Code Switching in a Spanish-English Bilingual Child: A Communication Resource

Raquel Arias and Usha Lakshmanan

Instituto Universitario de Tecnología- Región Capital and Southern Illinois University at Carbondale

1. Introduction

In this paper, we address the issue of how two languages are represented in bilingual children by focusing on the sequential acquisition of two first languages. Specifically, we report the results of a longitudinal case study that investigated the pattern of development of English, Spanish and mixed utterances in a Spanish/English bilingual child. The mixed utterances were also analyzed syntactically in order to investigate to what extent they resemble adult code switching behavior.

2. Methodology

2.1 Subject

The subject (Isabella) was born in Venezuela to native Spanish speaking parents. At the age of 2;5, she moved to the U.S where she was exposed to English. Two weeks after arriving in the U.S. Isabella started attending a day care full-time. The language environment of the day care was completely in English. At home, the child interacted with her mother. The home language environment was Spanish at the beginning but gradually, as the child began to acquire English, the language at home was more mixed i.e. in Spanish/English. When the recordings began, Isabella's English was already productive.

2.2 Data collection: procedures

The subject was audio recorded while interacting spontaneously in her home environment (in the U.S) and during her visits to Venezuela. The language samples were collected over a period of nine months (from 3;0 to 3;9) on a weekly basis for half an hour. However, for the purpose of the study only two recordings for each month were analyzed. The data were classified into three periods of time, as can be seen in Table 1.

Table 1: Data Collection Periods

Periods	Age period	Interlocutors	Context
I	3;0 – 3;3	Mother	Before trip to Venezuela
II	3;5 – 3;8	Mother and father	After trip to Venezuela
III	3;8 – 3;9	Mother, father and other relatives	In Venezuela

2.3 Data analysis procedures

The data were transcribed by the first author using English and Spanish orthography. Contextually relevant information was also provided in the transcripts.

Words and utterances were counted and classified according to language (Spanish, English or Mixed). A category of ambiguous utterances was included in order to account for those utterances that could not be assigned as belonging to one language, as for example, proper names. The number, percentage and MLU of

the English, Spanish and mixed utterances were calculated in order to account for language dominance, language choice and frequency of language mixing. A modified version of the procedure described in Brown (1973) was used for the purpose of calculating the MLU**.** The modification consists of counting words and not morphemes. This procedure allowed us to calculate the MLU in Spanish, English and Spanish/English (mixed).

Mixed utterances were classified as such if:

1. There was language mixing of any content or function words. For example, "I want *café*"
2. There was syntactic mixing (the syntactic system of one language with words from the other language; as in "Isabella's *pelota"*)
3. An utterance contained one or more blends (a word containing elements from both languages; as in "*no me* push*es*").

A qualitative analysis was carried out in order to classify the instances of code switching according to type (i.e. intra- or inter-sentential). Intra-sentential switches are those utterances where there is language mixing within the sentence while inter-sentential are switches at the sentence boundary. A quantitative analysis of the types of switches was also done in order to account for frequency of the type of switch.

Intra-sentential switches were further analyzed in order to determine whether or not they were adult-like (i.e. grammatical) or non-adult like (i.e.ungrammatical) instances of code switching. The ungrammatical code switches were analyzed in order to determine whether they violated any of the proposed syntactic constraints on code switching. In order to analyze these utterances, we differentiated between matrix language and embedded language. The matrix language is the language that gives the sentence its basic character and the embedded language is the one that contributes the imported material (Bhatia & Ritchie, 1996. P.631). The criteria to identify the matrix language in this research was based on the structural language of INFL (i.e., inflection) as it is one of the factors described by Bhatia & Ritchie, (1996). However, some modifications were necessary to account for those cases where INFL might be missing. The matrix language in such cases would be determined according to the structural differences between Spanish and English.

3. Results

The results of the research will be discussed according to the following findings: language usage, frequency of language mixing and syntactic analysis of the mixed utterances.

3.1 Language usage

The results of the analysis of the percentage show Isabella's language usage. Figure 1 shows the percentage of English, Spanish and mixed utterances produced by Isabella in Period I. The data clearly shows that the child's predominant language for this period is English. English utterances increased and reached 98% in File 5 and an average of 68% for the whole period. It also becomes clear that from the beginning of the data collection period the child was already productive in English. As can be seen, English utterances constitute 57% of the total utterances for the first file. Figure 2 shows the proportion of Spanish, English and mixed utterances produced by Isabella in Period II.

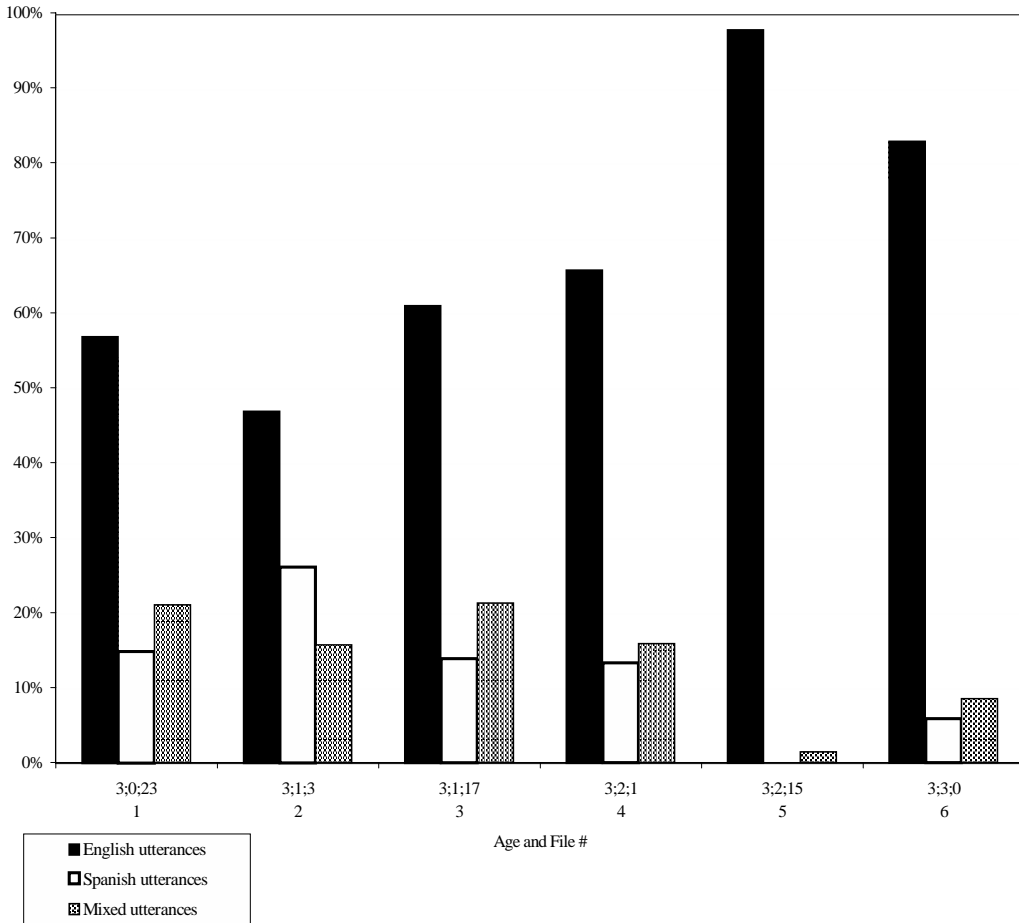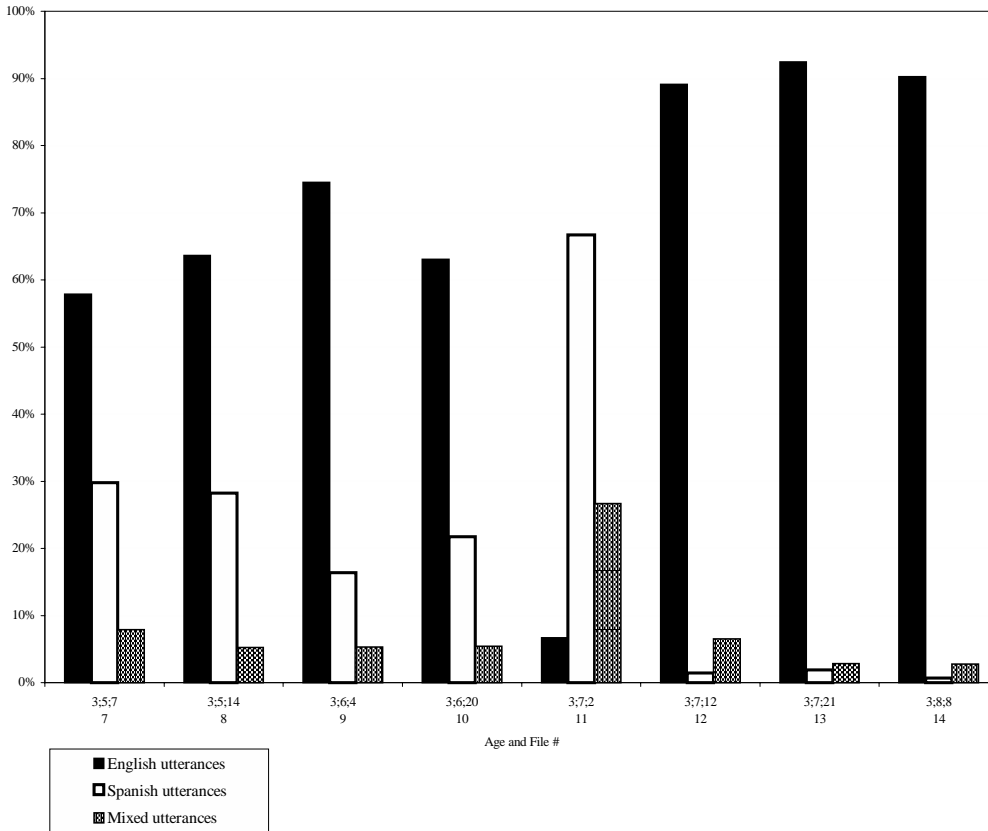Fig. 1. Period I. Percentage of English, Spanish, and Mixed Utterances

Fig. 2. Period II. Percentage of English, Spanish, and Mixed Utterances

The result is similar to what was observed in Period I. The percentage of English utterances is the highest across the various files in this period, averaging 67%. Spanish utterances across the files in Period II average 21%, and the mixed utterances average 8%. However, there are some relevant findings to be discussed in relation to this period. Firstly, it can be seen in file 11 that Spanish utterances increased to a 67%. Interestingly, this file was recorded while the child interacted with her father who was using Spanish. This result shows that the child chooses her language appropriately according to her interlocutor. In Figure 2 it can also be seen that the percentage of Spanish utterances is relatively higher than in Period I and mixed utterances are lower. It could be said that the child's utterances in Spanish increased due to a language shock which enhanced her bilingual awareness (recall that, between Periods I and II, the child traveled to Venezuela for one month, during which she was exposed to and used mainly Spanish). However, this argument loses strength when we consider that the child has never lost contact with that language. In fact, the increment might be due to input because it was found that most of the interlocutor (Isabella's mother) utterances were in Spanish. Thus, the child is probably choosing her language according to her interlocutor, as it is shown in (1) below. (M is the mother and I is Isabella,).

(1) I: What's that?   (3;5:7)
     M: What's what?
     I: that
     M: That noise? no se se que cosa es a lo mejor es que están limpiando la grama
     I: A mi no me gusta eso
     M: No te gusta? Por que?
     I: Porque me pisa a mi
     M: Ba!!! como te va a pisar
     I: mira, and then she want to take me to she house
     M: Tu crees que te va a llevar a su casa, baa!! ese señor es bueno ese señor está
          solamente
          limpiando la grama
     I: Y que dice?
     M: ah dice: hello sweety
     I: y porque..Why..Why mami?
     M: Bueno porque si el te ve si tu bajas ahorita y el te ve entonces el señor te dice hello
          sweety good morning
     I: Why she no say hi sweety good morning why she no say hi hi hi hi
     M: bueno porque le gusta decir hi sweety good morning
     I: sweety ?
     M: yes

Other examples also show that her code switching from Spanish to English (and vice versa) is appropriate in terms of the interlocutor, language context and extra linguistic factors. The conversation in (2) from Period I indicates switches to Spanish because the child wants her mother to comfort her.

(2) M: No..which is your favorite color Isabella?   (3;0;23)
     I: Mmmmm. Pink
     M: Pink, Wow
     I: Mi duele a barriga
          'I have a stomachache'
     M: ¿Y por qué? tienes hambre?
          'Why? Are you hungry?
     I: Sí
          'Yes'
     M: Tienes hambre, vamos a hacer la comida mejor,
          'You are hungry, let's make our meal better'
     I: Tu duele la barriga?
          'Do you have stomachache?'
     M: Sí, un poquito, porque yo tambien tengo hambre
          'Yes a little bit, because I'm hungry too'
     I: A mí también
          'Me too'

Another piece of evidence of Isabella's appropriate choice of language in relation to the one spoken by her interlocutor is shown in (3). Here, the child's mother is speaking Spanish and the child replies in Spanish but when the mother switches to English the child switches and produces a mixed utterance.

(3)	M:	Ah y entonces ese gris que tú pintaste allí	(3;1;3)
		'Oh! And then that grey (monster) that you drew there'	
	I:	Era uno mounstro	
		'It was a monster'	
	M:	Ah entonces sí existen,	
		Oh! So they do exist'	
	I:	No tú.. porque esto es un… no existen	
		'No you….because this is a….they don't exist'	
	M:	I want my coffee	
	I:	Yo no quiero tu *coffee*	
		'I don't want (you to drink) your coffee'	
	M:	I need my coffee early in the morning	
	I:	No	
	M:	Yes please	
	I:	I say no. You no got your *café*.	
		' I said no. I don't (want you to) get your coffee.	

Likewise, the data in Period III, which were gathered while Isabella was in Venezuela visiting her relatives, who were mainly Spanish speaking, provide direct and clear evidence that the child was highly sensitive to the language context. Figure 3 shows the proportion of English, Spanish and mixed utterances produced by Isabella in period III. When we compare her output in Spanish in this period with her Spanish output in the previous periods, we notice that there is a dramatic increase in the percentage of Spanish utterances (see file 16 where the percentage of Spanish utterances rises to 83%). This fact demonstrates that Isabella's knowledge of Spanish was latent. The percentage of her Spanish utterances was lower in the previous periods only because she did not need it to communicate. The last file (File 17) shows an increase in English utterances as a function of the interlocutors because Isabella's aunt used English in some utterances.

Summing up, the percentage of Isabella's English and Spanish utterances show that since the beginning of the recordings, English was the subject's predominant language. The results also show that the child was highly sensitive when choosing her language according to interlocutors and language context.

3.2 Frequency of language mixing

This section discusses the results of the MLU in relation to Isabella's mixed utterances. Figure 4 shows the MLU of Isabella's Spanish, English and mixed utterances in Period I. As Figure 4 indicates, the MLU for Isabella's mixed utterances consistently surpasses the length of the utterances in both Spanish and English for the entire period. In fact, as will be shown later, the length of her mixed utterances exceeds her English and Spanish utterances in almost all files during the entire data collection period. This result shows that even though the mixing rate diminishes across time, her mixed utterances are the longest ones. It appears then that by drawing on elements from both languages, the child is able to produce longer utterances. This suggests that the mixed utterance may be a resource, rather than an instance of language confusion.

Figure 5 shows the same pattern as Figure 4 in relation to the length of mixed utterances, except for file 11, which shows a dramatic increase in the MLU of her Spanish utterances and a decrease in the MLU of her mixed utterances. As it was previously mentioned, it is the result of the relationship between language input and language production.

Figure 6 shows the MLU of Isabella's utterances in Period III. The MLU values in Period III confirm that Spanish was weaker in the earlier periods because of the language context. Figure 6 indicates that Isabella's Spanish MLU in this period increases from one week to the next. However, it cannot be

overlooked that there is a decrease in the Overall MLU. This is an expected result as the child has had more language experience in English.

Fig. 3. Period III. Percentage of English, Spanish, and Mixed Utterances
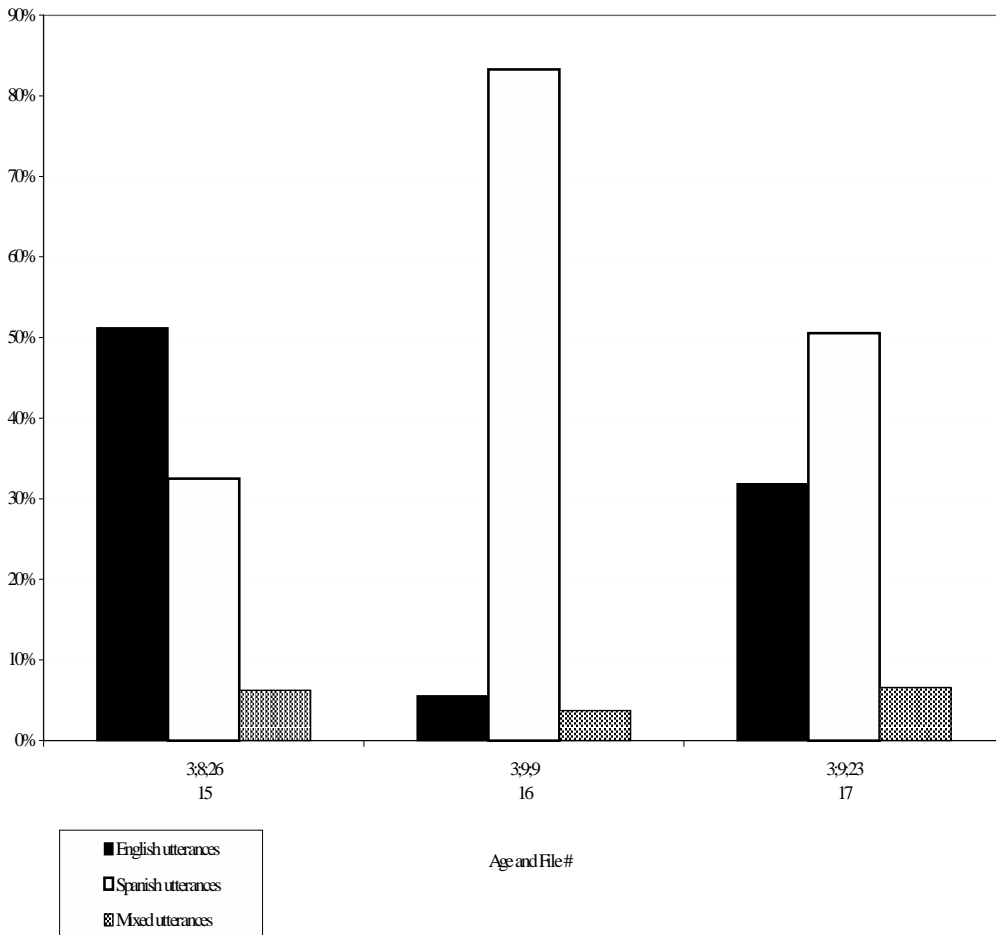
Fig. 4. Period I. MLU of Overall, English, Spanish, and Mixed Utterances.
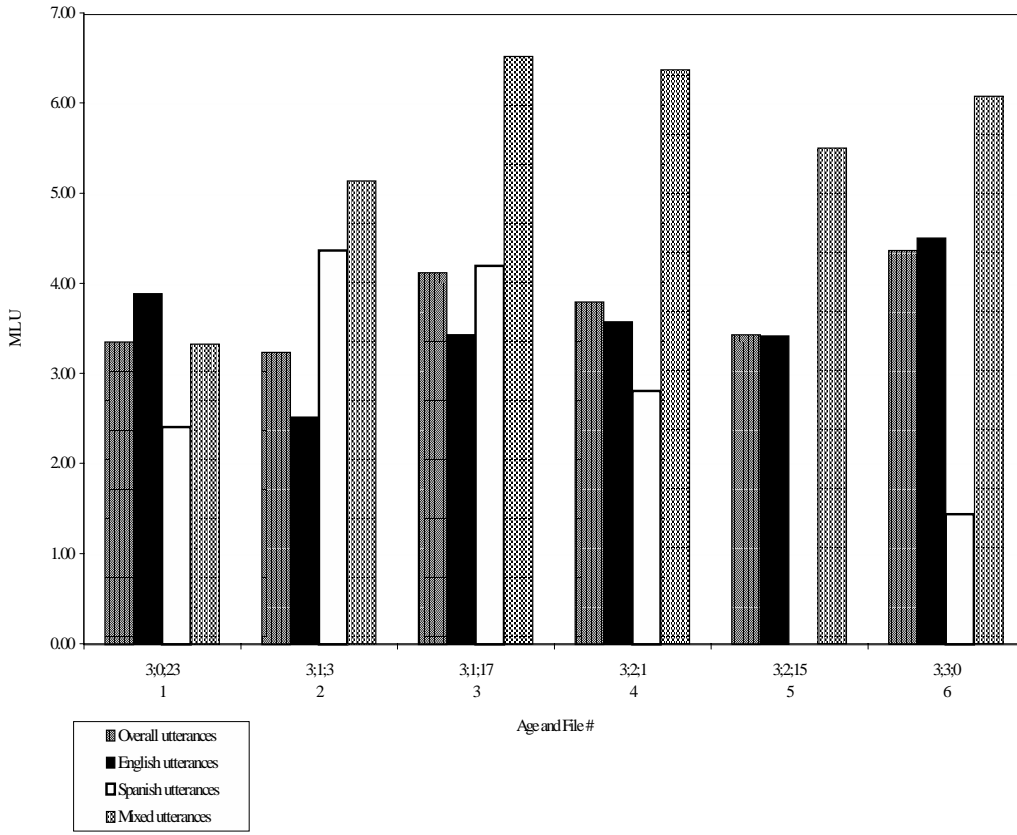
Fig. 5. Period II. MLU of Overall, English, Spanish, and Mixed Utterances.
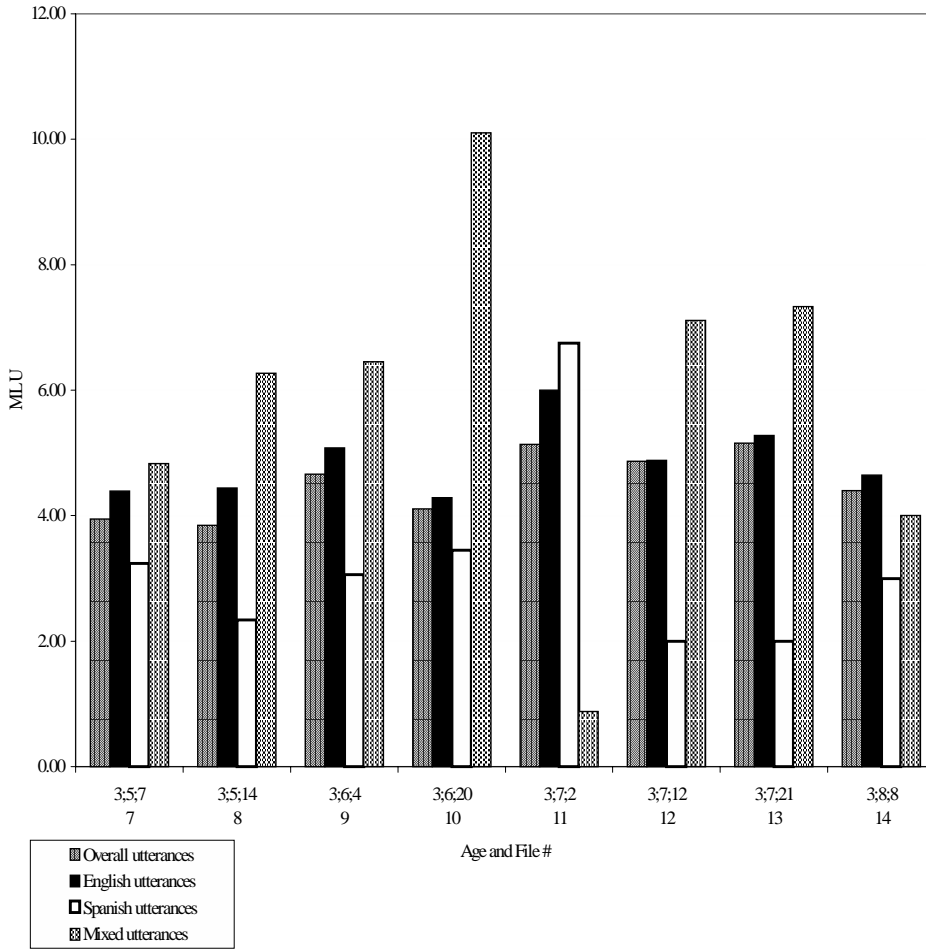
Fig. 6. Period III. MLU of Overall, English, Spanish, and Mixed Utterances.
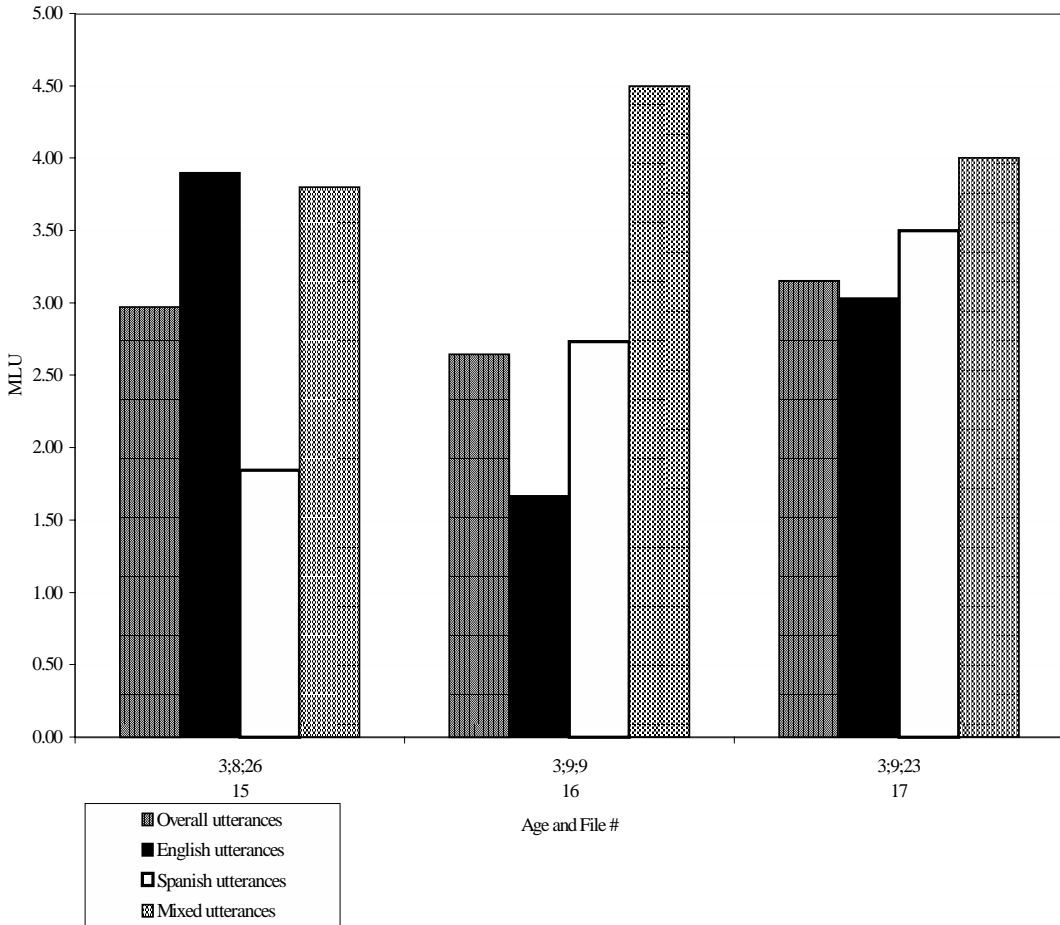
3.3 Syntactic analysis of the mixed utterances.

The mixed utterances produced by Isabella during the entire data collection period were analyzed in terms of the type of code switching that was involved: intra-sentential versus inter-sentential code switching. Table 2 shows the number and percentage of intra-sentential and inter-sentential switches in Period I, II and III.

Table 2: Types of Switches and Periods

Periods	Intra-sentential		Inter-sentential	
Period I	88	(84.6%)	16	(15.4%)
Period II	58	(54.7%)	48	(45.3%)
Period III	3	(14.3%)	18	(85.7%)
Total	149	(64.5%)	82	(35.5%)

As can be seen from Table 2, 64.5% of the 231 switches produced by Isabella was of the intra-sentential type. As Poplack (1980) has stated, intra-sentential switching is riskier than inter-sentential switching as there is a greater likelihood of it resulting in ungrammatical code-switches. Although intra-sentential switching was the predominant type of switching in the overall data, we notice that there is a dramatic decrease in the percentage of intra-sentential switches in Period III. In Period III, only 14.3% of the switches were of the intra-sentential type while 85.7% of the switches belonged to the inter-sentential category. Recall that the data in Period III were gathered during Isabella's visit to Venezuela where the speech context was primarily a monolingual Spanish speaking one. In contrast to period I and Period II, where her English utterances predominated, Spanish utterances predominated in Period III.

Let us now turn to the results of the syntactic analysis of Isabella's intra-sentential switches. Isabella's intra-sentential switches were analyzed to determine whether they were 'adult like' (i.e. grammatical switches) or 'non-adult like' (i.e. ungrammatical switches). Of the 149 intra-sentential switches, 54 (36%) were adult-like/grammatical switches while 95 (64%) were non-adult like/ungrammatical switches. It should be mentioned that a predominant percentage (97 %) of the non-adult like/ungrammatical switches corresponds to superficially ungrammatical/non-adult like switches. Some examples of adult-like (grammatical switches) are given in (4) below.

(4)   a. because I want *pelo de Zoe.*   (I, 3;1.17)
                hair of Zoe
           'because I want Zoe's hair'

       b. I want to go *al mall.*   (I, 3;2.1)
           'I want to go to the mall'

       c. Yo estaba soñando que había *fire.*   (I, 3;2.1)
           'I was dreaming there was fire'

       d. It's just pretending *tengo*   *una*   *ventana aquí.*   (I, 3;5.7)
                        have-PRES 1S   a-S.FEM   window here.
           'It's just pretending I have a window here'

       e. Maybe, somewhere in your room, in the bathroom, in my bedroom, *en la sala*. (I,3;6.20)
                                         '………… in the living room'
       f. We playing mommies, daddies, babies, *hermanas.*   (I, 3;5.14)
           'We are playing mommies, daddies, babies, sisters'.
       g. Este donde está la ballena *in the closet.*   (I, 3;6.20)
           'This one where the whale is …..'
       h. Tu sabes que yo tengo una *big ball.*   (I, 3;7.2)
           'you know that I have a big ball'.
       i. you remember *esa*   *caja*?   (I, 3;7.12)
                        that-FS
           'you remember that box?'

Each of the non-adult like (ungrammatical switches) were analyzed further to account for their ungrammaticality. The non-adult like examples shown in (5) involve code switching within a Noun Phrase which contains a head noun and a modifying adjective.

(5)   a.   A *feo*   game.   (I, 3;3.0)
             bad-MS
       b.   Because that *feo*   game.   (I, 3;3.0)
                        bad-MS
       c.   ¿Dónde está ese paño *blue*?   (I, 3;5.14)
             'Where is that blue cloth?'

The head noun and the adjective in the utterances shown in (5) are in a different language. In the switch shown in (5a) and (5b), the head noun is in English and the adjective which precedes it is in Spanish. In 5c, the switch contains a Spanish head noun with a modifying adjective in English following it. In English, the adjective modifier precedes the head noun. In Spanish, the modifying adjective typically follows the head noun. There are certain cases where the adjective may also precede the head noun, but this is a marked word order where the adjective is associated with a figurative meaning. The examples in (5) constitute violations of the Equivalence Constraint proposed by Poplack (1980). According to the Equivalence Constraint, code switching is allowed only at those positions where the juxtaposition of L_1 and L_2 elements does not violate a syntactic rule of either language, i.e. at points where the surface structures of the two languages map onto each other. The examples in (5a) and (5b) violate the syntactic rule of Spanish; the adjective *feo* should follow and not precede the head noun that it modifies. The example in (5c) violates the syntactic rule of English; the adjective *blue* should precede and not follow the head noun that it modifies.

However, there is an alternative analysis of these data, which suggests that the examples shown in (5) may only be superficial violations. In the examples in (5a) and (5b), the adjective *feo* can be considered an instance of simple borrowing. The word *feo* is typically used by Spanish-speakers to express dislike. In fact, Isabella has the approximate English equivalent *bad*; however, the rough English translation equivalent, does not express the exact same (i.e. identical) meaning as the Spanish adjective *feo*. For the above reasons, the violation in (5a) and (5b) may only be an apparent violation but not a true violation of the Equivalence Constraint. In the example in (5c), based on daily observations of Isabella's use of her two languages (by the first author), it was evident that Isabella did not have the Spanish equivalent for the word *blue* (at least with respect to her Spanish production). As Isabella's use of the English adjective in (5c) is due to a lexical gap in relation to the Spanish equivalent of the word *blue*, the apparent violation in (5c) may be a violation only from an external perspective but is not really a true violation from an internal perspective (i.e. in terms of the bilingual's own internal grammar and lexicon).

According to the Free Morpheme Constraint proposed by Poplack (1980), a code switch may not occur at the boundary of a bound morpheme, for example attaching the Spanish bound morpheme –*iendo* to an English stem (*eatiendo). Some of the non-adult like switches produced by Isabella, involving a verb blend, appear to violate the Free Morpheme Constraint. These are provided in (6).

(6)   a.   Juana, no *push*es Elmo *en mi* house   (I, 3;1.17)
             'Juana, don't push Elmo in my house'
       b.   Because no *push*es   (I, 3;1.17)
             'Because don't push'
       c.   Mira, no *push*es   (I, 3;1.17)
             'Look, don't push'

On first examination, it looks like the base language of these utterances is English because the verb *push-es* by itself looks as if it were correctly inflected for the third person singular. However, the evidence suggests that the child has probably generalized the English and Spanish entries (*push* imperative and *empujes*) into one. First, when inspecting the data it was found that Isabella has not yet acquired the agreement feature of present third person singular –*s* inflection in English; in contrast, it is clear from her utterances that she has already acquired verb inflections (tense and agreement) in Spanish. Second, the

mood of the utterances shown in (6) is imperative (negative imperative) and the verb is correctly inflected for the Spanish second person singular in the negative imperative mood: *no empujes*. Thirdly, as Lindholm & Padilla (1978) have also observed and reported, both lexical entries are commonly generalized by Spanish-English bilingual children as they are phonetically similar. Therefore, we believe that Isabella attached the Spanish inflectional morpheme *-es* to a verb stem which is ambiguous in her lexicon in relation to the language feature. Thus, from the perspective of the bilingual's own internal lexicon, the examples in (6) do not really constitute true violations of the Free Morpheme Constraint.

Some of the non-adult like switches appear to violate the Functional Head Constraint proposed by Belazi et al (1994). The Functional Head Constraint states that the language feature of the complement f-selected by a functional head, like all other relevant features, must match the corresponding feature of that functional head. This constraint extends the scope of f-selection to language indexing; that is, the language feature of a functional head must match the language feature of its complement in the same way a functional head must match other features of its complement.

The instances of violations of the Functional Head Constraint are provided in (7), (8), and (9).

(7) a. Es *sleeping*...let me show you   (I, 3;0.23)
         'She (= Snow White) is sleeping'
     b. The Queen es *fall down*.   (I, 3;0.23)
     c. Es *crying*.   (I, 3;0.23)
         'They (= The dwarfs) are crying'
     d. And look Snow White es *wake up.*   (I, 3;0.23)
(8)   Tu no *help me*.   (I, 3;1.17)
         'you don't help me'
(9)   We can see a movie *si* you want.   (I, 3;2.15)
         'We can see a movie if you want'

The examples in (7a-d), which occur in Period I, the inflection phrase of the mixed utterance is headed by what appears to be the present 3rd person singular form of the Spanish progressive auxiliary/copula. The lexical complement of INFL, namely the VP, is in English (i.e. its language feature is English and not Spanish). The language feature of the functional head INFL and the language feature of its lexical complement (VP) do not match. Hence, the examples in (7) violate the Functional Head Constraint. However, it is relevant to note that in Period I, where mixed utterances such as the ones shown in (7) occur, Isabella always produces *es* [ɛs] instead of *is* [ɪs]. In Periods II and III, on the other hand, she clearly distinguishes between the two and pronounces them differently. We believe that in the mixed utterances shown in (7), which occur in Period I, [ɛs] is neither English nor Spanish, but is ambiguous. Previous research indicates that Spanish-speaking children learning English as a second language perceive *it's* as *is*/ Spanish *es* (Lakshmanan, 1994). This association has a further implication on the dropping of the subject in *is* contexts. In fact, subjects were deleted in the *es + Ving* contexts as required by Spanish. Therefore, Isabella may also be perceiving the English *is* as the Spanish *es*. Thus, this is not a mixed utterance for the child because she has only one form of the third person singular copula or progressive auxiliary.

In the examples shown in (8), the code switch constitutes what appears to be a violation of the Functional Head Constraint as the functional element *no* heading NegP appears to be specified for the Spanish language feature whereas its complement is specified for the English language feature. Previous research on child L$_1$ English has indicated that English speaking children go through a *No + V* stage of negation (Klima & Bellugi, 1966). A similar stage has also been reported for child L$_2$ English learners, including L$_2$ learners with Spanish and non-Spanish type languages as the L$_1$. We believe that the negative *no* which heads NegP in mixed utterances such as (8) are underspecified for the language feature. In other words, *no* is a default which is lexically ambiguous (i.e. Spanish or English). We further believe that in mixed utterances such as (8), the INFL is specified for the English language feature of English. The

insertion of the Spanish pronoun in the subject position (i.e Spec of an English IP) does not violate the Functional Head Constraint as the relation between the subject pronoun and INFL is not that of a functional head and lexical complement.

The non-adult like switch in (9) is a violation of the Functional Head Constraint as the functional category of complementizer is specified for the Spanish language feature *si* while its IP complement is specified for English language feature. However, the evidence once again suggests that from the perspective of the bilingual child's internal grammar there is no violation of the Functional Head Constraint; in other words, the switch though non-adult like, is indeed grammatical in terms of Isabella's own internalized grammar. Because during the entire period that she was observed and even one year after she began to be observed, Isabella always used Spanish *si* instead of English *if*. Thus the complementizer *if* does not appear to have emerged in her English lexicon. In view of the fact that there is a lexical gap involved in relation to the English complementizer *if*, we cannot validly conclude that examples of her mixed utterances such as (9) violate the Functional Head Constraint.

It is relevant to mention here that Isabella's code switching behavior in relation to the tensed declarative complementizer *that/ que* offers additional support that she does indeed know the Functional Head Constraint. This is illustrated by the mixed utterance in (4d), which is repeated in (10) below.

(10)   It's just pretending *tengo   una   ventana aquí.*
                          Have-PRES.1S   a-SF window here.
       'It's just pretending I have a window here'

The switch present in (10) is adult-like. Notice that the embedded clause (i.e. embedded IP) is in Spanish and is specified for the Spanish language feature. As there is no overt complementizer present, the language feature of the functional category C (Complementizer), whose IP complement is specified for the Spanish feature, cannot be determined. If Isabella had used an overt English complementizer (i.e. that), the result would be an ungrammatical switch. There is evidence that during the same period, Isabella does indeed know and use the Spanish complementizer *que* and the English complementizer *that*. However, there was not a single instance of an ungrammatical switch such as: *It's just pretending that *tengo una ventana aqui* or * It's just pretending *que* I have a window here.

Among the non-adult like switches, there were several instances where an overt Spanish pronoun occurred in the subject position of a tensed clause where the INFL and VP was in English. Such instances typically occurred in Yes/No questions with a declarative word order and rising intonation. In these questions, even when there was an AUX present, it was not preposed past the subject. The subject pronoun was typically the second person singular pronoun *tu*. These examples, which occurred during the same recording, are provided in (11a-c).

(11)   a.   Mommy, tú have orange?   (I, 3;0.23)
       b.   Tú like it?
       c.   Mommy, tú want?   (I, 3;0.23)
       d.   I: Tú want?   (I, 3;0.23)
            M: Oh yes I want, mmm mmm
            I: You want, tú want?

It is obvious from Isabella's utterance in (11d) that she has both the English and the Spanish pronoun in her lexicon. At a first glance, it looks as if the child inserts an English verb in an otherwise Spanish question.

Spanish, when compared to English, has rich verb inflections and from the data it is clear that Isabella has already acquired verb inflections in Spanish. Spanish, unlike English is a null subject or a pro-drop language. The subject of a tensed clause can be optionally omitted. Subject pronouns are typically omitted

and an overt subject pronoun is used only to indicate a contrastive emphasis. English, on the other hand, does not have rich verb inflections. Unlike Spanish, English is a non-null subject or pro-drop language. Subjects of tensed clauses (including subject pronouns) cannot be phonologically suppressed. In order to express a contrastive emphasis, the overt subject pronoun is uttered non-neutrally, that is with additional stress. From Isabella's speech utterances, it is evident that she knows that English and Spanish differ from each other in relation to their INFL and verb inflections. It is also evident that she knows that English, unlike Spanish is a non-pro drop or null subject language. We believe that in the examples in (11), the overt Spanish subject pronoun is probably being used by Isabella to express contrastive emphasis. In other words, her use of an overt Spanish pronoun *tu* in the contexts shown in (11), makes the contrastive/emphatic meaning more salient than the use of English you with additional stress. This is also supported by the fact that in the spontaneous revision of the English utterance in (11d), Isabella replaces the English pronoun *you* with Spanish *tu*. From the perspective of her internal lexicon, we believe that switches such as those in (11), even though non-adult like, are not really ungrammatical.

Interestingly enough, the reverse strategy of inserting an overt English subject pronoun in a Spanish clause, as shown in (12) is never used by Isabella during the entire data collection period.

(12)   *You quieres?
         You want-PRES.2S?
         'Do you want?'

In the sentence shown in (12), Spanish is the matrix language and the verb is richly inflected. Recall that subjects of tensed clauses are optionally overt in Spanish and that pronouns are typically omitted except in non-neutral contexts where the speaker wishes to express contrastive emphasis. In the grammatical counterpart of the sentence shown in (12), the subject would be omitted in a neutral context *(¿quieres?)* and in a non-neutral (i.e. contrastive emphatic context), the grammatical counterpart would be to use an overt Spanish subject pronoun *(¿tu quieres?)*. The absence of examples such as (12) is evidence that Isabella's code switching obeys the grammatical properties that constrain her two languages: Spanish and English.

Thus, an in-depth analysis of Isabella's non-adult like code-switches reveals that they are not really ungrammatical when viewed from the perspective of the bilingual child's developing linguistic system(s). That is, if we analyze the apparent violations from the perspective of the child's internal grammar, we notice that what is often involved is a single lexical entry that is underspecified for the language feature. If this is so, then there really is no violation of constraints such as the Functional Head Constraint.

4. Conclusions

The results showed that from the beginning of the data collection period Isabella was able to choose her language according to the interlocutor and language context. Her English utterances increased in average, length and complexity because the language of the community in which the child was immersed (i.e. her day care in the U.S) was English. At the same time, however, the average number of Isabella's Spanish utterances increased dramatically when she was in a Spanish- speaking context (e.g. Venezuela) or when she interacted with a monolingual Spanish-speaker interlocutor. Thus, the findings of this study support the view that the language of the participants involved in the speech interaction is a major determinant of the bilingual child's language choice and that bilingual children are able to successfully choose language according to the interlocutor and the context.

In relation to Isabella's mixed utterances, it was observed that although they decreased on average, the MLU of her mixed utterances (when compared to the MLU of her Spanish and English utterances) was the highest across the period when she was observed. This pattern suggests that mixing is used as a resource by the bilingual child to produce longer and more complex sentences. As for the syntactic analysis of Isabella's code switching, it was found that her predominant code switching strategy was of the intra-sentential type.

A majority of her intra-sentential switches appeared to be non-adult like or ungrammatical. However, a more in-depth analysis indicated that these non-adult like switches are only superficially non-adult like. Crucially, our analysis revealed that when examined from the perspective of the bilingual child's internal grammar, the non-adult like switches are not really ungrammatical and do not constitute true violations of the syntactic constraints on code-switching proposed in the literature.

References

Arias, R. (2001). Syntactic aspects of code switching in a three-year-old Spanish/English bilingual child. Unpublished MA thesis. Southern Illinois University at Carbondale.

Belazi, H., Rubin, E., and Toribio, A. (1994). Code switching and X-bar theory: The functional head constraint. Linguistic Inquiry , 25, 221 – 237.

Bhatia, T., & Ritchie, W. (1996). Bilingual language mixing, universal grammar and second language acquisition. In T. Bhatia & W. Ritchie (Ed.), Handbook of child second language acquisition. (pp. 627-688). San Diego: Academic Press.

Brown, R. (1973). A first language: The early stages. Cambridge, MA.: Harvard University Press.

Di Sciullo, A., Muysken, P., and Singh, R. (1986). Government and code-mixing. Journal of Linguistics, 22, 1 – 24.

Genesee, F. (1989). Early bilingual development: One language or two? Journal of Child Language, 6, 161 – 179.

Goodz, N. (1989). Parental language mixing in bilingual families. Infant Mental Health Journal, 10, 25 – 44.

Klima, E. & Bellugi, U. (1966) Syntactic regularities in the speech of children. Cited in Padilla & Lindholm (1976a), Acquisition of bilingualism: A descriptive analysis of the linguistic structures of Spanish/English speaking children. In G. Keller, R. Teschner & S. Vieira (Ed.), Bilingualism in the bicentennial and beyond (pp. 97 –141). New York: Bilingual Press.

Lakshmanan, U. (1994). Universal grammar in child second language acquisition. Amsterdam/Philadelphia: John Benjamins Publishing Company.

Lakshmanan, U. and Selinker L.(1994). The status of CP and the tensed complementizer *that* in the developing L2 grammars of English. Second language Research, 10, 25-48.

Lanza, E. (1992). Can bilingual two-year-olds code switch? Journal of Child Language, 19, 633 – 658.

Lindholm, K. and Padilla, A (1978). Language mixing in bilingual children. Journal of Child Language, 5, 327-335.

Meisel, J.(1990). Grammatical development in the simultaneous acquisition of two first languages. In J. Meisel (Ed.), Two first languages: Early grammatical development in bilingual children. Dordrecht: Foris (pp. 5 – 22).

_____ (1994). Code switching in young bilingual children. Studies in Second Language Acquisition, 16, 413 – 439.

Paradis, J., and Genesee, F. (1996). Syntactic acquisition in bilingual children: Autonomous or interdependent? Studies in Second Language Acquisition, 18, 1-25.

Poplack, S.(1980). Sometimes I'll start a sentence in Spanish y termino en español: Toward a typology of code switching. Linguistics, 18, 581-618.

ISB4: Proceedings of the
4th International Symposium on Bilingualism

edited by James Cohen, Kara T. McAlister,
Kellie Rolstad, and Jeff MacSwan

Cascadilla Press   Somerville, MA   2005

Web access and citation information

This paper is available from www.cascadilla.com/isb4.html and is identical
to the version published by Cascadilla Press on CD-ROM and in library binding.