notas en la reunión ¿Podrías traerme un lapiz y un trozo de paper from my notebook?
26. Martín estaba jugando al fútbol en el patio, cuando la pelota salió disparada y rompió la ventana de casa del vecino.
Martín estaba jugando al fútbol en el patio, cuando la pelota salió disparada y rompió la window of the neighbor's house.

27. La maestra disfruta tanto su profesión que pasa mucho tiempo extra en la escuela con los chicos.
La maestra disfruta tanto su profesión que pasa mucho tiempo extra en la school with the kids.
28. Me he aficionado a ver en verano el tour de Francia y quiero comprarme una bicycle to practice.
Me he aficionado a ver en verano el tour de Francia y quiero comprarme una bicicleta para practicar.
29. Parece que va a nevar, mejor me tapo el cuello con la bufanda y el abrigo.
Parece que va a nevar, mejor me tapo el cuello con la scarf and the coat.
30. El museo permanece abierto todos los días de la semana en temporada alta.
El museo permanece abierto todos los días de la week in high season.
31. Llevan varios días buscando a los excursionistas que se perdieron en la mountain during the avalanche.
Llevan varios días buscando a los excursionistas que se perdieron en la montaña durante la avalancha.
32. El surfista no pudo mantener la tabla sobre la wave for so long.
El surfista no pudo mantener la tabla sobre la ola durante tanto tiempo.
33. La camarera fue muy cuidadosa a la hora de colocar los platos de comida sobre la table with the drinks.
La camarera fue muy cuidadosa a la hora de colocar los platos de comida sobre la mesa junto a las bebidas.
34. Ana escuchó atentamente a su abuelo para no perderse ningún detalle de la historia sobre su padre.
Ana escuchó atentamente a su abuelo para no perderse ningún detalle de la story about his father.
35. Antes de salir de casa, la madre cubrió a su bebé con la blanket in the stroller.
Antes de salir de casa, la madre cubrió a su bebé con la manta en el cochecito.
36. Antes de irnos de vacaciones nos aseguramos de cerrar bien la door y las windows.
Antes de irnos de vacaciones nos aseguramos de cerrar bien la puerta y las ventanas.
37. El ramo que le llevó al hospital era hermoso, pero pronto se le cayeron los pétalos a todas las flores que eran rojas.
El ramo que le llevó al hospital era hermoso, pero pronto se le cayeron los pétalos a todas las flowers that were red.
38. Los gritos de los niños estaban haciendo a mi padre perder la paciencia muy rápidamente.
Los gritos de los niños estaban haciendo a mi padre perder la patience very quickly.
39. Donar sangre es muy bueno, pero nunca lo he hecho porque le tengo miedo a la needle in the skin.
Donar sangre es muy bueno, pero nunca lo he hecho porque le tengo miedo a la aguja en la piel.
40. La tortilla española huele muy bien. ¡Qué pena que no me la puedo comer porque no quiero romper la diet to lose weight!

La tortilla española huele muy bien. ¡Qué pena que no me la puedo comer porque no quiero romper la dieta para adelgazar!

41. Los chicos con hiperactividad tienen mucha dificultad para mantener la atención por mucho rato.
Los chicos con hiperactividad tienen mucha dificultad para mantener la attention for a long time.
42. Me ensució la camisa con vino tinto y dudo que pueda quitar la mancha de la tela.
Me ensució la camisa con vino tinto y dudo que pueda quitar la stain from the fabric.
43. Estábamos conversando pero cuando el grupo empezó a tocar, nos callamos para escuchar la música que tocaban.
Estábamos conversando pero cuando el grupo empezó a tocar, nos callamos para escuchar la music they played.
44. Nuestro jefe debe de estar de mal humor porque ha cerrado la puerta de la office after the meeting.
Nuestro jefe debe de estar de mal humor porque ha cerrado la puerta de la oficina tras la reunión.
45. Acabo de graduarme y me cuesta mucho encontrar trabajo porque están valorando más los años de experiencia en el puesto.
Acabo de graduarme y me cuesta mucho encontrar trabajo porque están valorando más los años de experience on the job.
46. El vagabundo siempre se detiene en la misma esquina para pedirle monedas a la gente de la plaza.
El vagabundo siempre se detiene en la misma esquina para pedirle monedas a la people at the square.
47. La periodista se enfureció con el senador porque no le quiso contestar la question about the scandal.
La periodista se enfureció con el senador porque no le quiso contestar la pregunta sobre el escándalo.
48. Antes de pasarle el biberón al bebé, su mamá se apresuró a calentar la leche en el microondas.
Antes de pasarle el biberón al bebé, su mamá se apresuró a calentar la milk in the microwave.
49. Hay que llamar al plomero, porque hace días que el agua sale con muy poca pressure from the faucet.
Hay que llamar al plomero, porque hace días que el agua sale con muy poca presión del grifo.
50. El jugador de fútbol se lesionó en el primer partido y se perdió toda la season until summer.
El jugador de fútbol se lesionó en el primer partido y se perdió toda la temporada hasta el verano.
51. La pareja se enteró en el ginecólogo de que habían perdido al bebé en el accidente.
La pareja se enteró en el ginecólogo de que habían perdido al baby in the accident.
52. La diseñadora se aseguró de entallar bien la ropa antes de vestir a la modelo para el desfile.

La diseñadora se aseguró de entallar bien la ropa antes de vestir a la model for the fashion show.

53. Salimos del puerto al amanecer para llegar pronto a la isla con los corales.
Salimos del puerto al amanecer para llegar pronto a la island with the reefs.
54. Siempre que sale mi tía Mercedes a la calle, se aplica bloqueador solar en la face for protection.
Siempre que sale mi tía Mercedes a la calle, se aplica bloqueador solar en la cara por protección.
55. La primera vez que montó en bicicleta, mi sobrina se cayó y se raspó la rodilla en el suelo.
La primera vez que montó en bicicleta, mi sobrina se cayó y se raspó la knee on the floor.
56. Después de tantos días nublados, se agradece que por fin salga un poco el sun in the sky.
Después de tantos días nublados, se agradece que por fin salga un poco el sol en el cielo.
57. El veterinario dijo que la gata andaba coja porque se clavó una espina en la paw the other day.
El veterinario dijo que la gata andaba coja porque se clavó una espina en la pata el otro día.
58. El programador solucionó el problema en el sistema operativo de la computadora de mi oficina.
El programador solucionó el problema en el sistema operativo de la computer in my office.
59. Los pasajeros estuvieron esperando en la puerta de embarque a que pasase la tormenta pero finalmente el flight was cancelled.
Los pasajeros estuvieron esperando en la puerta de embarque a que pasase la tormenta pero finalmente el vuelo se canceló.
60. Últimamente, el protagonista de las series es un político corrupto o un detective de la police solving serial murders.
Últimamente, el protagonista de las series es un político corrupto o un detective de la policía resolviendo asesinatos en serie.
61. Javier acudió a un masajista porque le dolía la back for days.
Javier acudió a un masajista porque le dolía la espalda desde hacía días.
62. Le gustaba mucho esa chica y cuando la veía sentía mariposas en el estómago como un adolescent.
Le gustaba mucho esa chica y cuando la veía sentía mariposas en el stomach like a teenager.
63. Si no me llamas mañana, pensaré que ya no me quieres dirigir la palabra después de nuestra pelea.
Si no me llamas mañana, pensaré que ya no me quieres dirigir la word after our argument.
64. El joven tomó a la anciana de la mano para ayudarla a cruzar la street to her place.
El joven tomó a la anciana de la mano para ayudarla a cruzar la calle hasta su casa.
65. El agricultor había perdido todos sus cultivos por la falta de agua tras la drought in the region.
El agricultor había perdido todos sus cultivos por la falta de agua tras la sequía en la región.
66. Cuando me da dolor de cabeza tengo que comprar aspirina en la pharmacy as soon as possible.
Cuando me da dolor de cabeza tengo que comprar aspirina en la farmacia cuanto antes.

67. Los niños jugaron hasta que se cansaron y preparamos una merienda para que recuperaran la energía gastada.
Los niños jugaron hasta que se cansaron y preparamos una merienda para que recuperaran la energy they had consumed.
68. Cuando me pongo mi abrigo de rayas blancas y negras y me miro al espejo, me siento como una cebra en la sabana.
Cuando me pongo mi abrigo de rayas blancas y negras y me miro al espejo, me siento como una zebra in the wild.
69. Lo que menos me gusta de la playa es que todo queda cubierto con granitos de arena incluso pasados los días.
Lo que menos me gusta de la playa es que todo queda cubierto con granitos de sand even after some days.
70. El vestido de la novia se manchó la noche antes de la boda durante la prueba.
El vestido de la novia se manchó la noche antes de la wedding during the rehearsal.
71. La profesora mandó a Jorge a escribir la ecuación en la blackboard with his classmate.
La profesora mandó a Jorge a escribir la ecuación en la pizarra con su compañero.
72. Empezó a sentir un fuerte dolor de cabeza y fue a la farmacia a buscar una medicine to feel better.
Empezó a sentir un fuerte dolor de cabeza y fue a la farmacia a buscar una medicina que la aliviase.
73. Los astrónomos descubrieron un planet out of the solar system.
Los astrónomos descubrieron un planeta fuera del sistema solar.
74. Después de apagar el incendio, nos vino a hablar un bombero del equipo de rescate.
Después de apagar el incendio, nos vino a hablar un firefighter from the rescue team.
75. La calefacción está estropeada desde que empezó el invierno y siento que estoy viviendo en un iglú en el polo norte.
La calefacción está estropeada desde que empezó el invierno y siento que estoy viviendo en un igloo at the north pole.
76. El dentista me dijo que debo cepillarme los dientes a diario para evitar que me salga una cavity in a molar.
El dentista me dijo que debo cepillarme los dientes a diario para evitar que me salga una caries en la muela.
77. El pájaro no puede volar porque le cortaron un wing by accident.
El pájaro no puede volar porque le cortaron un ala por accidente.
78. A mi perro le encanta jugar cuando le tiro una pelota en el parque.
A mi perro le encanta jugar cuando le tiro una ball in the park.
79. No podíamos hacer más fotos con la cámara digital porque tenía ya llena la memory with pictures from the previous trip.
No podíamos hacer más fotos con la cámara digital porque tenía ya llena la memoria con fotos del viaje anterior.
80. La multitud en el estadio no podía escuchar a la cantante porque se le agotó la batería al microphone before she started.

La multitud en el estadio no podía escuchar a la cantante porque se le agotó la batería al micrófono antes de comenzar.

81. Cuando me voy de vacaciones le dejo la llave de casa a la vecina para que me riegue las plantas del jardín.
Cuando me voy de vacaciones le dejo la llave de casa a la vecina para que me riegue las plants in my garden.
82. El alcalde dijo que el huracán era muy peligroso y que siguiéramos las señales para llegar al refugio del estadio.
El alcalde dijo que el huracán era muy peligroso y que siguiéramos las señales para llegar al shelter in the stadium.
83. Los jóvenes se reunieron para ver el partido de fútbol y apoyar al team they love.
Los jóvenes se reunieron para ver el partido de fútbol y apoyar al equipo que les gusta.
84. La secretaria dice que es importante atender cada llamada y por eso siempre está pendiente del teléfono en su escritorio.
La secretaria dice que es importante atender cada llamada y por eso siempre está pendiente del telephone in her desk.
85. Había preocupación entre los ecologistas porque los traficantes de marfil estaban poniendo en peligro al elephant in Africa.
Había preocupación entre los ecologistas porque los traficantes de marfil estaban poniendo en peligro al elefante en África.
86. Se escondieron todos callados a oscuras para que cuando llegara ella tuviera una sorpresa para su cumpleaños.
Se escondieron todos callados a oscuras para que cuando llegara ella tuviera una surprise for her birthday.
87. Sabía que cuando tuviese que devolver el cachorrito, se me rompería el heart and would cry.
Sabía que cuando tuviese que devolver el cachorrito, se me rompería el corazón y lloraría.
88. El jardín de mi casa era tan lindo que nos sentíamos como Adán y Eva en el paraíso al comienzo de los tiempos.
El jardín de mi casa era tan lindo que nos sentíamos como Adán y Eva en el paradise when everything began.
89. El arquitecto famoso dedicó largas horas al diseño del edificio para la biblioteca.
El arquitecto famoso dedicó largas horas al diseño del building for the library.
90. Si no fuera porque le tengo miedo a los aviones, ya habría dado la vuelta al world with my boyfriend.
Si no fuera porque le tengo miedo a los aviones, ya habría dado la vuelta al mundo con mi novio.
91. Tuvimos que llamar a los bomberos para que bajaran al gato del árbol antes de la tormenta.
Tuvimos que llamar a los bomberos para que bajaran al gato del tree before the storm.
92. Las galletas que preparó mi abuela están deliciosas. Acaba de sacarlas del horno junto con la torta.
Las galletas que preparó mi abuela están deliciosas. Acaba de sacarlas del oven with the cake.

93. Al salir de casa llovía mucho y tuve que parar a comprar un paraguas en el supermercado.
Al salir de casa llovía mucho y tuve que parar a comprar un umbrella at the supermarket.
94. Roberto trabaja los fines de semana en Roma enseñando monumentos a los tourists from different countries.
Roberto trabaja los fines de semana en Roma enseñando monumentos a los turistas de otros países.
95. Anoche, en el ático, encontramos un murciélago colgando del roof over our bed.
Anoche, en el ático, encontramos un murciélago colgando del techo sobre nuestra cama.
96. Tienes que ser paciente, la medicina tarda un tiempo en hacer el efecto contra el dolor.
Tienes que ser paciente, la medicina tarda un tiempo en hacer el effect against pain.
97. El mago siempre impresiona a su audiencia cuando saca un conejo del sombrero al principio del espectáculo.
El mago siempre impresiona a su audiencia cuando saca un conejo del hat at the beginning of the show.
98. Como su ilusión es ver en directo a los payasos, vamos a llevar a mi hija al circo por primera vez.
Como su ilusión es ver en directo a los payasos, vamos a llevar a mi hija al circus for the first time.
99. Ha incrementado la seguridad en el museo tras el robo del painting that had extraordinary value.
Ha incrementado la seguridad en el museo tras el robo del painting that had extraordinary value.
100. Antes de que existiesen los navegadores, para no perderme tenía que salir de viaje con un map of the roads.
Antes de que existiesen los navegadores, para no perderme tenía que salir de viaje con un mapa de carreteras.
101. Me voy a llevar el celular a China pero ¿sabes si necesito un adaptador para enchufar el charger with a specific voltage?
Me voy a llevar el celular a China pero ¿sabes si necesito un adaptador para enchufar el cargador con voltaje especial?
102. A mucha gente no le gustan los políticos porque piensan que cuando gobiernan les corrompe el power they get.
A mucha gente no le gustan los políticos porque piensan que cuando gobiernan les corrompe el poder que consiguen.
103. Hay mucho deporte de aventura en la zona, e incluso puedes tirarte de una avioneta con un parachute and the instructor.
Hay mucho deporte de aventura en la zona, e incluso puedes tirarte de una avioneta con un paracaídas y el instructor.
104. Sí, lo envolví en papel con cinta y mi sobrino se alegró cuando vio el regalo sobre la mesa.
Sí, lo envolví en papel con cinta y mi sobrino se alegró cuando vio el gift on the table.
105. ¿Podrías buscarme la receta del pollo antes de que vaya a comprar los ingredients we need?.

¿Podrías buscarme la receta del pollo antes de que vaya a comprar los ingredientes que necesitamos?

106. Antes de que se me olvide, tengo que pasar por la biblioteca para devolver el book before the due date.

Antes de que se me olvide, tengo que pasar por la biblioteca para devolver el libro antes del plazo.

107. No voy a arrancar el carro si no te abrochas el seatbealt for your own safety.

No voy a arrancar el carro si no te abrochas el cinturón por tu seguridad.

108. El abogado que nos arregló el problema era tan agradable que conocerle fue un verdadero placer para todos nosotros.

El abogado que nos arregló el problema era tan agradable que conocerle fue un verdadero pleasure for all of us.

109. Para descansar en la casa, me siento con las piernas estiradas sobre el couch in front of the tv.

Para descansar en la casa, me siento con las piernas estiradas sobre el sofá delante del televisor.

110. Ricardo era un chico muy romántico y le escribía a sus novias más de un poema para enamorarlas.

Ricardo era un chico muy romántico y le escribía a sus novias más de un poem to make them fall in love.

111. Se aburrieron un poco durante la carrera de motos viéndoles dar vueltas siempre al mismo circuito sin parar.

Se aburrieron un poco durante la carrera de motos viéndoles dar vueltas siempre al mismo circuit continuously.

112. Desde que somos niños, se nos enseña que el rey de la selva es el lion, not the tiger.

Desde que somos niños, se nos enseña que el rey de la selva es el león, no el tigre.

113. Por fin podemos cruzar el río en carro, porque los ingenieros terminaron de construir el puente después de muchos años.

Por fin podemos cruzar el río en carro, porque los ingenieros terminaron de construir el bridge after many years.

114. Ese alumno tan dedicado siempre estaba estudiando mientras los otros chicos jugaban durante el recess with their peers.

Ese alumno tan dedicado siempre estaba estudiando mientras los otros chicos jugaban durante el recreo con los amigos.

115. Los empleados estaban tan aburridos que se la pasaban consultando los minutos mirando el clock on the wall.

Los empleados estaban tan aburridos que se la pasaban consultando los minutos mirando el reloj de la pared.

116. Era muy derrochador y compraba todas las cosas sin siquiera mirar el price in the label.

Era muy derrochador y compraba todas las cosas sin siquiera mirar el precio en la etiqueta.

117. Tenemos que ir a ver el cuadro famoso que permanece en el museo de arte moderno.

Tenemos que ir a ver el cuadro famoso que permanece en el museum of modern art.

118. Antes de que consumiera la casa completa, los bomberos hicieron todo lo posible por apagar el fuego sin heridos.
Antes de que consumiera la casa completa, los bomberos hicieron todo lo posible por apagar el fire without casualties.
119. Tan pronto llegó a su oficina, el abogado puso los documentos sobre el escritorio y salió de nuevo.
Tan pronto llegó a su oficina, el abogado puso los documentos sobre el desk and left again.
120. En el bar le ponen a todos los refrescos la rodaja de limón entre el hielo.
En el bar le ponen a todos los refrescos la rodaja de lemon on the ice.
121. Es muy amable el cartero que trae todos los días el mail at home.
Es muy amable el cartero que trae todos los días el correo a casa.
122. En el invierno acostumbramos a viajar al sur para escapar del frío de mi pueblo.
En el invierno acostumbramos a viajar al sur para escapar del cold in my town.
123. El piloto anunció a los pasajeros que aterrizarían en el airport at the expected time.
El piloto anunció a los pasajeros que aterrizarían en el aeropuerto a la hora estimada.
124. La niñera siempre tiene cuidado de no dejar caer al bebé cuando le cambia el diaper in a public toilet.
La niñera siempre tiene cuidado de no dejar caer al bebé cuando le cambia el pañal en un baño público.
125. El capitán tuvo que maniobrar durante la tormenta para evitar que la nave se hundiera en el ocean due to the strong waves.
El capitán tuvo que maniobrar durante la tormenta para evitar que la nave se hundiera en el océano por el fuerte oleaje.
126. Esta mañana leí sobre el político en el periódico mientras desayunaba.
Esta mañana leí sobre el político en el newspaper while having breakfast.
127. En verano me gusta comprar fruta y verduras frescas en el market con mi madre.
En verano me gusta comprar fruta y verduras frescas en el market with my mother.
128. El periodista no logró obtener una entrevista con el presidente y por eso no pudo publicar el article before the elections.
El periodista no logró obtener una entrevista con el presidente y por eso no pudo publicar el artículo antes de las elecciones.
129. Cuando me entregaron el cheque, fui inmediatamente al banco para depositar el money in my account.
Cuando me entregaron el cheque, fui inmediatamente al banco para depositar el dinero en mi cuenta.
130. Una semana antes del día de Acción de Gracias, compramos todos los ingredientes para preparar el turkey following the traditional recipe.
Una semana antes del día de Acción de Gracias, compramos todos los ingredientes para preparar el pavo según la receta tradicional.
131. El joyero aseguró que el diamante quedaría perfecto en el ring for her fiancé.
El joyero aseguró que el diamante quedaría perfecto en el anillo para su prometida.
132. Cuando te da un ataque de asma sientes que te falta el aire para respirar.
Cuando te da un ataque de asma sientes que te falta el air to breath.

133. La enfermera le aseguró al paciente que no le dolería el pinchazo de la aguja en el brazo para la vacuna.
La enfermera le aseguró al paciente que no le dolería el pinchazo de la aguja en el arm for the vaccination.
134. No hay nada como una buena taza de café para iniciar con buen ánimo el día en el trabajo.
No hay nada como una buena taza de café para iniciar con buen ánimo el day at work.
135. Si tanto te gusta tu compañera de trabajo, ¿por qué no le pides ya el número de telephone to invite her?
Si tanto te gusta tu compañera de trabajo, ¿por qué no le pides ya el número de teléfono para invitarla?
136. Cuando llega el verano, no hay nada mejor que un helado para combatir el calor y refrescarse.
Cuando llega el verano, no hay nada mejor que un helado para combatir el heat and cool off.
137. Siempre que viajamos en familia llegamos tarde al aeropuerto y perdemos el flight all of us.
Siempre que viajamos en familia llegamos tarde al aeropuerto y perdemos el vuelo todos.
138. El abogado dijo que su cliente es inocente, que no cometió el crimen que le imputan.
El abogado dijo que su cliente es inocente, que no cometió el crime they accused him of.
139. En estas latitudes, el otoño dura un par de semanas ante de que llegue el invierno lleno de nieve.
En estas latitudes, el otoño dura un par de semanas ante de que llegue el winter full of snow.
140. Para el cumpleaños, Miguel comprará la nata que lleva el pastel con las velas.
Para el cumpleaños, Miguel comprará la nata que lleva el cake with the candles.
141. Para mejorar su forma física, el entrenador le puso una tabla diaria de exercises to lift weight.
Para mejorar su forma física, el entrenador le puso una tabla diaria de ejercicios para levantar pesas.
142. Como cada día hay más autos es mejor ir al trabajo caminando que quedarse atrapado en el traffic in the city center.
Como cada día hay más autos es mejor ir al trabajo caminando que quedarse atrapado en el tráfico del centro de la ciudad.
143. Ya terminé de escribir las cartas, sólo me falta apuntar la dirección y meterlas en el mailbox in the afternoon.
Ya terminé de escribir las cartas, sólo me falta apuntar la dirección y meterlas en el buzón esta tarde.
144. Su psicólogo le dijo que los problemas en casa y la acumulación de trabajo era lo que le estaban causando el estrés en el último año.
Su psicólogo le dijo que los problemas en casa y la acumulación de trabajo era lo que le estaban causando el stress in the last year.
145. El carpintero no pudo terminar de unir las tablas porque se le perdieron los clavos y el hammer that he needed.
El carpintero no pudo terminar de unir las tablas porque se le perdieron los clavos y el martillo que necesitaba.
146. He gastado todo mi dinero, sólo me queda un dólar en el bolsillo del pantalón.

- He gastado todo mi dinero, sólo me queda un dólar en el pocket in my pants.
147. Por el bien de su salud, el médico ha dicho a mi padre que no fume ni un cigarro en las fiestas.
Por el bien de su salud, el médico ha dicho a mi padre que no fume ni un cigarette during the holidays.
148. Después de varios días resfriado, el joven decidió ir a ver al médico para curarse.
Después de varios días resfriado, el joven decidió ir a ver al doctor to get better.
149. El empleado tomó la decisión por sí mismo en vez de consultar con el boss as he should.
El empleado tomó la decisión por sí mismo en vez de consultar con el jefe como debiera.
150. El jardinero vino ayer a pasar la máquina para cortar el césped del patio de atrás.
El jardinero vino ayer a pasar la máquina para cortar el grass in the backyard.
151. El barbero quería ofrecerle un buen servicio a su cliente y cortarle bien el pelo para su boda.
El barbero quería ofrecerle un buen servicio a su cliente y cortarle bien el hair for his wedding.
152. Hice ejercicios esta mañana y ahora me duele todo el cuerpo por el esfuerzo.
Hice ejercicios esta mañana y ahora me duele todo el body because of the effort.
153. La familia del difunto decidió enterrar el cuerpo en el cemetery with his wife.
La familia del difunto decidió enterrar el cuerpo en el cementerio con su mujer.
154. El cliente le pidió al mesero que le sirviera el agua en el glass for the second time.
El cliente le pidió al mesero que le sirviera el agua en el vaso por segunda vez.
155. La primera vez que nos conocimos le llevé unas flores y las puso en un jarrón de cristal.
La primera vez que nos conocimos le llevé unas flores y las puso en un vase made of glass.
156. Los modelos de los pintores se quedan quietos mientras les pintan un retrato durante horas.
Los modelos de los pintores se quedan quietos mientras les pintan un portrait for hours.
157. Mi hermano no tiene mucho dinero así que espero que consiga pronto un job and a good income.
Mi hermano no tiene mucho dinero así que espero que consiga pronto un trabajo y un buen sueldo.
158. Como la biblioteca era muy grande, para poder encontrarme con Leo le dije que nos viésemos en la entrance in the west wing.
Como la biblioteca era muy grande, para poder encontrarme con Leo le dije que nos viésemos en la entrada del ala oeste.
159. El dentista dijo que no podía sacarme la muela hasta que los antibióticos no lograsen bajar la infección en esa zona.
El dentista dijo que no podía sacarme la muela hasta que los antibióticos no lograsen bajar la infection in that area.
160. Los abuelos están muy orgullosos porque Emilia fue la primera de la familia que estudió en la university and she graduated.
Los abuelos están muy orgullosos porque Emilia fue la primera de la familia que estudió en la universidad y se graduó.

BIBLIOGRAPHY

- Blum-Kulka, Shoshana, and Elite Olshtain. *Happy Hebrish: Mixing and Switching in American-Israeli Family Interactions*. Multiling. Matters, 1989.
- Bolle, Jette. "Sranan Tongo-Nederlands: Code-wisseling in Ontlenig." Diss. U of Amerstam, 1994.
- Bullock, Barbara E., and Almeida Jacqueline Toribio. *The Cambridge Handbook of Linguistic Code-Switching.*, 2009.
- Broersma, Mirjam, and Kees De Bot. "Triggered Codeswitching: A Corpus-based Evaluation of the Original Triggering Hypothesis and a New Alternative." *Bilingualism: Language and Cognition* 9.1 (2006): 1-13.
- Callahan, Laura. *Spanish/English Codeswitching in a Written Corpus*. 27.;27; Vol. Amsterdam;Philadelphia, PA;: John Benjamins Pub, 2004.
- Canfield, Kip. "A Note on Navajo-english Code-mixing". *Anthropological Linguistics* 22.5 (1980): 218–220.
- Chan, Brian Hok-Shing. "Code-switching between typologically distinct languages", The Cambridge Handbook of Linguistic Code-switching. Ed. Barbara E. Bullock and Almeida Jacqueline Toribio. 1st ed. Cambridge: Cambridge University Press, 2009. pp. 182-198.
- Chomsky, Noam. *Lectures on Government and Binding*. 9 Vol. Cinnaminson, N.J;Dordrecht, Holland;: Foris Publications, 1981.
- Clyne, Michael G., 1939-2010. Transference And Triggering: Observations On the Language Assimilation of Postwar German-speaking Migrants In Australia. The Hague: Martinus Nijhoff, 1967. Print.
- Di Sciullo, Anne-Marie, Pieter Muysken, and Rajendra Singh. "Government and Code-Mixing." *Journal of Linguistics* 22.1 (1986): 1-24.
- Dussias, Paola E. "Uses of Eye-Tracking Data in Second Language Sentence Processing Research." *Annual Review of Applied Linguistics* 30 (2010): 149-66.
- Ehrlich, S. F., & Rayner, K. Contextual effects on work perception and eye movements during reading. *Reading Research Quarterly* 16 (1981): 227–235.
- Grosjean, Francois. "A Psycholinguistic Approach to Code-switching: The Recognition of Guest Words by Bilinguals." *One Speaker, Two Languages: Cross-disciplinary Perspectives on Code-switching*. Ed. L. Milroy and P. Muysken. Cambridge and New York: Cambridge

UP, 1995. 259-75.

Guzzardo Tamargo, R. E., Valdés Kroff, J. R., Dussias, P. E. (in press). Examining the relationship between comprehension and production processes in code-switched language. *Journal of Memory and Language*.

Gumperz, John J.. "Conversational code switching", *Discourse Strategies*. 1st ed. Cambridge: Cambridge University Press, 1982. pp. 59-99.

Gumperz, John J., and Jan-Petter Blom. *Social Meaning in Linguistic Structure: Code-Switching in Norway*. Holt, Rinehart and Winston, 1972.

Gumperz, John J., Edward Hernandez, and California Univ., Berkeley. Language and Behavior Research Lab. *Cognitive Aspects of Bilingual Communication. Working Papers of the Language Behavior Research Laboratory, no. 28.*, 1969.

Halmari, Helena. *Government and Codeswitching: Explaining American Finnish*. 12.;12; Vol. Amsterdam;Philadelphia;: J. Benjamins, 1997.

Haugen, Einar. "The Analysis of Linguistic Borrowing." *The Ecology of Language*. Stanford, CA: Stanford UP, 1973. 80-109.

Hedi M. Belazi, Edward J. Rubin, and Almeida Jacqueline Toribio. "Code Switching and X-bar Theory: The Functional Head Constraint". *Linguistic Inquiry* 25.2 (1994): 221–237.

Jake, J.L., and Myers-Scotton, C. "Testing the Fit: Syntactic Theory and Intrasentential Codeswitching." Presented at Annual Meeting of the Linguistic Society of America, (1992).

Just, Marcel A., and Patricia A. Carpenter. "A Theory of Reading: From Eye Fixations to Comprehension." *Psychological Review* 87.4 (1980): 329-54.

Kroll, Judith F. "The Consequences of Bilingualism for the Mind and the Brain." *Psychological Science in the Public Interest* 10.3 (2009): i-ii.

Lance, Donald M. *A Brief Study of Spanish-English Bilingualism: Final Report, Research Project ORR- Liberal Arts-15504*. Texas A.&M., Coll. of Liberal Arts, 1969.

Lipski, John M. *Code Switching and the Problem of Bilingual Competence*. Hornbeam, 1978.

Lipski, John. "'Fluent Dysfluency' as Congruent Lexicalization: A Special Case of Radical Code-Mixing." *Journal of Language Contact* 2.2 (2009): 1-39.

Macnamara, John, and Seymour L. Kushnir. "Linguistic Independence of Bilinguals: The Input Switch." *Journal of Verbal Learning and Verbal Behavior* 10.5 (1971): 480-87.

- McClure, Erica. "Aspects of Code-switching in the Discourse of Bilingual Mexican-American Children." *Linguistics and Anthropology*. Ed. M. Saviile-Troike. Washington, D.C: Georgetown UP, 1977. 93-115.
- McConkie, George W. "Eye Movements and Perception during Reading." *Eye Movement in Reading: Perceptual and Language Processes*. Ed. Keith Rayner. New York: Academic, 1983. 65-96.
- Moreno, Eva M., Kara D. Federmeier, and Marta Kutas. "Switching Languages, Switching Palabras (Words): An Electrophysiological Study of Code Switching." *Brain and Language* 80.2 (2002): 188-207
- Muysken, Pieter. *Bilingual Speech: A Typology of Code-Mixing*. Cambridge, UK;New York;: Cambridge University Press, 2000.
- Myers-Scotton, Carol. *Duelling Languages: Grammatical Structure In Codeswitching*. Oxford, Eng.: Clarendon Press , 1993. Print.
- Naseh Loftabadi, Leyla. *Disagreement in Agreement: A Study of Grammatical Aspects of Codeswitching in Swedish/Persian Bilingual Speech*. Diss. Stockholm U, 2002.
- Nishimura, Miwa. *Intrasentential Codeswitching in Japanese and English.*, 1985.
- Pfaff, Carol W.. "Constraints on Language Mixing: Intrasentential Code-switching and Borrowing in Spanish/English". *Language* 55.2 (1979): 291-318.
- Poplack, Shana. "Contrasting Patterns of Code-switching in Two Communities." *Codeswitching: Anthropological and Sociolinguistic Perspectives*. Ed. M. Heller. Berlin and New York: Mouton De Gruyter, 1988. 215-44.
- Poplack, Shana. "Sometimes I'll Start a Sentence in Spanish Y TERMINO EN ESPAÑOL: Toward a Typology of Code-switching1." *Linguistics* 18.7-8 (1980): 581-618.
- Poplack, Shana. "Statut De Langue Et Accommodation Langagière Le Long D'une Frontière Linguistique." *LE FRANÇAIS Canadien Parlé Hors Québec Aperçu Sociolinguistique*. By Raymond MOUGEON and Édouard BENIAK. Québec: Leses De L'Université De Laval, 1989. 127-51.
- Rayner, Keith. "Eye Movements in Reading and Information Processing." *Psychological Bulletin* 85.3 (1978): 618-60.
- Rayner, Keith. *The Perceptual Span and Eye Movement Control during Reading*. Academic, 1983.
- Rayner, Keith. "Eye Movements in Reading and Information Processing: 20 Years of Research." *Psychological Bulletin* 124.3 (1998): 372-422.

- Rayner, Keith. "Eye Movements during Skilled Reading." *Eye Movements in Reading*. Ed. Jan Ygge and Gunnar Lennerstrand. Oxford: Pergamon, 1994. 205-18.
- Rayner, Keith, and Susan A. Duffy. "Lexical Complexity and Fixation times in Reading: Effects of Word Frequency, Verb Complexity, and Lexical Ambiguity." *Memory & Cognition* 14 (1986): 191-201.
- Rayner, Keith, Arnold D. Well, Alexander Pollatsek, and James H. Bertera. "The Availability of Useful Information to the Right of Fixation in Reading." *Perception & Psychophysics* 31 (1982): 537-50.
- Sankoff, David, and Shana Poplack. "A Formal Grammar for Code-Switching." *Papers in Linguistics: International Journal of Human Communication* 14.1 (1981): 3-45.
- Sankoff, David, Swathi Vanniarajan, and Shana Poplack. "The Case of the Nonce Loan in Tamil." *Language Variation and Change* 2.1 (1990): 71-101.
- Selinker, Larry. "interlanguage." *International Review of Applied Linguistics in Language Teaching* 10.1-4 (1972): 209-32.
- Timm, L. A. "Spanish-English Code Switching: El Porque y how-Not-to." *Romance Philology* 28.4 (1975): 473-82.
- Toribio, Almeida Jacqueline. "Accessing Bilingual Code-Switching Competence." *International Journal of Bilingualism* 5.4 (2001): 403-36.
- Treffers-Daller, Jeanine. "Language Dominance and Lexical Diversity: How Bilinguals and L2 Learners Differ in Their Knowledge and Use of French Lexical and Functional Items." *Vocabulary Studies in First and Second Language Acquisition. The Interface between Theory and Application*. Ed. B. Richards, H.M. Daller, D.D. Malvern, J. Milton, and J. Treffers-Daller. Basingstoke: Palgrave, 2009. 74-90.
- Vaid, Jyotsna. "The Form and Functions of Code-Mixing in Indian Films: The Case of Hindi and English." *Indian Linguistics: Journal of the Linguistic Society of India* 41.1 (1980): 37-44.
- Zentella, Ana Celia. *Growing Up Bilingual: Puerto Rican Children in New York*. Cambridge, Mass: Blackwell, 1997.

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