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EFFECTS OF CODE-SWITCHING ON SENTENCE COMPREHENSION IN HIGHLY  
PROFICIENT SPANISH-ENGLISH BILINGUALS

MICHELLE SIMON  
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Reviewed and approved\* by the following:

Paola (Giuli) Dussias  
Associate Professor of Spanish and Psychology  
Thesis Supervisor

John Lipski  
Edwin Erie Sparks Professor of Spanish and Linguistics  
Honors Adviser

\* Signatures are on file in the Schreyer Honors College.

## **ABSTRACT**

This research looked at how Spanish-English bilinguals remember the meaning of sentences they read. Past research with monolingual participants suggested that meaning was retained, but the form was not stored. However, few studies have used bilinguals to study the same topic, which makes this research beneficial to the linguistics field. This study uses Spanish-English code-switched sentences to test comprehension and memory. Before researching, it was predicted that participants would score more accurately when the question content and language were matched to the sentence. However, the results demonstrated that there was no effect for language matching; participants scored just as accurately regardless of question and sentence language matching. The results also showed that reaction times were faster for L1 than for L2.

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## **Chapter 1**

### **Introduction**

Anecdotally, bilinguals report that they do not recall the language of sentences that they hear or read, but they seem to recall the meaning. English speakers tend to remember just the linguistic meaning of sentences, but without the syntactic meaning. (Sachs 1967, p. 437). The Sachs (1967) study had English monolinguals listen to recorded stories and recall whether or not the test sentence had changed syntactic form. The results demonstrate that “memory for the form of a sentence declines much more rapidly than recognition memory for the meaning” (p. 442). Sachs only looked at monolinguals in this 1967 study, which made me want to take this work a step further.

This study takes a similar approach and empirically tests the bilingual intuition that bilinguals do not remember the language that was used to encode meaning. It is predicted here that when the language of the sentence and the question with which participants are presented do not match, participants will be more inclined to answer incorrectly because of the challenging combination of languages. If the participants answer incorrectly more often, it is possible that meaning and language are not encoded together. However, if the participants perform equally well regardless of language, it is possible that language and meaning are linked when encoded. These ideas will be explored further in the research below. This prediction will be tested by analyzing how heritage Spanish speakers who also know English (L1 Spanish, L2 English) perform on the reading and recalling experiment described below.

In this study, each participant will view sixty-four English and Spanish grammatically code switched sentences (i.e. the sentences will have both English and Spanish words).

Immediately after reading each sentence the participant will see a basic math operation and have to answer whether it is correctly or incorrectly solved. Lastly, the participant will read and answer a question regarding the code switched sentence. The questions will be monolingual, but vary in language and whether the answer comes from the English or Spanish half of the original sentence.

To begin, this thesis will first provide background information on code switching and bilingual memory representation with the use of past studies. Following this, the methods and study design will be laid out. Lastly, the results and conclusions will be discussed.

## **1.1 Code Switching**

Bullock and Toribio (2009) define code switching as “the ability on the part of bilinguals to alternate effortlessly between their two languages” (p. 1). Poplack (1980) says that the switch is “within a single discourse, sentence, or constituent” (583). Immediately someone may think of Spanglish as code switching. However, as Bullock and Toribio point out, code switching “is not the random mixing of two languages, as is popularly assumed” (p. 4). It is common to think of code switching and those who do it negatively. However, code switching “is not indicative either of the bilingual’s inability to separate his languages or a lack of proficiency. Rather it is an additional communication resource available to bilinguals” (p. 8).

There are two different types of linguistic code switching, inter-sentential and intra-sentential. Bullock and Toribio (2009) describe inter-sentential code switching to be alternation at clause boundaries (p. 3), while Poplack (2001) defines intra-sentential code switching as, “the mixing, by bilinguals (or monolinguals), of two or more languages in discourse, often with no change of interlocutor or topic” (p. 1). That is to say that the switch takes place in the midst of a



sentence, not just within the conversation. Bullock and Toribio (2009) give an example of “That’s too much. Sina pesa” (p. 3) as inter-sentential because it occurs between two sentences. This is contrasted with the example provided for intra-sentential code switching. Bullock and Toribio actually cite Poplack’s article titled “Sometimes I’ll start a sentence in Spanish y termino en español” because it’s a perfect example of a switch mid-sentence. My study only concerns intra-sentential, as the design is a series of code switched sentences, rather than a conversation where inter-sentential code switching (switching sentences, rather than words or phrases) would be possible.

Other types of language mixing exist aside from code switching. Borrowing, for example, is different from code switching. With lexical borrowing, English words could be made morphologically and phonologically similar to Spanish. For example, the Japanese word “basubaru” comes from the English word “baseball” (Bullock & Toribio, 2009, p. 5).

Similar to lexical borrowing is nonce borrowing. Nonce borrowing would keep the English word within a Spanish sentence. An example that Poplack, Sankoff, and Miller (1988) provide with English and French is, “Je serais pas capable de coper avec” (p. 52), where “coper” comes from the English “to cope” and the sentence translates to “I couldn’t cope with it” (p. 52).

Another type of language mixing is called a loan translation or calque. Language patterns or phrases will be translated directly and keep the meaning of the native language, even if the words in the phrase don’t translate literally. Bullock and Toribio provide this example for a calque: “escuela alta” comes from the English phrase “high school,” even though in Spanish this is generally said as “secundaria.” In French we also see this with “étudiant gradué” as a loan translation from the English “graduate student,” when the direct meaning is “student graduated” and the proper French term would be “étudiant de troisième cycle” (p. 5). Bullock and Toribio explain semantic extensions as words from one language that take on a new meaning in a second language. An example they provide is: “mayor” (a government official), which literally means

“older” in Spanish, takes on the meaning of the government official, when the true translation would be “alcalde” (p. 5). Mixed languages are another distinction from code switching. Mixed languages are spoken as native languages, and are made up of a combination of multiple grammar systems. Media Lengua, which is used in Ecuador, is a mix of Spanish and Quechua. Even though it is a mix of the two languages, it is distinct enough from the two that monolinguals of either language cannot understand Media Lengua. This is clearly not the case with code switching, which is strictly used among other code switchers of the same languages (ie Spanish-English bilinguals only code switch with other Spanish-English bilinguals). There is also diglossia, which is a way to describe certain communities where specific languages are used in designated functions. The community decides which language is used in which setting. For example, Spanish may be used in the home, but English is used for business. Bullock and Toribio contrast this with code switching because the individual chooses his/her own context for code switching, whereas in the case of diglossia, the community sets the standards (p. 6). Lastly, there is the difference between code switching and crutching. Crutching is done by second language acquirers, or those who are becoming bilingual after having a full linguistic system in place prior to learning a new language. At first, a version of code switching does occur, but this is due to lack of knowledge, and is thus called crutching. Code switching is distinct from this, as it is used by bilinguals amongst bilinguals.

Returning now to code switching, Poplack (1980) explains that originally researchers didn't think much of it, believing that it was random and ungrammatical. However, the more that they researched, the clearer it became that code switching follows clear sets of grammatical rules. The grammaticality of code switching is discussed in Poplack's work, “Sometimes I'll start a sentence in Spanish y termino en español: toward a typology of code-switching”. In this study the researchers examined the speech patterns of Puerto Ricans living on 102nd Street in New York City (also known as The Block or El Barrio), an area of the city that has a primarily Puerto

Rican population. Poplack notes that “for the balanced bilingual code-switching appears to be subject to an ‘equivalence constraint’ [...] i.e. it tends to occur at points in discourse where juxtaposition of L1 and L2 elements does not violate a surface syntactic rule of either language, i.e. at points around which the surface structures of the two languages map on to each other” (p. 581). In Figure 1, the equivalence constraint explains that English-Spanish code switching will follow the rules of both languages. By observing twenty Puerto Ricans of varying ages who were fluent in Spanish and English, Poplack concluded that code switching is not deviant and indeed follows linguistic and grammatical patterns. In fact, Poplack says that code switching could be a demonstration of fluency or ability. She notes, “code-switching is a verbal skill requiring a large degree of linguistic competence in more than one language, rather than a defect arising from insufficient knowledge of one or the other” (p. 615). A speaker would have to have an understanding of the grammar of the two languages in order to maintain the equivalence constraint (to have the code-switched sentence follow the grammatical rules of both languages), which demonstrates a high skill level.

A.	Eng	I	told him	that	so that	he	would bring it	fast.
		↑		↑	↑	↑		↑
B.	Sp	(Yo)	le dije	eso	pa' que	(él)	la trajera	ligero.
C.	Cs	I	told him	that	PA' QUE		LA TRAJERA	LIGERO.

(04/73)

Figure 1: Equivalence Constraint (taken from Poplack, 1980, p. 586)

Grosjean (1994) is another researcher who discusses bilingualism and code switching in his article “Going in and out of languages: an example of bilingual flexibility.” Grosjean points out that while there has been much research on code switching in the recent years, little work has focused on the processing of the bilingual code switches (p. 201). Grosjean’s research first

looked at past work on how bilinguals perceive aural code switches. He calls it a base-language effect when the base language dominates the guest language at a code-switch boundary (p. 201). Later, his study focuses on the base-language effect when producing language, rather than just processing it. Grosjean had the bilingual participants talk to an experimenter who intentionally code switched. Right after that, the participants read stories out loud in either English or French. With the help of a key-word sheet, participants retold the stories (in English, French with code switching, or French) and had their voices recorded. The tapes were analyzed and voice onset times were of particular interest. He found that when bilinguals code switch, the base language doesn't affect the guest language and it "appears to involve a total change, not only at the lexical but also at the phonetic level" (p. 203).

## 1.2 Memory Representations

"When language is comprehended, it seems that the meaning of what was heard or read is remembered to some extent, but unless special attention is given to the style or other characteristics of the words, the exact wording is forgotten" (Sachs, 1967, p. 437). Sachs starts off by explaining that this idea comes from Chomsky's theory, which is called "deep structure." According to Chomsky, deep structure means that words that are related aren't necessarily next to each other in a sentence (see Figure 2 below). Sachs in turn develops a comprehension model that states "characteristics of the surface structure that are not uniquely related to the meaning of the sentence may not be remembered after comprehension" (p.437).

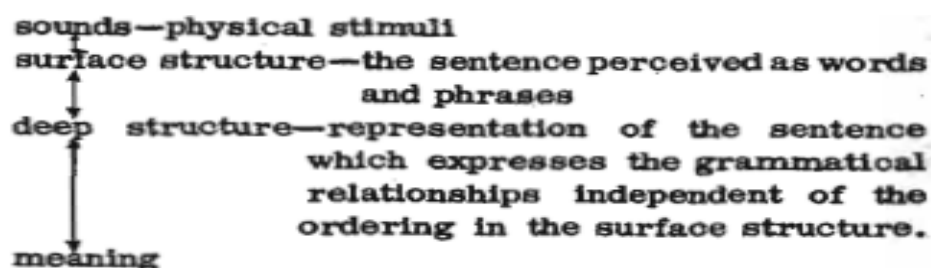


Figure 2: Chomsky's linguistic model (taken from Sachs, 1967, p. 437)

This study, which was mentioned earlier, had 96 participants listen to recorded stories and decide whether or not the test sentences were in the same form as they heard in the recording, or had been changed syntactically. Sachs varied the amount of interpolated material (IM) between the original sentence and the test sentence. As to be expected, the more IM there was between the original and test sentences, the worse the participants performed. “After only 80 syllables of connected discourse had been interpolated between the original and test sentences, Ss’ [the participant’s] recognition of syntactic changes was close to chance. Changes in the meaning of a sentence, on the other hand, were recognized quite well, even though these changes were subtle” (p. 442). From these results Sachs gathered that “the original form of the sentence is only stored for the short time necessary for comprehension to occur. When a semantic interpretation has been made, the meaning is stored. Thus the memory of the meaning is not dependent on memory of the original form of the sentence” (p. 437).

Just a few years later, Sachs extended her research. She took her 1967 work and developed it further in 1974 by looking at shorter time spans between the original sentence and test sentence, and also including visual presentations (rather than just auditory recordings). The auditory condition was performed similarly to the 1967 version of this experiment. For the written portion, Sachs printed and bound the passages in a notebook, with each test sentence on the page immediately following its corresponding passage. Participants were told not to reread or turn back pages. This study, with the repetition of the auditory condition and the addition of the visual group, confirms the findings from Sachs’ earlier work. The results were “consistent with

the view that the material in a sentence is encoded in an abstract representation, and the exact words are rapidly forgotten” (Sachs, 1974, p. 99).

Contrary to Sachs’ work, Rose et al. (1975) found in their study that bilinguals tend to recall the language of the message, if they can recall the message at all. To begin, Rose et al. had bilingual participants had to try to remember the source language of a message in general. The researchers recognize that “many cognitive processes are partially or completely inaccessible to introspection” (p. 599). Their research revolved around testing recognition and recall in bilinguals by having participants listen to recorded tapes. Those in the recognition condition were given randomly arranged words and were told to circle a correct response. Those in the recall condition were asked to recall sentences they had previously heard, without the prompting that the recognition group had. Not surprisingly, the recognition group performed better. “Recognition involves only a judgment of the familiarity of a sensorially (sic) present item, whereas recall involves, in addition, a search phase” (p. 602). This study refers to past researchers suggestion that “bilingual memory processes are best described by separate stores. Spanish sentences would thus be stored in one memory, English in the other” (p. 604). This study also refers to diglossia situations, where certain language is used in certain contexts (Spanish at home and English at school for example). If a sentence were about family, it would be easier to recall it in Spanish, according to this idea (Rose et al., 1975). It is important to keep in mind that this study uses words in isolation, not sentences, therefore there is no context. This study looks at participants remembering the language of words rather than meaning of messages.

Saegert et al. (1975) conducted two experiments with multilinguals to see their ability to remember language in code-switched sentences. In their experiments, fluent Arabic-French-English trilinguals were participants. The authors considered two opposing hypotheses when performing the research. The first option is called the language-independent storage hypothesis. This hypothesis postulates, “items in multilingual lists are said to be encoded as abstract concepts

with a concomitant but independent tag to indicate the language of input” (p. 607). This first hypothesis understands that sometimes participants would forget language tags. The second consideration is the language-specific storage hypothesis that suggests, “words are considered to be stored and remembered specifically in the language in which they were stored” (p. 607). This idea would mean that participants would be able to recall, almost perfectly, the correct language of a word.

The Saegert et al. (1975) article also posed ideas from previous studies. “Wickens (1970) has argued, on the basis of results from the release from proactive interference paradigm, that words are automatically encoded on the basis of a wide range of attributes” (p. 608). Underwood (1972) disagreed, though, and argued “such a theory overloads the abilities of human participants by not taking into account their selective encoding abilities” (p. 608).

The authors, Saegert, Hamayan, and Ahmar, performed two experiments, as mentioned above. In Experiment 1 the trilingual participants were shown a list of 36 words of English and French words. After seeing all of the words, they were given one minute and asked to recall the words (regardless of order or language). In a later recognition task, participants were asked to indicate whether they saw words in English or French (when shown the word in Arabic). From Experiment 1, “it could be argued that the ease of language discrimination in the attribute judgment paradigm supports of the notion of language-specific encoding of linguistically mixed lists. This would imply that when an item is retrieved, the language of input is available” (p. 610). Experiment 2 was another attempt at identifying whether or not language was stored with semantics during encoding. The second experiment used English-French code-switched sentences, rather than just isolated words. The object nouns were evenly split between the two languages, and Arabic was used for the recognition task. From Experiment 2, Saegert et al. found that the participants “demonstrated a high level of ability to report the language of input of linguistically mixed material. However, the results [...] indicate that this ability does not

necessarily reflect language-specific encoding” (p. 611). They saw that the degree of remembering the language correctly varied based on the context of presentation (in a sentence or alone). “When material to be remembered is embedded in a more general semantic pattern (e. g., a sentence), less attention is focused on nonsemantic elements and more attention is given to encoding the material strictly in terms of the information communicated by the sentences with correspondingly less time spend encoding their nonsemantic attributes” (p. 611). More importantly, the authors concluded that their results are “consistent with the hypothesis of selective attribute encoding proposed by Underwood” (p. 611). Other research has supported Underwood’s hypothesis and is also discussed in this article. Past studies have found that context plays an important role in remembering. For example, Anderson and Bower (1973) demonstrated that sentences are remembered better than stories, which is the same principle as words being remembered better than sentences (as demonstrated in the Saegert study). As will be discussed shortly, the present study’s results are consistent with Saegert et al.’s findings.

Saegert et al.’s (1975) study differs from the Rose et al. study in that Saegert used sentences, which provided context for participants to recall messages rather than words. Also, Saegert et al. did not test the participants’ language specific knowledge (participants were not asked to recall in which language something was originally introduced).

The final model to consider for this thesis is one proposed by Kroll and Stewart (1994) called the Revised Hierarchical Model. This model is an adaptation and extension of Potter et al. (1984)’s models, the Word Association Model (“an L1 word is directly associated to its second language equivalent. To gain access to concepts, L2 words must first activate their L1 equivalents” (p. 29)) and the Concept Mediation Model (“words in each language are directly associated to concepts, but that translation equivalents are not directly connected to each other” (p. 29)). The Revised Hierarchical Model combines the two models from Potter et al. and assumes “L1 words are assumed to be more strongly connected to concepts than are L2 words



[...] [and] L2 words are assumed to be more strongly connected to their corresponding translation equivalents in L1 than the reverse” (p. 32). Kroll and Stewart think that early L2 learners make strong connections to L1 for meaning and the connections are strongest in this direction as opposed to the reverse, L1 to L2 ties for meaning. “As learners become more proficient in L2, they will begin to develop the ability to directly conceptually process L2 words, but the connections between words and concepts is assumed to remain stronger for L1 than for L2 for all but the most balanced bilinguals” (p. 32).

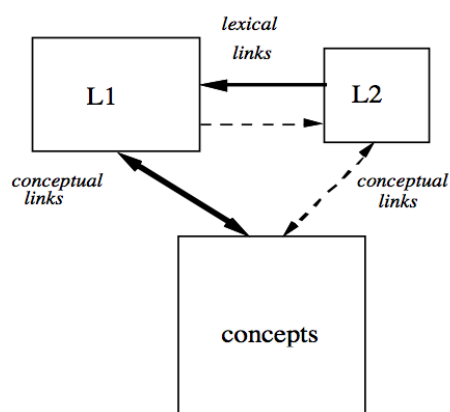


Figure 3: Revised Hierarchical Model (taken from Kroll and Stewart (2005))

## Chapter 2

### Methods

#### 2.1 Participants

In this study there were fifteen participants. Participants were required to be proficient speakers of Spanish and English, with the first language being Spanish, and the second language English. Participants were paid \$10/hour to participate. When participants entered the lab, they first completed a paper consent form allowing us to record and analyze their results. Participants were administered a Language History Questionnaire (LHQ) that they filled out immediately after completing the experiment. They also completed the Boston Naming Task (BNT) as a measure of proficiency in both English and in Spanish. Lastly, all participants completed the DELE and the MELICET to give further insight into their levels of proficiency in both L1 and L2. A description of each task is provided below.

The BNT and the LHQ demonstrated that all of the participants were balanced bilinguals. A dependent t-test analysis of the BNT reaction times showed no timing difference among the participants to name images in L1 or L2,  $t_{12}=0.30$ ,  $p=0.77$ . Only twelve out of the fifteen participants' data were used for the BNT due to technical difficulties. The LHQ provided information on age of acquisition of both L1 and L2 and ratings of proficiency in speaking, understanding, and reading. The age of acquisition was significant between L1 and L2, meaning that L2 (English) was learned significantly later, but didn't affect the results. Even though English was learned at a later age for all participants, they are equally competent in the two languages. There were no differences among the speaking, understanding, and reading portions for L1 or L2 for the participants, further demonstrating the even abilities (see Table 1).

**Table 1: Language History Questionnaire t-test results**

	Mean	SD
AoA L1	1.13	1.36
AoA L2	4.53*	2.23
SPEAK L1	9.4	0.91
SPEAK L2	8.87	0.99
UNDER L1	9.8	0.56
UNDER L2	9.2	0.94
READ L1	9.47	0.99
READ L2	8.93	0.88

\* $p < 0.05$ ; SD= Standard Deviation, AoA= Age of Acquisition, SPEAK= Speaking proficiency rating (0-10), UNDER= Comprehension proficiency rating (0-10), READ= Reading proficiency rating (0-10), L1= First language, L2 = Second language

## 2.2 Materials and Design

### *Materials:*

The materials used for this study were 64 pairs of sentences that contained both English and Spanish. Half of the sentences began in English and ended in Spanish, and the other half began in Spanish and ending in English. This created 128 total sentences (64 pairs of sentences with different content). Half of the sentences were taken from a previous study (see Guzzardo Tamargo, 2012), while the other half were original writing. Two native Spanish speakers and a native English speaker edited the sentences.

For each sentence pair, eight question options were written and later were strategically paired with the sentences. The sentences were divided in half; they alternated between beginning and ending in Spanish with the opposite portion of the sentence being in English. Of the eight questions, four were about the beginning of the sentence and four were about the end of the sentence. Each question was written in both English and Spanish (four questions with varying

content, eight total once translated). The correct response for half of the questions was “yes” and half was “no.” The questions themselves were monolingual, either in English or Spanish. I wrote all of these questions and the same faculty members who proofread the sentences also checked the questions. A visual representation explaining this setup is shown in Table 2 (full version in Appendix A).

**Table 2: Experimental Material Example**

<b>Sentence Pair</b>	
<b>Spanish</b>	<b>English</b>
Las secretarias de la universidad estarán pidiéndole al dean new computadoras nuevas para las oficinas.	The university secretaries will be asking al decano computadoras nuevas para las oficinas.
<b>Questions</b>	
¿Las secretarias trabajan en la universisad? (Yes)	Do the secretaries work at the university? (Yes)
¿Las computadoras son para las oficinas? (Yes)	Are the computers for the offices? (Yes)
¿Las secretarias trabajan en el colegio? (No)	Do the secretaries work at the high school? (No)
¿Las oficinas ya tienen computadoras nuevas? (No)	Do the offices already have new computers? (No)

To avoid rehearsal of the previously read sentences, basic math equations were used to separate the sentence from the question task. Eighty-nine basic math equations were written specifically as distractors. Sixty-four of the basic math equations were selected at random for each participant (one equation per sentence). Each math equation was a simple addition or subtraction equation that only included digits 0-9. Some of the math equations were correct (such as  $1+1=2$ ), while others were incorrect (such as  $2+2=6$ ). The math equations were used as a distraction to minimize the recency effect, which is a common psychological effect that says that recent information seems to be more salient and people tend to be biased towards it (see Baddeley and Hitch (1993)).

Aside from the experimental materials, participants completed four additional tasks to measure language proficiency. These tasks were a Language History Questionnaire (LHQ), the Diploma de Español como Lengua Extranjera (Diploma of Spanish as a Foreign Language, or DELE), the Boston Naming Task, and the Michigan English Language Institute College English Test (MELICET). The LHQ required the participants to answer questions regarding their language use and time of study. The DELE is a standardized Spanish grammar test that determines Spanish competency ([http://diplomas.cervantes.es/en/information/dele\\_description.html](http://diplomas.cervantes.es/en/information/dele_description.html)). Following the DELE was the Boston Naming Task (BNT), an objective measurement of lexical vocabulary. Two adapted versions of this picture-naming task were utilized. The first half of the test was in English and the second half of the test was in Spanish. Each language had 30 images, for a total of 60 images. The Spanish and English lists included different words (i.e. the list wasn't repeated so participants didn't see two images of a car and have to say "car" and then later "coche"), but the words were evenly matched for frequency. They started with high frequency words, such as "tree" or "lápiz" and ended with low frequency words such as "trellis" or "paleta." There was a short series of practice images to begin this section as well. For the practice, the images were the same for both the English and the Spanish sections. They were meant to introduce the setup of the study and to ensure that the technology was properly functioning. The MELICET was the final task; it is a standardized English grammar test.

*Design:*

The study had a 2x2 within participants design. That is, every participant was exposed to content from each level. The two levels of the 2x2 design were language (Spanish, English) and matching (if the language of the sentence and question content are the same or not). This resulted

in four possible combinations, illustrated in Figure 4 below:

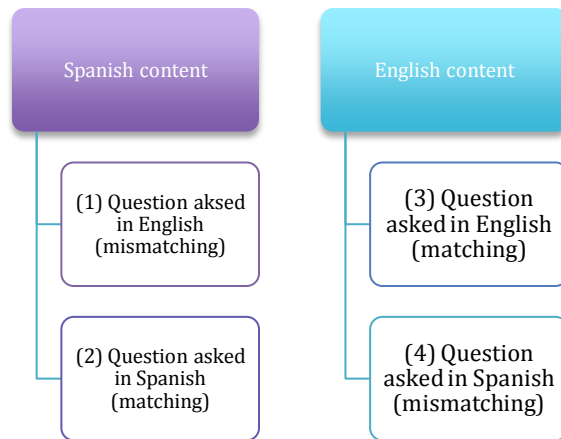


Figure 4: Breakdown of Question Design

### 2.3 Procedures

First, the participants completed the experiment on a Dell computer that was administered through E-Prime software. The experiment began with a set of oral instructions as well as written ones. Participants were instructed that they would see a number of sentences that were mixed in English and in Spanish. Immediately after seeing the sentence for 8000ms they would see a math equation for a maximum of 5000ms. Participants were instructed to press the “m” key, marked with a “Y” sticker, to indicate a correct math equation, and to press the “c” key, marked with an “N” sticker, to indicate an incorrect math equation. As soon as participants responded, the math equation disappeared. Following the math equation, a question about the original sentence would appear on screen for a maximum of 8000ms. The question disappeared as soon as the participant responded. To indicate a true response, participants were instructed to press the “m” key and to press the “c” key for a false response. Before the beginning the

experiment, participants were administered a practice trial to get familiar with the task. On average, participants took about 20-30 minutes to complete the experimental section.

After completing the experiment, the participants were administered the Language History Questionnaire, DELE, Boston Naming Task, and MELICET. The LHQ, DELE, and MELICET were all in Word document forms. For the LHQ, participants filled in their language use and time of study. For the DELE, participants selected answers (words or phrases) from drop-down fields to best fit the sentences or paragraphs provided. The MELICET was in the same format as the DELE, but in English rather than in Spanish. A modified version of the Boston Naming Task was done in both English and Spanish using E-Prime Software. In the BNT, participants would see a fixation point (+) for 750ms to orient their attention, followed by the images for maximum 4000ms each on screen. They were instructed to say the corresponding word out loud. A proctor hand wrote the participants' responses on a checklist noting correctness or different versions of the words. A microphone and recorder recorded their responses as well. The microphone served as the vocal key, which changed the picture as soon as picking up the sound of their voices. Because the vocal key changed the image as soon as the voice registered, participants only saw the image for a maximum of 4000ms.

## Chapter 3

### Results

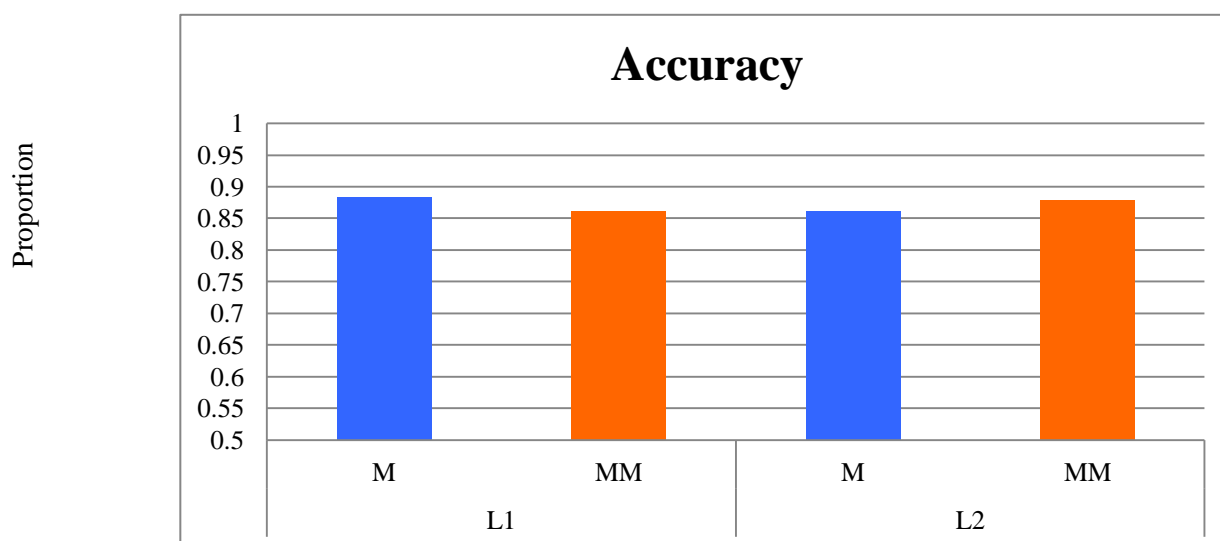
Table 3 shows the breakdown of the mean and standard deviation accuracy results for all participants (expressed in proportions). From the results, it is clear that the participants performed equally well across the board. Regardless of whether the question was posed in L1 or L2, and regardless of whether the question and sentence languages matched or mismatched, the results were consistent.

**Table 3: Mean and Standard Deviation of Accuracy**

	Mean	Standard Deviation
<b>L1 Matching</b>	0.88	0.08
<b>L2 Matching</b>	0.86	0.10
<b>L1 Mismatching</b>	0.86	0.10
<b>L2 Mismatching</b>	0.88	0.07

A 2x2 ANOVA was calculated on the proportion of accuracy. Since this was a within participant design, the 2x2 had repeated measures. There were no differences among the groups. The main effects of language do not reach significance  $F(1, 14) = .012, p=0.92$ . Additionally, there is no interaction effect between language and matching  $F(1, 14)=0.82, p=.38$ . From Figure 5, it can be seen that there was no interaction between groups. The participants performed equally well (scored equally accurately) regardless of the language where the content of question came from in the sentence, and regardless of the language in which the question was asked.





**Figure 5: Proportion Interaction Effects of Question Accuracy (M=Match; MM=Mismatch)**

Even though the participants are balanced bilinguals, overall they performed faster in L1 (Spanish). When the content of the question was in L1 and the question was asked in L1, reaction times in milliseconds  $M=2594.56$ ,  $SD=482.94$ . When the content of the question was given in L1 but the question was asked in the opposing language (L2), the reaction times in milliseconds are  $M=2657.40$ ,  $SD=488.90$ . When the question content was encoded in L2 and the question was posed in L2, reaction times were  $M=2774.51$ ,  $SD=566.75$ . Lastly, when question content originated in L2 and the question was asked in L1, reaction times were  $M=2783.86$ ,  $SD=452.34$ . There was a significant main effect of language  $F(1, 14)=8.69$ ,  $p=0.01$ , which was found from the 2x2 ANOVA. From Figure 6, it is clear that reaction times were fastest in L1 when the languages match (language of content and language of question). The reaction times increased in L1 when the languages are mismatched. The reaction times increased again when any task was performed in L2 (regardless of whether or not the languages match). Also, recall that accuracy was not significantly affected by the code switching – only the reaction times were notable.

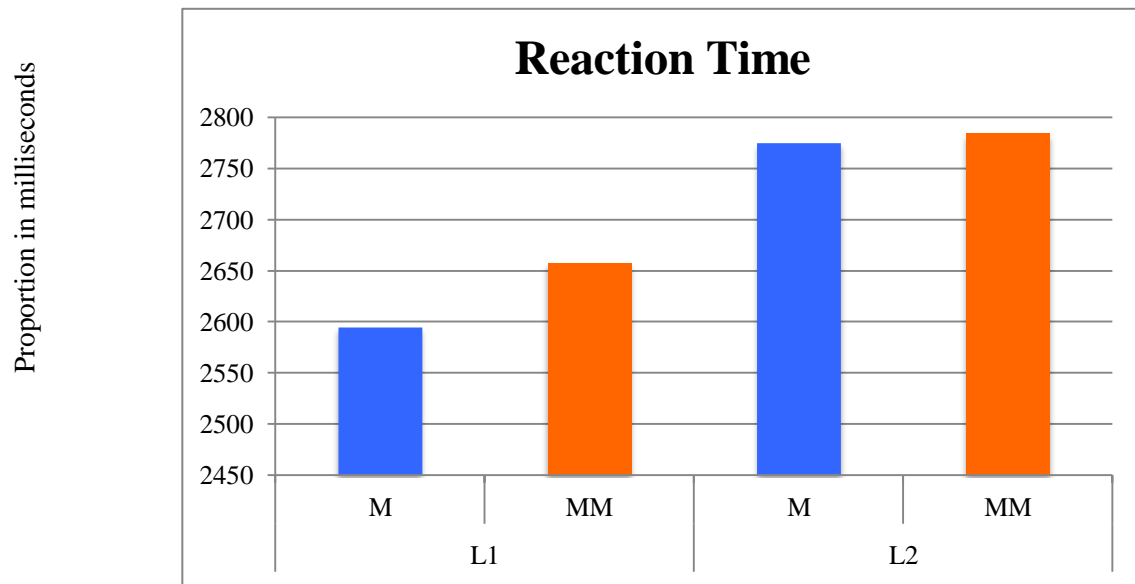


Figure 6: Proportion Reaction Times (M=Match; MM=Mismatch)

## **Chapter 4**

### **Discussion**

This study examined how Spanish-English bilinguals remember the meaning of the sentences they read. In the monolingual literature, researchers have looked at whether or not participants recall the form (e.g., the language; the syntax; etc.) or meaning of sentences. Findings suggest that monolinguals only remember meaning. Bilinguals were examined here because their bilingualism can be used as a tool to examine whether speakers remember form or meaning, given that “form” in bilingualism can be represented it was easier to see the influence of meaning and form separately in the research results. The study also looked at Spanish-English bilinguals because they haven’t been studied much in psycholinguist research, so this study contributed data from underrepresented groups.

The experiment analyzed whether Spanish-English bilinguals recall language, meaning, or both in code-switched (mixed language) sentences. An example of a mixed language sentence used was “Las secretarias de la universidad estarán pidiéndole al dean new computers for their offices.” This was followed by yes/no questions regarding the content of the sentence, but varying in language and the section of the sentence (the beginning, the middle or the end of the sentence) that the question came from. The prediction was that participants would be better at correctly answering questions where the question content and language were matched to the sentence (for example, a question asking about computers in the office for the above sentence, since the language was English and the content was in English).

Although it was predicted that participants would perform more accurately when the language of the sentence and the language of the question matched, participants performed equally well, regardless of language (Spanish or English) or matching condition. In other words,

code-switching did not affect accuracy and nor did a mismatch between the language of the sentence and the language of the question. One reason for this may have to do with proficiency. Recall that the participants were balanced bilinguals and were highly experienced code switchers. It is likely that in their day-to-day interactions they “practice” extensively encoding meaning in two mixed languages and then recalling it in order to make quick decisions to answer the posed question. This might explain the similar accuracy across languages. In support of this idea, the Saegert et al. (1975) study concluded with an idea that when “material to be remembered is embedded in a more general pattern [...], less attention is focused on nonsemantic elements and more attention is given to encoding the material” (p. 611). This would mean, in the context of this study, that when codeswitched sentences are presented to participants, they spend less time focusing on nonsemantic aspects, such as language, and just encode the meaning of the message. This enables them to more quickly access the information when trying to answer a question about the sentences.

## Appendix A

### Experimental Sentences and Questions

Las secretarias de la universidad estarán pidiéndole al decano new computers for their offices.

The university secretaries will be asking al decano computadoras nuevas para las oficinas.

- ¿Las secretarias trabajan en la universisad?
- Do the secretaries work at the university?
- ¿Las computadoras son para las oficinas?
- Are the computers for the offices?
- ¿Las secretarias trabajan en el colegio?
- Do the secretaries work at the high school?
- ¿Las oficinas ya tienen computadoras nuevas?
- Do the offices already have new computers?

La autora del artículo que se publicó en el periódico había puesto the pen in the top drawer.

The author of the article that was published in the newspaper put el bolígrafo en el cajón arriba.

- ¿La autora escirbió un artículo?
- Did the author write an article?
- ¿El bolígrafo está en el cajón de arriba?
- Is the pen in the top drawer?
- ¿La autora escribió una novela?
- Did the author write a novel?
- ¿El bolígrafo está en el cajón de abajo?
- Is the pen in the bottom drawer?

Julia y el profesor de química estarán reunidos in the office next to the library on Monday.

Julia and the chemistry professor will be meeting en la oficina al lado de la biblioteca el lunes.

- ¿El profesor enseña química?
- Does the professor teach chemistry?
- ¿La oficina está al lado de la biblioteca?
- Is the office next to the library?

¿La profesora enseña física?  
 Did the professor teach physics?  
 ¿La oficina está al lado de la cafetería?  
 Is the office next to the cafeteria?

El diseñador de trajes de boda habrá vivido en Brooklyn for three years this spring.

The wedding dress designer will have been living in Brooklyn por tres años esta primavera.

¿El diseñador hace vestidos de boda?  
 Does the designer make wedding dresses?  
 ¿Vive en Brooklyn?  
 Does he live in Brooklyn?  
 ¿El diseñador hace vestidos para niños?  
 Does the designer make children's dresses?  
 ¿Su apartamento está en Manhattan?  
 Is his apartment in Manhattan?

Miguel y el cocinero del Marriot estuvieron preparando the food for Vanessa's wedding on Saturday.

Michael and the cook from the Marriot were preparing la comida para la boda de Vanessa el sábado.

Is the name of the hotel where the cook works called Marriot?  
 ¿La boda de Vanessa es el sábado?  
 Is Vanessa's wedding on Saturday?  
 ¿El hotel dónde trabaja el cocinero se llama Hilton?  
 Is the hotel where the cook works named Hilton?  
 ¿La boda de Vanessa es el domingo?  
 Is Vanessa's wedding on Sunday?  
 ¿El hotel dónde trabaja el cocinero se llama Marriot?

Nathan había acompañado al dueño of the company to the office for a meeting.

Nathan had accompanied the owner de la compañía a la oficina para una reunion.

Did Nathan accompany the boss?  
 ¿Fueron a la oficina?  
 Did they go to the office?  
 ¿Nathan había acompañado a la secretaria?  
 Did Nathan accompany the secretary?  
 ¿Nathan iba a la oficina para hacer una llamada?  
 Was Nathan going to his office for a phone call?  
 ¿Nathan acompañó al dueño?

Ellos quieren salir juntos y por eso irán al theater next Friday to see the new foreign film.

They want to go out together so they will go to the teatro el viernes que viene para ver la película extranjera nueva.

Do they want to spend time together?  
 ¿Van a ver una película extranjera?  
 Are they going to watch a foreign film?  
 ¿Quieren estar solos?  
 Do they want to be alone?  
 Are they going to the movies on Thursday?  
 ¿Quieren pasar tiempo juntos?

La cocinera tenía mucho sueño porque había estado preparando the food all night for the 300 tourists that arrive at noon today.

The cook was really tired because she had been preparing la comida toda la noche para las 300 turísticas que vienen a mediodía hoy.

Was the cook tired?  
 ¿Los turistas llegan hoy?  
 Do they tourists arrive today?  
 ¿La camarera tenía sueño?  
 Was the waitress tired?  
 ¿Muchos turistas llegarán a mediodía mañana?  
 Will many tourists arrive at noon tomorrow?  
 ¿La cocinera tenía sueño?

Susana tiene una entrevista la semana que viene y por eso irá a la tienda to buy herself new black shoes.

Susana has an interview next week and so she is going to the store para comprarse los zapatos negros nuevos.

¿Va a comprarse zapatos negros?  
 Is she going to buy herself black shoes?  
 ¿La entrevista es dentro de dos semanas?  
 Is the interview two weeks from today?  
 ¿Compra un traje negro?  
 Does she buy a black suit?  
 ¿Susana tiene una entrevista?  
 Does Susana have an interview?

Elena y los niños que viven al lado estaban buscando another chocolate chip cookie because they were hungry.

Elena and the boys that live next door were looking for otra galleta con pepitas de chocolate porque tenían hambre.

¿Querían galletas?  
 Did they want cookies?

¿Elena estaba con su novio?  
 Was Elena with her boyfriend?  
 ¿Quisieron chocolate?  
 Do they want chocolate?  
 ¿Elena estaba con los niños?  
 Was Elena with the boys?

Pedro se mudó a una ciudad con transporte público y por eso vendía el car that he bought last year from his cousin.

Pedro moved to a city with public transportation and was selling the coche que compró a su primo el año pasado.

¿Compró el coche de su primo el año pasado?  
 Did he buy his cousin's car last year?  
 ¿La ciudad donde se mudó no tiene autobuses?  
 Did he move to a city that does not have buses?  
 ¿Compró el coche de su hijo el año pasado?  
 Did he buy his car from his son last year?  
 ¿Se mudó Pedro a la ciudad?  
 Did Pedro move to the city?

Los juguetes de los niños habían sido recogidos by the substitute teacher after recess so she could read to the class.

The kids' games had been collected por la maestra sustituta después del recreo para poder leer a la clase.

¿La maestra planeó leer a la clase?  
 Did the teacher plan to read to the class?  
 ¿Los niños habían recogido los juguetes?  
 Have the kids picked up the toys?  
 ¿Antes del recreo la maestra planeó a leer a la clase?  
 Did the teacher plan to read to the class before recess?  
 ¿Los juguetes estaban recogidos?  
 Were the toys picked up?

La maestra de educación primaria comprará los books for the children in her geography class.

The elementary school teacher will be buying the libros para los niños de su clase de geografía.

Are the books for the kids in the geography class?  
 ¿La maestra enseña en colegio?  
 Does the teacher teach in high school?  
 ¿Los libros son para los estudiantes de la clase de historia?  
 Are the books for the students in the history class?  
 ¿La maestra enseña en educación primaria?



Does the teacher teach elementary school?  
 ¿Los libros son para los niños de la clase de geografía?

**Tim le gustaba la naturaleza y había usado su telescopio on the roof to look at the stars.**

Tim liked nature and had used his telescopio en el tejado para mirar las estrellas.

Did he look at the stars?  
 ¿A Tim le molestaba la naturaleza?  
 Is Tim bothered by nature?  
 ¿Mira a las estrellas con los binoculares?  
 Does he look at the stars with binoculars?  
 ¿Le gustaba a Tim la naturaleza?  
 Tim liked nature?  
 ¿Miraba las estrellas?

**Susana y sus amigas deportistas jugarán soccer in the park on Mondays.**

Susana and her athletic friends will play fútbol en el parque los lunes.

Do they go to the park on Mondays?  
 ¿Sus amigas practican tres deportes?  
 Their friends play three sports?  
 ¿Jugaban al baloncesto en el parque los lunes?  
 Did they play basketball in the park on Mondays?  
 ¿Las amigas de Susana son deportistas?  
 Are Susana's friends athletic?  
 ¿Van al parque los lunes?

**La acróbata, Hilary, había perdido her ring in the crowd at the circus on Friday.**

The acrobat, Hilary, had lost su anillo en la muchedumbre al circo el viernes.

Was she at the circus on Friday?  
 ¿Hilary es domadora?  
 Is Hilary a lion tamer?  
 ¿Estaba en el concierto el viernes?  
 Was she at the concert on Friday?  
 ¿La acróbata perdió algo?  
 Did the acrobat loose something?  
 ¿Estuvo en el circo el viernes?

**Patricia y Juan estaban caminando por el parque cuando the car suddenly drove up to them to ask for directions.**

Patricia and Juan were walking through the park when de repente el coche condujo hasta ellos para preguntar indicaciones.

¿Corrían por el parque Patricia y Juan?

Were Patricia and Juan running through the park?  
 ¿Los automovilistas querían una sugerencia para un restaurante?  
 Did the drivers want a restaurant recommendation?  
 ¿Estaban caminando Patricia y Juan por el parque?  
 Were Patricia and Juan walking through the park?  
 ¿Los automovilistas querían las indicaciones?  
 Did the drivers want directions?

**El profesor de esa clase de italiano se reunirá with Justin each day this week to prepare for the exam.**

The professor of the Italian class will meet con Justin cada día esta semana para preparar el examen.

¿Enseña el profesor inglés?  
 Does the professor teach English?  
 ¿Justin no ha empezado a estudiar para el examen?  
 Justin hasn't started studying for the exam?  
 ¿El profesor enseña italiano?  
 Does the professor teach Italian?  
 ¿Justin estudia para el examen?  
 Is Justin studying for the exam?

**Ellos estaban tomando jugo de manzana mientras preparaban their peanut butter sandwiches to take to the circus.**

They were drinking apple juice while they were making sus bocadillos de manteca de cacahuete para llevar al circo.

¿Bebían jugo de piña?  
 Were they drinking pineapple juice?  
 ¿Llevaban los cacahuetes al circo?  
 Were they taking peanuts to the circus?  
 ¿Los chicos estaban bebiendo zumo de manzana?  
 Were the boys drinking apple juice?  
 ¿Llevaban los bocadillos al circo?  
 Were they taking the sandwiches to the circus?

**La maestra del curso de inglés había esperado al estudiante in her office all day but he didn't show up because he was sick.**

The English course teacher had waited for the student en su oficina todo el día pero no él apareció porque estaba enfermo.

¿La profesora no esperó?  
 Did the professor not wait?  
 ¿El chico no apareció porque se le olvidó?  
 Did the boy not show up because he forgot?  
 ¿La maestra esperó el chico?

Did the teacher wait for the boy?  
 ¿El estudiante estaba enfermo?  
 The student was sick?

Los muchachos de Chicago estaban robando dinero from their parents to buy cigarettes and lottery tickets.

The boys from Chicago were robbing money de sus padres para comprar cigarillos y billetes de lotería.

Did the boys win money?  
 ¿Los padres querían cigarillos?  
 Did the parents want cigarettes?  
 ¿Los chicos robaron dinero?  
 Did the boys steal money?  
 ¿Compraron cigarillos?  
 Did they buy cigarettes?  
 ¿Los chicos ganaron dinero?

Andrés y Manolo, dos hombres de negocios, habrían ido al gimnasio if they weren't so tired from traveling all day.

Andrés and Manolo, two businessmen, would have gone to the gym si no estuvieran tan cansados de viajar todo el día.

Did Andres and Manolo go to the party?  
 ¿Tenían sueño porque fueron a una fiesta anoche?  
 Were they tired because they went to a party last night?  
 ¿Los hombres trabajan en el campo de los negocios?  
 Do the men work in the business field?  
 ¿Tenían sueño los hombres?  
 Were the men tired?  
 ¿Andres y Manolo fueron a la fiesta?

Las niñas estaban lavando los platos y los glasses after eating dinner with their parents.

The girls were washing the plates and the vasos después de cenar con sus padres.

Did the girls wash the clothes?  
 ¿Cenaron con sus tios?  
 Did they eat with their uncles?  
 ¿Las chicas lavaron los platos?  
 Did the girls do the dishes?  
 ¿Cenaron con sus padres?  
 Did they eat dinner with their parents?  
 ¿Las chicas lavaron la ropa?

La enfermera, famosa por su compasión, había preparado la habitación for the patient's family because they live far from the hospital.

The nurse, famous for her compassion, had prepared the room for the family of the patient because they live far away from the hospital.

Had the nurse prepared the medicine?  
 ¿Los amigos viven lejos del hospital?  
 Do the friends live far away from the hospital?  
 ¿La enfermera es compasiva?  
 Is the nurse compassionate?  
 ¿La familia del paciente vive lejos?  
 Does the patient's family live far away?  
 ¿La enfermera había preparado la medicina?

Alfredo estaba escuchando música mientras ponía los bottles from the party in the bags so he could recycle them.

Alfredo was listening to music while he was putting the bottles from the party in the bags to recycle them.

¿Los platos de la fiesta estaban en las bolsas?  
 Were the plates from the party in the bags?  
 ¿Escuchaba música mientras limpiaba?  
 Was he listening to music as he was cleaning?  
 ¿Las botellas de la fiesta estaban en las bolsas?  
 Were the bottles from the party in the bags?  
 ¿Alfredo escuchaba las noticias mientras limpiaba?  
 Was Alfredo listening to the news while cleaning?

Las secretarias del colegio habían pedido un increase in their annual salaries for the third time.

The high school secretaries had asked for an increase in their annual salaries for the third time.

¿Habían querido más dinero cinco veces?  
 Have they wanted more money five times?  
 ¿Las secretarias trabajan en el colegio?  
 Do the secretaries work at the high school?  
 ¿Es la tercera vez que quisieron un aumento?  
 Is it the third time they wanted a raise?  
 ¿Las secretarias trabajan en la universidad?  
 Do the secretaries work at the university?

El escritor y su hijo mayor estaban visitando their family in Texas to celebrate the holidays.

The writer and his oldest son were visiting his family in Texas to celebrate the holidays.

¿Estaban en Texas para una firma de libros?

Were they in Texas for a book signing?  
 ¿Viajaba el escritor con su hijo mayor?  
 Was the writer traveling with his oldest son?  
 ¿Estaban en Texas para celebrar los festivos?  
 Were they in Texas to celebrate the holidays?  
 ¿El escritor viajaba con su hija?  
 Was the writer traveling with his daughter?

**El dueño de la motocicleta roja había comido in the Italian restaurant and left his keys at his table.**

The owner of the red motorcycle had eaten en el restaurante italiano y se había dejado los llaves a la mesa.

¿Se le olvidó las llaves en el coche?  
 Did he forget his keys in the car?  
 ¿Tiene una moto roja?  
 Does he have a red motorcycle?  
 ¿Las llaves todavía están en el restaurante?  
 Are the keys still at the restaurant?  
 ¿La motocicleta es rosa?  
 Is the motorcycle pink?

**Roberto estaba caminando al estadio cuando that woman yelled at his son because she supported the other team.**

Robert was walking to the stadium when esa mujer gritó a su hijo porque ella era hincha de otro equipo.

Did the woman yell because she was angry?  
 ¿Roberto iba al estadio?  
 Was Roberto going to the stadium?  
 ¿La mujer gritó porque apoyaba al otro equipo?  
 Did the woman yell because she supported the other team?  
 ¿Conducía al estadio?  
 Was he driving to the stadium?  
 ¿La mujer gritó porque estaba enojada?

**Mañana por la tarde, Antonio ya habrá ido al store to buy his favorite novel.**

By tomorrow afternoon, Antonio will have already gone to the tienda para comprar su novela favorita.

Will Antonio buy a biography?  
 ¿Antonio va a ir mañana por la tarde?  
 Will Antonio go tomorrow afternoon?  
 ¿Comprará una novela?  
 Will he buy a novel?  
 ¿Antonio va a ir mañana por la mañana?

Is Antonio going to go tomorrow morning?  
 ¿Antonio comprará una biografía?

El ladrón estaba a punto de robar las pinturas de la galería, but fortunately the police arrived quickly and nothing was stolen.

The thief was about to steal the paintings from the gallery, pero afortunadamente la policía llegó rápidamente y nada fue robado.

Was something stolen?  
 ¿El ladrón estaba intentando robar las pinturas?  
 Was the thief trying to steal the paintings?  
 ¿La policía llegó antes de que robasen algo?  
 Did the police arrive before anything was stolen?  
 ¿El ladrón estaba a punto de robar una estatua?  
 Was the thief about to steal a statue?  
 ¿Robaron algo?

El hijo de Tanya se desmayó y estuvo in the waiting room of the emergency room for two hours.

Tanya's son fainted and had been en la sala de espera de de emergencias por dos horas.

Was her son in the ambulance for two hours?  
 ¿El niño se desmayó?  
 Did the boy faint?  
 ¿Estuvo en la sala de espera durante dos horas?  
 Was he in the waiting room for two hours?  
 ¿La hija de Tanya se desmayó?  
 Did Tanya's daughter faint?  
 ¿Su hijo estuvo en la ambulancia durante dos horas?

Last night during dinner Ana told us that she had lost her gafas de sol y sus llaves en el supermercado.

Anoche durante la cena Ana les dijo que ella había perdido sus sunglasses and her keys in the supermarket.

¿Cenaron con Ana anoche?  
 Did they eat dinner with Ana last night?  
 ¿Las gafas de sol están en el supermercado?  
 Are the sunglasses at the supermarket?  
 ¿Ana no habló durante la cena?  
 Did Ana not speak during dinner?  
 ¿Las gafas están en su casa?  
 Are the sunglasses at her house?

Juan will be talking with his mom durante su viaje en coche para regresar a escuela mañana.

Juan hablará con su mamá during his drive back to school tomorrow.

- ¿Juan va a hablar con su madre?
- Will Juan talk to his mom?
- ¿Mañana conduce a la escuela?
- Is he driving to school tomorrow?
- ¿Hablará con su novia?
- Will he talk to his girlfriend?
- ¿Juan viaja en autobus mañana?
- Juan will travel in a bus tomorrow?

After returning from the office, Emanuel was preparing the pollo para la cena en la casa de sus padres.

Después de volver de la oficina, Emanuel se puso a preparar el chicken for the dinner at his parents' house.

- ¿Preparó la comida después de trabajar?
- Did he prepare the food after work?
- ¿La cena era en la casa de los padres de Emanuel?
- Was the dinner in Emanuel's parents' house?
- ¿Preparó la comida antes de trabajar?
- Did he prepare the food before working?
- ¿La cena era en la casa de sus amigos?
- Was the dinner at his friends' house?

He went to the store with his dad because he was buying the bicicleta para su hermana en su cumpleaños.

Fue a la tienda con su papá para comprar el bicycle for his sister on her birthday.

- ¿Fue a la tienda con su papá?
- Did he go to the store with his dad?
- ¿Es el cumpleaños de su hermana?
- Is it his sister's birthday?
- ¿Fue a la tienda con su mamá?
- Did he go to the store with his mom?
- ¿La bici es para su vecina?
- Is the bike for his neighbor?

The economics professor had distributed all of the exams a los estudiantes en la primera fila.

Los profesores de económicas habían entregado todos los exámenes to the students in the front row first.

- Had the professors distributed the exams?
- ¿Las estudiantes de la primera fila las habían recibido primero?

Did the students in the first row receive them first?  
 ¿Son profesores de negocios?  
 Are they business professors?  
 ¿Las estudiantes de la primera fila las habían recibido las últimas?  
 Did the students in the first row receive them last?  
 ¿Los profesores habían distribuido los exámenes?

For her birthday, Marta's parents told her that she could start opening the regalos antes de dormirse aquella noche.

Por su cumpleaños, los padres de Marta le dijeron que podía empezar abriendo los presents before she went to bed that night.

Is it Marta's birthday?  
 ¿Marta pudo tener sus regalos antes de dormirse?  
 Was Marta able to have her presents before going to bed?  
 ¿Marta estaba con sus primos?  
 Was Marta with her cousins?  
 ¿Marta estaba abriendo las maletas?  
 Was Marta opening the suitcases?  
 ¿Es el cumpleaños de Marta?

Tomás and his wife Juana had already seen the película que sus amigos habían recomendado.

Tomás y su esposa Juana ya habían visto el movie that their friends had recommended.

Is Tomas's wife named Juana?  
 ¿Sus amigos habían recomendado la película?  
 Had the friends recommended the movie?  
 ¿La esposa de Tomás se llama Lola?  
 Is Tomás' wife named Lola?  
 ¿Sus amigos habían recomendado el concierto?  
 Did their friends recommend the concert?  
 ¿La esposa de Tomás se llama Juana?

José, the mailman, had bought the lápices para las secretarias de la oficina como regalos.

José, el cartero, había comprado los pencils for the secretaries in the office as gifts.

Is José a mailman?  
 ¿Los lápices son para las secretarias?  
 Are the pencils for the secretaries?  
 ¿José es portero?  
 Is José a doorman?  
 ¿Los regalos fueron libros?  
 Were the books presents?  
 ¿José es cartero?



Lidia and her friends were taking a course together and they bought los libros para la clase de química.

Lidia y sus amigas hacían un curso juntas y compraron the books for the chemistry class.

¿Compraban los libros?  
Were they buying books?  
¿Lidia y sus amigas pintaban juntas?  
Do Lidia and her friends paint together?  
¿Los libros son para la clase de geografía?  
Are the books for the geography class?  
¿Iban a clase juntas?  
Do they have a class together?

From their cars, the police and the young people were observing el accidente en la carretera porque estuvieron en un atasco por horas.

Desde sus coches, la policía y los jóvenes estaban observando the accident on the highway because they were stuck in traffic for hours.

¿Había mucho tráfico?  
Was there a lot of traffic?  
¿Salieron de sus coches?  
Did they leave their cars?  
¿Había construcción en la carretera?  
Was there construction on the highway?  
¿Los jóvenes se quedaron en coche?  
Did the young people stay in the car?

Last week, Bob bought the shoes para el veintitrés cumpleaños de su novia.

La semana pasada, Bob compró los zapatos for his girlfriend's twenty-third birthday.

¿Su novia tiene veintitrés años?  
Is his girlfriend twenty-three years old?  
¿Bob compró una camiseta?  
Did Bob buy a shirt?  
¿Su novia tiene veintidos años?  
Is his girlfriend twenty-two years old?  
¿Bob fue de compras la semana pasada?  
Did Bob go shopping last week?

The engineers were drawing los planos para la casa en el rincón.

Los ingenieros estuvieron dibujando the plans for the house on the corner.

¿La casa está en el rincón?  
Is the house on the corner?  
¿Los arquitectos hacían los dibujos?

Did the architects make the drawings?  
 ¿La casa está en la Calle Elm?  
 Is the house on Elm Street?  
 ¿Los ingenieros hicieron los dibujos?  
 Did the engineers make the drawings?

Allison and her grandmother will spend time together because they are preparing las galletas para los nietos quienes visitarán el fin de semana que viene.

Allison y su abuela pasarán tiempo juntas porque van a preparar the cookies for the grandkids who will visit next weekend.

Will the grandchildren visit next weekend?  
 ¿Allison va a pasar tiempo con su abuelo?  
 Is Allison going to spend time with her grandfather?  
 ¿Los nietos fueron de visita el fin de semana pasada?  
 Did the grandchildren visit last weekend?  
 ¿La abuela y su hija Alison pasarán tiempo juntas?  
 Will the grandmother and her daughter Alison spend time together?  
 ¿Los nietos vendrán de visita el fin de semana que viene?

María had bought the cerveza para la fiesta de cumpleaños de Sara en su hermandad.

María había comprado la beer for Sara's birthday party at her sorority.

Is the party at the sorority?  
 ¿Sandra comprará la cerveza mañana?  
 Will Sandra buy the beer tomorrow?  
 ¿Hubo una fiesta de despedida para Sara?  
 Was there a farewell party for Sara?  
 ¿María compró algo?  
 Did María buy something?  
 ¿La fiesta es en la hermandad?

There were many incorrect responses on the homework assignments and as the teacher suspected, los estudiantes no habían estudiado todavía para el examen del martes.

Había muchas respuestas incorrectas en las tareas y como la maestra imaginó, the students had not studied for Tuesday's exam yet.

Is the exam on Tuesday?  
 ¿Todas las respuestas eran incorrectas?  
 Were all of the answers incorrect?  
 ¿El examen es el lunes?  
 Is the exam on Monday?  
 ¿La tarea tiene respuestas incorrectas?  
 Does the homework have incorrect answers?  
 ¿El examen es el martes?

Last night Eva was paying Mateo for his ayuda con las tareas de casa mientras estuvo fuera.

Anoche Eva estuvo pagándole a Mateo por su help with the house chores while she was away.

- Did someone do the chores in the house?
- ¿Mateo le pagó a Eva?
- Did Mateo pay Eva?
- ¿Mateo ayudó con las mascotas en la casa?
- Did Mateo help with the pets in the house?
- ¿Eva había pagado a Mateo?
- Had Eva paid Mateo?

Rosa and Francisco were sad because they had lost their perros en el parque el martes después de ir de paseo.

Rosa y Francisco estaban tristes porque habían perdido sus dogs at the park on Tuesday after going for a walk.

- ¿Rosa y Francisco se habían perdido?
- Were Rosa and Francisco lost?
- ¿Caminaron por el parque el domingo?
- Were they walking through the park on Sunday?
- ¿Rosa y Francisco estaban tristes?
- Were Rosa and Francisco sad?
- ¿Caminaron por el parque el martes?
- Did they walk through the park on Tuesday?

The boys had broken the window of that house con una pelota cuando jugaban un juego que habían inventado.

Los niños habían roto la ventana de esa casa with a ball when they were playing a game they invented.

- ¿La ventana ya estaba rota al principio del juego?
- Was the window already broken at the beginning of the game?
- ¿Jugaban con un Frisbee?
- Were they playing with a Frisbee?
- ¿Los niños rompieron la ventana?
- Did the boys break the window?
- ¿Inventaron un juego?
- Did they invent a game?

All of the women were watching las noticias mientras cenaban anoche en la casa de la esquina.

Todas las mujeres estaban viendo the news as they were eating dinner last night at the house on the corner.

¿Las mujeres estaban en las noticias?  
 Were the women in the news?  
 ¿Cenaron en el restaurante?  
 Did they eat dinner in the restaurant?  
 ¿Las señoras vieron las noticias?  
 Did the women watch the news?  
 ¿Cenaron en la casa en la esquina?  
 Did they eat dinner at the house on the corner?

The girls are going to the city because they want to buy the queso para los bocadillos en la tienda en el centro.

Las niñas van a la ciudad porque quieren comprar el cheese for the sandwiches in the store downtown.

¿Las niñas se quedaron en casa?  
 Did the girls stay home?  
 ¿Necesitan jamón?  
 Do they need ham?  
 ¿Las chicas van a la ciudad?  
 Are the girls going to the city?  
 ¿Los bocadillos tienen queso?  
 Do the sandwiches have cheese?

The jugglers had a party last night and they saw mil dólares en el suelo del apartamento viejo.

Los malabaristas tuvieron una fiesta anoche y habían visto one thousand dollars on the floor of the old apartment.

Did the jugglers have a party two nights ago?  
 ¿Habían visto un millón dolares en el suelo?  
 Did they see a million dollars on the floor?  
 ¿Los malabaristas tuvieron una fiesta anoche?  
 Did the jugglers have a party last night?  
 ¿El dinero estaba en el suelo?  
 Was the money on the floor?  
 ¿Los malabristas tuvieron una fiesta hace dos noches?

All of the boys are hungry and will have eaten el pastel en el picnic para el cuatro de julio para antes de mediodía.

Todos los niños tienen hambre y habrán comido the cake at the picnic for the Fourth of July by noon.

The kids are not hungry?  
 ¿No hay pastel en el picnic?  
 There is no cake at the picnic?  
 ¿Los niños querían comida?  
 Did the boys want food?  
 ¿El pastel es para las fiestas?  
 Is the cake for the holiday?  
 ¿Los niños no tienen hambre?

Miguel was taking two courses this semester and had bought the cuadernos en la librería en la Calle Main.

Miguel asistía a dos cursos este semestre y había comprado los notebooks in the bookstore on Main Street.

Was Miguel taking three courses?  
 ¿Los cuadernos son de la tienda de la Calle Norte?  
 Are the notebooks from the store on North Street?  
 ¿Miguel tenía dos cursos?  
 Was Miguel taking two courses?  
 ¿Los cuadernos son de la tienda de la Calle Main?  
 Are the notebooks from the store on Main Street?  
 ¿Miguel asistía a tres cursos?

Chris and Sara wanted to donate somethings and so they were buying alguna ropa nueva para los niños del orfanato.

Chris y Sara querían donar algunas cosas y por eso estaban comprando some new clothes for the children at the orphanage.

Did Chris and Sara want to throw away form things?  
 ¿La ropa nueva es para los niños del colegio?  
 Is the new clothing for the school kids?  
 ¿Chris y Sara querían hacer una donación?  
 Did Chris and Sara want to give a donation?  
 ¿La ropa es para los niños?  
 Is the clothing for the kids?  
 ¿Chris y Sara querían tirar algunas cosas?

Jorge's father had a check and was going to the banco porque sabía que estaba abierto los sábados.

El papá de Jorge tenía un cheque y había ido al bank because he knew it was open on Saturdays.

¿El banco está cerrado durante los fines de semana?  
 Is the bank closed during the weekends?  
 ¿El padre tenía un cheque esta semana?  
 Did the father have a check this week?  
 ¿El banco está abierto los sábados?

Is the bank open on Saturdays?  
 ¿El padre tenía dos cheques?  
 Did the dad have two checks?

The students were readings the periódicos antes de que el profesor entrase porque llegaba tarde a clase.

Los estudiantes estuvieron leyendo los newspapers before the professor arrived because he was late to class.

¿Los estudiantes llegaron tarde?  
 Did the students arrive late?  
 ¿Los estudiantes seguían las noticias?  
 Were they students follow the news?  
 ¿El profesor llegó después del comienzo de clase?  
 Did the professor arrive after the start of class?  
 ¿Los estudiantes estuvieron leyendo la tarea?  
 Were the students reading the homework?

The women had already painted la cocina cuando los niños llegaron a casa, así que los niños ayudaron a pintar el cuarto de baño.

Las mujeres ya habían pintado the kitchen when the kids got home, so the kids helped paint the bathroom.

¿Los niños pintaron el baño sin ayuda?  
 Did the kids paint the bathroom without help?  
 ¿Las mujeres pintaban durante el día?  
 Were the women painting during the day?  
 ¿Los niños ayudaron a pintar el baño?  
 Did the kids help paint the bathroom?  
 ¿Las mujeres pintaban la cocina con sus niños?  
 Did the women paint the kitchen with their kids?

All of the boys that are going to go to university next August will be lavando los coches durante los fines de semana para ganar dinero.

Todos esos muchachos que van a matricularse a la universidad el agosto que viene estarán washing cars during the weekends to earn money.

¿Van a trabajar en un restaurante?  
 Are they going to work in a restaurant?  
 ¿Hay algunos muchachos que van a la universidad en agosto?  
 Are there some boys who will go to university in August?  
 ¿Ganarán dinero durante los fines de semana?  
 Will they earn money on the weekends?  
 ¿Los estudiantes van a la playa en agosto?  
 Will the students go to the beach in August?

His mom sold her house in the afueras para pagar la educación de John en la ciudad aunque él había recibido becas.

Su mamá había vendido su casa en las suburbs to pay for John's schooling in the city even though he had received scholarships.

Did José receive a scholarship?  
 ¿La mamá vendió la casa?  
 Did the mom sell the house?  
 ¿John recibió algunas becas?  
 Did John received some scholarships?  
 ¿Alquila la mamá una habitación de su casa?  
 Does the mom rent a room of her house?  
 ¿José recibió una beca?

Laura was cleaning the kitchen before salir con sus amigos para tomar algo.

Laura estaba limpiando la cocina antes de going out with her friends for drinks.

Did she go out to dinner with her friends?  
 ¿La cocina estaba sucia hasta que Laura la limpió?  
 Was the kitchen dirty until Laura cleaned it?  
 ¿Laura salió con sus amigos?  
 Did Laura go out with her friends?  
 ¿Laura estaba limpiando su habitación?  
 Was Laura cleaning her room?  
 ¿Salió con amigas para cenar?

For lunch, the nurse had brought la sopa para mi hermana pero estaba dormía.

Para el almuerzo, el enfermera había traído the soup for my sister but she was asleep.

Did the nurse bring soup for my mom?  
 ¿El enfermera trajo el almuerzo?  
 Did the nurse bring lunch?  
 ¿Mi hermana estaba durmiendo?  
 Was my sister sleeping?  
 ¿La madre trajo el almuerzo?  
 Did the mom bring the lunch?  
 ¿La enfermera había traído la sopa para mi madre?

The custodian is friendly because he was looking for el reloj que Jimmy perdió la semana pasada.

El conserje es amable porque estuvo buscando the watch that Jimmy lost at school last week.

Did Jimmy lose his chain?  
 ¿El conserje es agradable?

Is the custodian friendly?  
¿Jimmy se le perdió algo a la escuela?  
Did Jimmy lose something at school?  
¿El conserje es malo?  
Is the janitor mean?  
¿Jimmy perdió su cadena?



## Appendix B

### Language History Questionnaire

#### LANGUAGE EXPERIENCE AND PROFICIENCY QUESTIONNAIRE

Dussias Lab v.1

Apellido		Nombre		Edad	
Sexo:	Masc <input type="checkbox"/> Fem <input type="checkbox"/>	Nacimiento	/ /	Fecha de hoy	/ /

(1) Por favor, lista todas las lenguas que sabes **en orden de dominancia**.

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

(2) Por favor, lista todas las lenguas que sabes **en orden de adquisición**:

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

(3) Por favor, valora el porcentaje de tiempo al que estas expuesto en cada lengua. (Debe sumar 100%)

Lengua aquí				
Porcentaje aquí				

(4) Cuando lees un texto disponible en todas las lenguas, en que porcentaje eliges leerlo en cada idioma? (Debe sumar 100%)

Lengua aquí				
Porcentaje aquí				

(5) Cuando seleccionas un idioma para hablar con otra persona fluida en otras lenguas, que porcentaje de tiempo eliges hablar en cada idioma? (Debe sumas 100%)

Lengua aquí				
Porcentaje aquí				

(6) Por favor, nombra las culturas con las que te identificas en una escala de 0 a 10.

Culturas aquí				
	(select here)	(select here)	(select here)	(select here)

(7) ¿Durante cuántos años has estudiado? \_\_\_\_.

Marca tu nivel de estudios más actual.

- |  |  |                                    |
|--|--|------------------------------------|
| <input type="checkbox"/> Menos que instituto   | <input type="checkbox"/> Algo de universidad | <input type="checkbox"/> Masters   |
| <input type="checkbox"/> Instituto             | <input type="checkbox"/> Grado               | <input type="checkbox"/> Doctorado |
| <input type="checkbox"/> Formación profesional | <input type="checkbox"/> Algo de Master      | <input type="checkbox"/> Otro:     |

(8) Tienes algun problema visual , auditivo , linguistico , de aprendizaje ?

Por favor, explica: \_\_\_\_\_.

**IDIOMA:**

Este es mi (selecciona) idioma.

Todas las preguntas siguientes se refieren a tu idioma de .

(1) Edad cuando tú...:

Empezaste a adquirirlo:	Empezaste a ser fluido:	Empezas a leerlo:	Empezaste a ser fluido leyéndolo:

(2) Por favor, lista el número de años y meses que pasaste...:

	Years	Months
En un país extranjero donde se habla el idioma		
Una familia extranjera que habla el idioma		
Una Universidad o trabajo donde se habla el idioma		

(3) En una escala de 0 a 10, por favor, selecciona el nivel de competencia oral, escuchar y lectura en el idioma.  
Selecciona con los menús despegable:

hablar	(select)	entender	(select)	leer	(select)
--------	----------	----------	----------	------	----------

(4) En una escala de 0 a 10, selecciona cuales de los siguientes factores contribuyeron en tu aprendizaje:

Estar con amigos	(select)	Autoaprendizaje	(select)
Estar con la familia	(select)	Ver la televisión	(select)
Leer	(select)	Escuchar la radio	(select)

(5) Por favor, valora hasta que punto estás actualmente expuesto al idioma en los siguientes contextos:

Estar con amigos	(select)	Autoaprendizaje	(select)
Estar con la familia	(select)	Ver la televisión	(select)
Leer	(select)	Escuchar la radio	(select)

(6) En tu opinion, cuanto acento extranjero tienes en este idioma?  
(select)

(7) Por favor, evalua con cuanta frecuencia otros te identifican como hablante no nativo basandose en tu acento en este idioma:  
(select)

**LANGUAGE:**

Este es mi (selecciona) idioma.

Todas las preguntas siguientes se refieren a tu idioma de .

(8) Edad cuando tú...:

Empezaste a adquirirlo:	Empezaste a ser fluido:	Empezas a leerlo:	Empezaste a ser fluido leyéndolo:

(9) Por favor, lista el número de años y meses que pasaste...:

	Years	Months
En un país extranjero donde se habla el idioma		
Una familia extranjera que habla el idioma		
Una Universidad o trabajo donde se habla el idioma		

(10) En una escala de 0 a 10, por favor, selecciona el nivel de competencia oral, escuchar y lectura en el idioma.  
Selecciona con los menús desplegable:

hablar	(select)	entender	(select)	leer	(select)
--------	----------	----------	----------	------	----------

(11) En una escala de 0 a 10, selecciona cuales de los siguientes factores contribuyeron en tu aprendizaje:

Estar con amigos	(select)	Autoaprendizaje	(select)
Estar con la familia	(select)	Ver la televisión	(select)
Leer	(select)	Escuchar la radio	(select)

(12) Por favor, valora hasta que punto estás actualmente expuesto al idioma en los siguientes contextos:

Estar con amigos	(select)	Autoaprendizaje	(select)
Estar con la familia	(select)	Ver la televisión	(select)
Leer	(select)	Escuchar la radio	(select)

(13) En tu opinion, cuanto acento extranjero tienes en este idioma?  
(select)

(14) Por favor, evalua con cuanta frecuencia otros te identifican como hablante no nativo basandose en tu acento en este idioma:  
(select)

## Appendix C

### DELE

DELE Test Adapted

**Participante:  
Incompleto**

**SECCION 1: Texto**

#### **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 <sup>1</sup> la práctica constante de hábitos saludables. Un sueño reparador, una alimentación sabia, <sup>2</sup> a una actividad física constante y el control del estrés son claves a la hora de potenciar habilidades naturales de los más pequeños.

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

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

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

Las frutas, por ejemplo, deben consumirse más <sup>16</sup> tres veces al día, no hay que permitir que el yogur, otro gran alimento, les <sup>17</sup> 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 <sup>18</sup> 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 <sup>19</sup> una actividad física constante, en forma sistemática. Lo preferible es la práctica de un deporte, por ejemplo, el tenis de mesa, que le <sup>20</sup> 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.

## DELE Test Adapted

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.

## DELE Test Adapted

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 D****Boston Naming Task**

tree	la cama
house	el lápiz
whistle	el peine
flower	las tijeras
saw	el cepillo de dientes
broom	el pulpo
mushroom	el helicóptero
pretzel	la percha
camel	la silla de ruedas
bench	la máscara
racquet	el caracol
seahorse	el volcán
wreath	el dardo
globe	la canoa
harmonica	el castor
acorn	el rinoceronte
igloo	los zancos
cactus	los dominos
harp	la escalera mecánica
knocker	la hamaca
pelican	el estetoscopio
pyramid	el bozal
funnel	el unicornio
accordion	la soga
compass	el espárrago
latch	el trípode
tongs	el papiro
sphinx	la yunta
trellis	la paleta
protractor	el ábaco



**Appendix E****MELICET**

MELICET Test Adapted

**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

## MELICET Test Adapted

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

## MELICET Test Adapted

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

**MELICET Test Adapted**

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]

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# ACADEMIC VITA

## MICHELLE FAITH SIMON

- EDUCATION:** **Bachelor of Arts in Applied Spanish**  
**Bachelor of Arts in Media Studies – International Studies**  
**Bachelor of Arts in International Studies**  
**The Pennsylvania State University – University Park, PA** **MAY 2013**  
**Schreyer Honors College & Paterno Fellows Program**  
Semester Education Abroad Experience – Madrid, Spain, Fall 2011  
Phi Beta Kappa Honors Society
- RESEARCH EXPERIENCE:** **UNDERGRADUATE RESEARCHER** **JANUARY 2012-MAY 2013**  
**Center for Language Science (CLS) – University Park, Pennsylvania**  
• Proposed thoughtful research questions for honors thesis paper focusing on memory and English-Spanish code-switching  
• Work closely with thesis advisor, the Associate Co-Director of CLS  
• Read and analyze related research articles to gain understanding of field  
• Analyze data with E-Prime software  
• Served as undergraduate research assistant in CLS January-May 2011
- UNDERGRADUATE RESEARCH ASSISTANT** **AUGUST 2012**  
**Media Effects Research Lab – University Park, Pennsylvania**  
• Collaborated with PhD students and lab Director to offer undergraduate student perspective for improving study designs  
• Provided voice recordings for a National Science Foundation funded study on website interactivity  
• Gained exposure to higher academic research environment
- LEADERSHIP EXPERIENCE:** **EXECUTIVE DIRECTOR** **MAY 2012-MAY 2013**  
**Students Engaging Students (SES) – University Park, Pennsylvania**  
• Lead service-learning opportunities for Penn State students through the Into the Streets program  
• Facilitate experiential leadership development workshops  
• Establish and evaluate both short-term and long-term goals with Executive Board members and Program Director  
• Conduct weekly meetings with organization and bi-weekly meetings with Directors  
• Restructure leadership hierarchy to better suit organization's needs by creating new roles to keep members engaged and actively learning, and to better utilize individual and group strengths  
• Delegate committee-related tasks to fellow Directors and follow-up on progress  
• Hold Directors and members accountable, reminding them of their responsibilities by frequently following up to check progress  
• Form close relationship with Program Director and members
- DISTRIBUTION MANAGEMENT CAPTAIN** **JANUARY 2012-OCTOBER 2012**  
**Penn State Homecoming 2012 – University Park, Pennsylvania**  
• Designed and implemented a streamlined event teardown plan  
• Managed logistics across committees and ensured all necessary materials were prepared for events  
• Documented accurate inventory of all Homecoming supplies