

“*Sol!* ‘GANDA, cute!’”¹: A Longitudinal Study of Language Choice in a Developing Trilingual Child

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1. Introduction

The past twenty years have witnessed an increasing interest in the study of language representation and language differentiation in developing multilingual children. Because children exposed to more than one language from birth have been observed, almost without exceptions, to mix languages, early theorists, the proponents of the so called UNITARY LANGUAGE SYSTEM HYPOTHESIS (see Genesee 1989 for a review), claimed that developing multilingual children are unable to differentiate their languages at a young age, and interpreted language mixing as evidence for their internal fusion of different linguistic systems into one (Redlinger & Park 1980; Vihman 1985; Volterra & Taeschner 1978). On the other hand, researchers holding views under the DIFFERENTIATED LANGUAGE SYSTEM HYPOTHESIS have explained mixing in terms of performance and input-related factors, and have claimed that multilingual children have separate representations for their languages, and thus are capable of differentiating them, from early on (Deuchar and Quay 2000; Genesee 1989; Genesee et al. 1995; Köppe 1997; Lanza 1992 and 1997; Meisel 1989; Petitto et al. 2001).

Recent studies of language choice among children from different bilingual populations have shown that young bilinguals can choose their language appropriately according to the language of the context even before age two. This suggests that such children do separate their two systems relatively early from their first steps into the acquisition process (Deuchar and Quay 2000; Genesee et al. 1995; Köppe 1997; Lanza 1997; Nicoladis and Genesee 1996; Petitto et al. 2001). However, Quay (2001), in her recent study addressing early trilingual development, shows that trilingual language acquisition differs from bilingual language acquisition, because when faced with three languages in his environment, the child might fail to separate languages according to the specific language of the interlocutor but might manage “to function within the realm of all three by *choosing* the language that works in the most cases” (2001: 194), that is, the language spoken by the community and by his trilingual parents.

It is the aim of this paper to further examine the issue of language differentiation in early trilingual development through a longitudinal study of language choice in a developing Tagalog-Spanish-English trilingual child. Early trilingual development provides a more fertile ground than bilingual development for the investigation of the capacities and the limits of the language faculty to acquire and to employ separate linguistic systems: if children are indeed challenged by the simultaneous acquisition of two or more languages, early exposure to three languages is likely to result in more serious challenges for the language faculty than early exposure to two.

Because differentiation of multilingual children’s representation of their languages cannot be studied directly but rests upon evidence from performance (Nicoladis and Genesee 1996:440), this study investigates the child’s ability to use her developing languages differentially and appropriately in different language contexts, i.e. with distinct interlocutors, across time. In particular, this paper aims at answering the following questions: 1) Does a developing trilingual child, when faced with three different language users, adjust her linguistic behavior in relation to the interlocutor’s language,

¹ Utterance produced by the child in this study at age 2;0.0 while seeing the sun coming through the clouds. *Sol* means “sun” in Spanish; GANDA (MAGANDA) is “beautiful” in Tagalog.

thereby indicating an ability to differentiate languages? 2) Do the child's patterns of language choice change between Time I (when she is 1;9.29) and Time II (when she is 2;4.19)? If so, how?

Children exposed to different languages from birth, however, do not often have the same degree of proficiency in them, with the consequence that using a language in an "inappropriate" context might result from lack of proficiency rather than lack of differentiation (as in Deuchar and Quay 2000, among others). Moreover, if children are socialized into using more than one language with the same interlocutor, language mixing itself will not be a sign of language confusion or lack of differentiation, but rather of an ability, on the part of the child, to comply with his/her speech community's linguistic behavior. For this reason, the present study also addresses two related questions: 3) Are the child's patterns of language choice across time correlated with her proficiency levels in each of her languages? And 4) is the child's language mixing across time correlated with the interlocutors' patterns of language use and their responses to the child's mixing (i.e. their "discourse strategies towards language mixing" (Lanza 1997))?

2. Methodology

2.1 Participants

The data in this study come from a longitudinal investigation of first trilingual language acquisition in a girl, Kathryn, born in Los Angeles to a Filipino-American mother and a Chilean-American father. From birth, Kathryn was addressed primarily in Tagalog by her mother, in Spanish by her father, and in English by her ten-year-old sister, a passive Tagalog-Spanish-English trilingual. Because Kathryn's parents cannot speak each other's language, English is the main medium of communication in the home.

During her first two years of life, Kathryn was taken care of by her Filipino-American grandparents, who looked after her three days a week and communicated with her in Tagalog. At the same time, Kathryn heard Spanish from her father and her Spanish-speaking grandmother, who visited her on a weekly basis, and took care of her on some week-ends. From age 2;2, Kathryn started attending a day-care for eight hours three days a week; most of the children and staff at day-care were monolingual English speakers.

2.2 Procedure

The data analyzed in this paper are part of a larger database consisting of audio recordings of Kathryn's spontaneous speech from age 1;9 to age 3;7. The child was recorded at her home for approximately an hour and a half every week in a natural and uncontrolled discourse context in which Kathryn's mother, her father (or grandmother) and the author participated addressing the child in one of her native languages. The mother addressed the child in Tagalog, the father and grandmother in Spanish, and the author in English.

The participants were not given any instructions on how to act, and were free to choose the activity and location for the recording session. On most occasions, however, an adult interacted with the child on some topic alone, while the other interlocutors observed or were engaged in some other activity in the same location, and only when the topic was exhausted did the adult yield the floor to another speaker. In this way, Kathryn's ability to select a language when confronted with different language users could be observed directly within a natural discourse context.

The present study focuses on Kathryn's patterns of language choice at two two-week periods, six and a half months apart. At Time I, Kathryn's average age was 1;9.29; at Time II, her average age was 2;4.19.

2.3 Transcription and coding

Both the recording sessions that form the Time I database and those that constitute the Time II database were transcribed by the author on the day following the session to maintain the most faithful

record of the non-verbal context, and they were further checked by Kathryn's mother and a Spanish-English bilingual.

The recordings were initially transcribed in regular orthography, together with an identification of unintelligible and unclear passages, English translations, and information about non-verbal events that became relevant to the interaction and clarified the discourse (such as Kathryn's hurting herself or running away). Transcripts in the CHAT format of CHILDES (MacWhinney 2000) are now being made for all recording sessions, thus examples will be given in the CHAT format. The child's utterances are transcribed in regular orthography if they are clearly comprehensible as words of a specific language; when this is not the case, narrow phonetic transcription is used. The parents' utterances are transcribed in the orthography of each language.

In order to address the issue of language choice, two kinds of coding procedures were used. The first involved the coding of Kathryn's verbal productions as TAGALOG, ENGLISH or SPANISH utterances. Seven specific criteria were employed:

- (1) Kathryn's utterances were coded as belonging to Tagalog, English or Spanish only if the same sequence of sounds was employed in relation to a specific referent in at least 95 percent of the child's utterances (for instance Kathryn always used, in the Tagalog context, the form ['tatas], *gatas*, to refer to her bottle of milk);
- (2) The child's form had to exhibit at least two phonetic units in common with the adult form of the word or utterance (for example, when producing the Spanish/Tagalog word /bisi'kleta/, "bike," Kathryn alternated between the use of the form ['bita] and the more reduced form ['ta]; because the latter was produced in the same referential context as the former, the form ['ta] was taken to represent the same referent "bike");
- (3) The child's verbal production had to exhibit a similar pattern of syllabification and stress to the adult's form (for instance Kathryn constantly referred to her father as ['papa]. This form was considered as having a Tagalog source – /'papa/ – because the adult's form for "father" in Spanish has opposite stress /pa'pa/);
- (4) The child's form must not be a repetition of a word produced by an adult in the previous utterance, or within a period of ten seconds before the child's utterance;
- (5) The child's production must not be a repetition of a previous utterance produced by the child within the same conversational turn (for instance, when the child repeated *come on, come on, come on* in the same conversational turn, only the first occurrence was coded);
- (6) The child's production must not be a "neutral," i.e. an item common to two or three of the child's languages (such as *oso*, "bear," which is both a Tagalog and a Spanish word, or *okay*, which is used in all three languages).
- (7) The child's form must not be a proper name (*Lolo, Bibi, Tise, Mona, Bicho, Clifford*), a cross-language onomatopoeia (*miau, vroom vroom, wof wof*), a baby word that the adult interlocutors used across the three contexts (*awi* "pain," *upa* "pick up"), a number word (because Kathryn was only taught numbers in English, at least initially), or a *yes/no, si/no, oo/hindi* word.

Utterances coded as TAGALOG, ENGLISH or SPANISH could thus be clearly identified as coming from a Tagalog, English, or Spanish source respectively. However, a few of the child's utterances were coded as MIXED, because they consisted of a co-occurrence of words from two or three languages² (SA *mine*, literally "to/for mine;" or *sol!* GANDA *cute*, "sun! beautiful cute"). Moreover, some of Kathryn's utterances were categorized as UNINTELLIGIBLE.

For reliability measures, three native speakers of Spanish, English and Tagalog respectively, (the latter being Kathryn's mother), were asked to code each of the child's utterances as: (1) BELONGING to their native language; (2) NOT BELONGING to their native language. Inter-rater agreement ranged from 98.5% for English to 99.4% for Spanish and 99.8% for Tagalog.

² Items in simple italics are Spanish; words in capital letters have a Tagalog source; and underlined tokens are English.

The second coding procedure involved assigning every utterance produced by the child to a specific language context, i.e. as addressed to a specific interlocutor (MOTHER, FATHER, GRANDMOTHER, RESEARCHER, UNCLEAR ADDRESSEE). As previously pointed out, the structure of the recording sessions itself made quite clear who was being addressed in each utterance, since the child was more often engaged in dyadic rather than in group conversations. There were a few cases, however, in which an utterance was addressed to more than one interlocutor, and there were instances in which Kathryn seemed to address herself rather than anybody else. Such utterances were coded as UNCLEAR ADDRESSEE and were excluded from the language choice analysis.

2.4 Analysis

Three basic types of analysis were performed on the data. First, in order to analyze Kathryn's ability to use her developing languages differentially and appropriately with distinct interlocutors, the distribution of TAGALOG, SPANISH, ENGLISH, MIXED, and UNINTELLIGIBLE utterances per interlocutor was calculated.

The second analysis involved an investigation of whether there was a specific relationship between the child's language choice and her proficiency levels in each of her languages. The child's proficiency in each language was assessed through a combination of measures: word types and multiword utterances (as in Nicoladis 1994; and Nicoladis and Genesee 1996). Because Kathryn was sometimes more talkative with certain interlocutors, the first 55 utterances produced in each language context (for a total 165 utterances at each time) served as the basis for counting the number of word types and multiword utterances in each language³. Word type subscores were calculated as the percentage of different words in Tagalog, Spanish, and English out of the total number of word types produced in the 165 utterances. Multiword subscores were calculated as the percentage of multiword utterances in Tagalog, Spanish, and English out of the total number of word types produced in the 165 utterances. The proficiency index in each language was then calculated by averaging the multiword utterance and word type subscores in each language.

Finally, in order to examine whether there was a specific relationship between the child's language choice and the interlocutors' patterns of language use, the distribution of ALL-TAGALOG, ALL-ENGLISH, ALL-SPANISH and MIXED utterances addressed by the adults to the child were calculated. The adults' communicative strategies, that is their responses to Kathryn's language mixing, were further examined qualitatively in terms of Lanza's (1997:262) parental discourse strategies towards child language mixing to see whether the interlocutors tended to negotiate a monolingual, a bilingual, or a trilingual context.

3. Results and discussion

3.1 Kathryn's patterns of language choice across language contexts and time

The results of the language choice analysis indicate that there was, at both times, a statistically significant association between the language of the child's utterances and the language of the interlocutor (chi-square value: 21.946, $df=4$, $p < .001$). This finding was interpreted as evidence that Kathryn was differentiating her languages pragmatically from early on.

As shown in Figures (1) and (2), Kathryn's patterns of language choice in the Tagalog and in the English context were indeed systematically related to the language of the interlocutor, both at Time I and at Time II. For instance, when addressing her mother, Kathryn was shown to employ Tagalog to a greater extent than she used English and Spanish; analogously, most of the child's utterances in the English context were in English:

³ All those utterances that were produced spontaneously by the child during the recording sessions - including neutrals and mixed utterances - were included in the 165 utterances. Repetitions of adults' utterances were, however, excluded.

Figure 1 Kathryn's Language Choice in the Tagalog Context at Time I (1;9.29) and Time II (2;4.19)

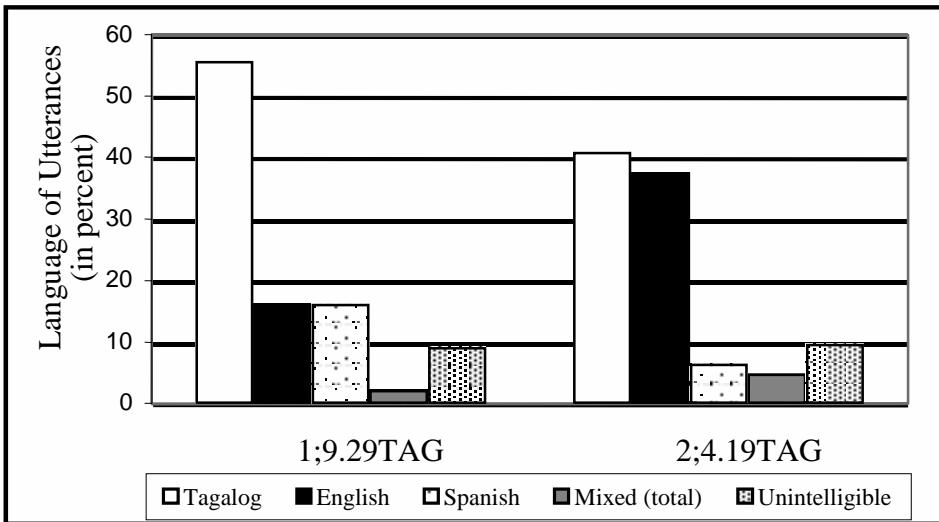
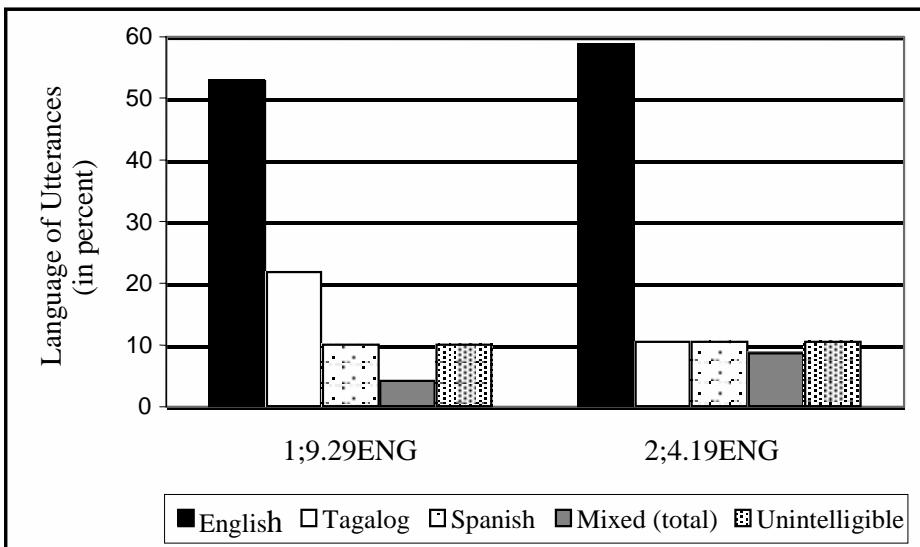
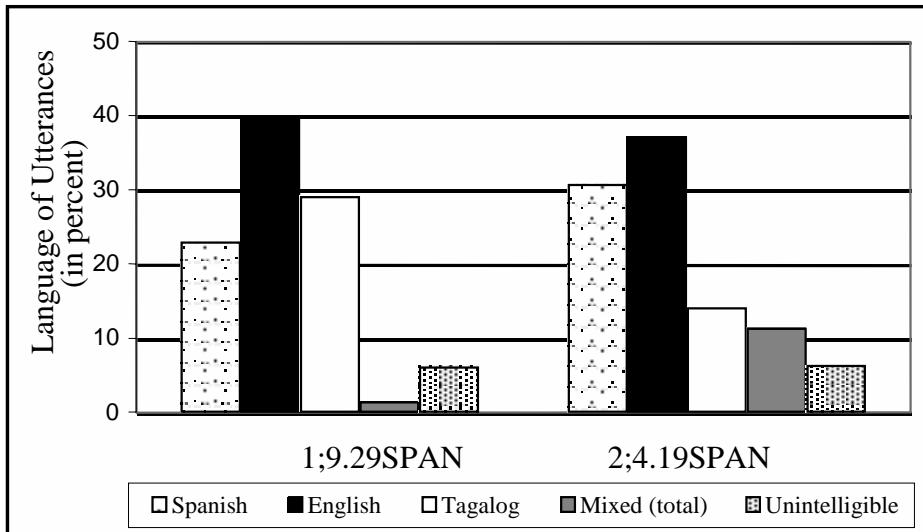


Figure 2 Kathryn's Language Choice in the English Context at Time I (1;9.29) and Time II (2;4.19)



However, the child was not always sensitive to the contextual demands of the interactions with her father and grandmother, as shown in Figure 3. Although, with respect to other language contexts, she increased her use of Spanish and decreased her use of other languages to match the specific language of the addressees, Kathryn made extensive use of English when addressing the Spanish-speaking interlocutors:

Figure 3 Kathryn's Language Choice in the Spanish Context at Time I (1;9.29) and Time II (2;4.19)



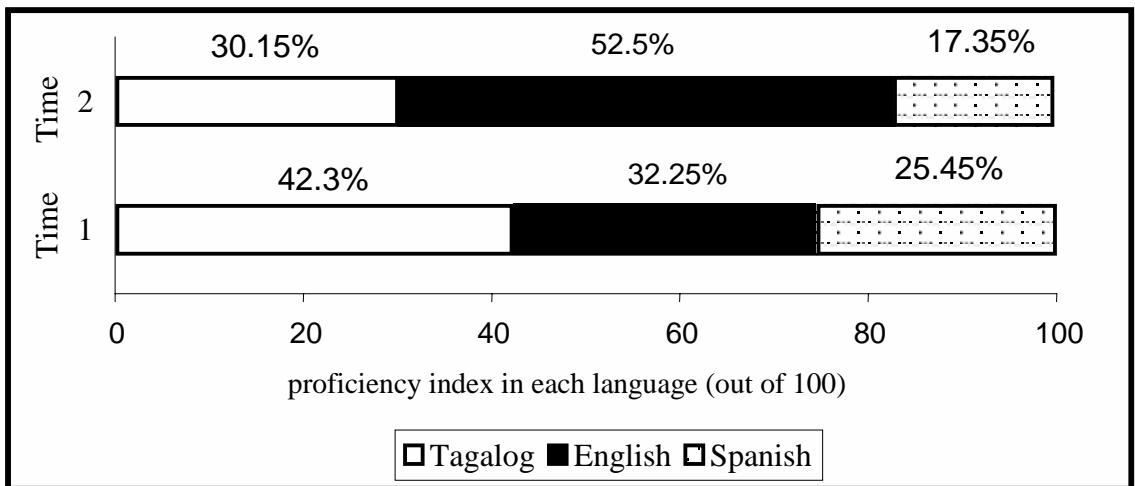
Moreover, the association between Kathryn's and the adults' language did not appear to gain strength over time: no statistically significant association was found between Kathryn's differential use of her languages and time in the English (chi-square value: 2.463, $df=2$, $p<.292$) and in the Spanish context (chi-square value: 4.249, $df=2$, $p<.119$); in the Tagalog context, on the other hand, Kathryn's differential use of her languages changed significantly with age (chi-square value: 7.373, $df=2$, $p<.025$), but this change involved a dramatic increase of English at the expense of Tagalog. This finding was interpreted as evidence that with age, Kathryn did not become necessarily more sophisticated in her differential use of each of her languages according to interlocutor.

An analysis of Kathryn's language choice over time thus reveals that the child displayed an overall sensitivity to the contextual demands of the interactions with her interlocutors, since she modified the amount that she normally used one of her native languages to match the specific language of the addressee. At the same time, however, she made extensive use of languages other than the adult one in all contexts and at both times, indicating a failure to adhere to a single code when addressing the same interlocutor. How did Kathryn's proficiency in each of her languages affect her choice of one language over another? And how did the adults' patterns of language use influence the child's language mixing, both at the interutterance and at the intrautterance level?

3.2 Kathryn's proficiency levels in Tagalog, English and Spanish across time

The results showing Kathryn's proficiency levels in Tagalog, English, and Spanish at Time I and at Time II are reported in Figure 4.

Figure 4 Kathryn's Proficiency Index in Tagalog, English and Spanish at Time I (1;9.29) and Time II (2;4.19)



As shown in the figure, changes in exposure patterns had immediate consequences on the child's proficiency in each of her languages. At age 1;9.29, when Kathryn was primarily taken care of by her Tagalog-speaking grandparents, the child was dominant in Tagalog, and she was more proficient in English than she was in Spanish. At age 2;4.19, however, following her enrollment in day-care, English became Kathryn's increasingly dominant language at the expense of Tagalog and Spanish.

Thus, Kathryn did not *always* mix languages as predicted by her proficiency level in each of her languages. For instance, while it is true that at Time II the child used a great deal of English - her dominant language - both when addressing her father and in interactions with her mother, at Time I she did not make more extensive use of her dominant language - Tagalog - than she did of English in the Spanish context, as it would have been expected given that Spanish was Kathryn's weakest language. More importantly, lexical gaps in the Spanish context tended to be filled in by English translation equivalents even when the child had the corresponding Tagalog items in her productive vocabulary. In the following excerpt (1), Kathryn fills in a Spanish lexical gap by providing an English translation equivalent, despite having the Tagalog equivalent in her productive vocabulary, as the example in (2) shows:

(1) Excerpt from 1;9.29 (A)

[GRANDMOTHER, FATHER, and KATHRYN are playing with a stuffed dolphin. GRA and FAT are arguing whether it is a dolphin or a shark]

- *GRA: para mi, la Bibi tiene el delfín.
- %eng: I think Bibi has the dolphin
- %exp: "Bibi" is GRA's nickname used by KAT and other family members
- *FAT: es un tiburón.
- %eng: it's a shark
- *GRA: oh es un tiburón.
- %eng: oh it's a shark
- *GRA: es un pescado.
- %eng: it's a fish
- %act: shows it to KAT
- *KAT: ['Is].
- %exp: "fish"
- %act: addresses GRA

*GRA: la Bibi tiene el pescado.
 %eng: Bibi has got the fish.
 *GRA: y Catarina tiene el gato.
 %eng: and Kathryn has got the cat.
 %exp: KAT is holding a stuffed cat and GRA the stuffed dolphin

(2) Excerpt from 1;9.29 (C)

[MOTHER is asking KATHRYN what the stickers on the fridge are called]

*MOT: ano 'to Kathryn?
 %eng: what is this Kathryn?
 %act: points at a sticker with a picture of an apple on it
 *KAT: ['sana].
 %eng: apple
 *MOT: mansana.
 %eng: apple
 *KAT: sol.
 %eng: sun
 %exp: Spanish
 %act: points at a sticker with a picture of the sun on it
 *MOT: sol, ito?
 %eng: sun, this?
 %act: points at a sticker with a picture of a fish on it
 *KAT: ['ida].
 %eng: fish
 *MOT: isda
 %eng: fish.

Moreover, Kathryn's persistent use of English rather than Tagalog in the Spanish context did not always serve the function of compensating for the child's reduced lexical resources. Kathryn was often observed, indeed, to resort to English for reasons other than vocabulary gaps, as the excerpts in (3) and (4) show. In (3), Kathryn, her grandmother and the author are playing with a watch. The child produces the word ['ete], *this* in Spanish, in a mixed utterance while addressing the author and her grandmother. However, only a few minutes later, (4), she insists on describing the watch to her father as *this*, despite his requests for clarification:

(3) Excerpt from 1;9.29 (A)

[AUTHOR straps a watch on KATHRYN's ankle. GRANDMOTHER is also present]

*AUT: what time is it?
 *KAT: ['ete 'mai I 'lo].
 %eng: this my watch
 %act: points the watch to both interlocutors
 %exp: "ete" or *este* is "this" in Spanish; "I 'lo" or *reloj/relo* is "watch" in Spanish and Tagalog
 *GRA: el reloj de Catarina.
 %eng: Kathryn's watch

(4) Excerpt from 1;9.29 (A)

[a few minutes later KATHRYN takes off her watch. FATHER is also present]

*KAT: oh oh.
 %act: holds the watch and looks at it
 *GRA: oh oh ¿te lo sacaste?

%eng: oh oh did you take it off?
 *FAT: ¿qué es eso?
 %eng: what is that?
 %act: points at the watch
 *KAT: **this.**
 *FAT: uh?
 *KAT: **this.**
 *FAT: 0.
 *GRA: el reloj de Catarina?
 %eng: Kathryn's watch?
 *KAT: 0.
 %act: runs away

Thus, although proficiency might have played a role in Kathryn's patterns of language choice, the degree she knew each of her languages was not always related to her mixing, especially when addressing those interlocutors whose native language was Kathryn's weakest.

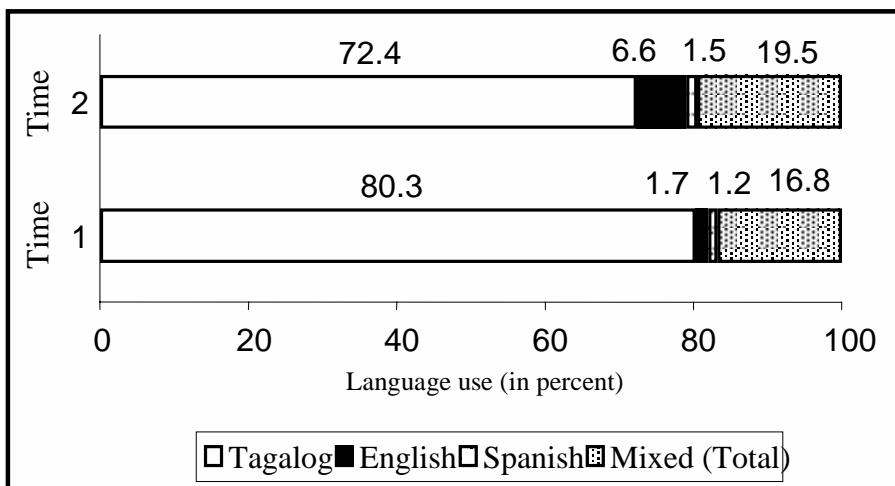
If Kathryn's language mixing was not always brought about by her limited linguistic resources, what caused then the child not to address the same interlocutor exclusively in his/her language? Were Kathryn's interlocutors socializing the child into mixing languages?

3.3 The adults' patterns of language use and their responses to Kathryn's mixing across time

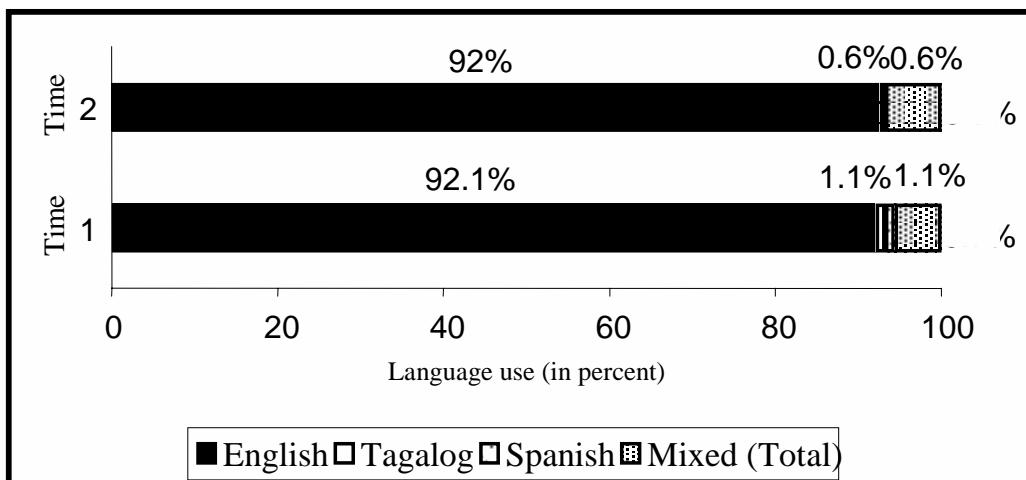
The results showing the adults' patterns of language use across time are given in Figures 5. For each interlocutor, the percentage of Tagalog, English, Spanish, and mixed utterances out of the total number of utterances addressed to the child is given.

Figure 5 Distribution of Interlocutors' Language Use across Time:

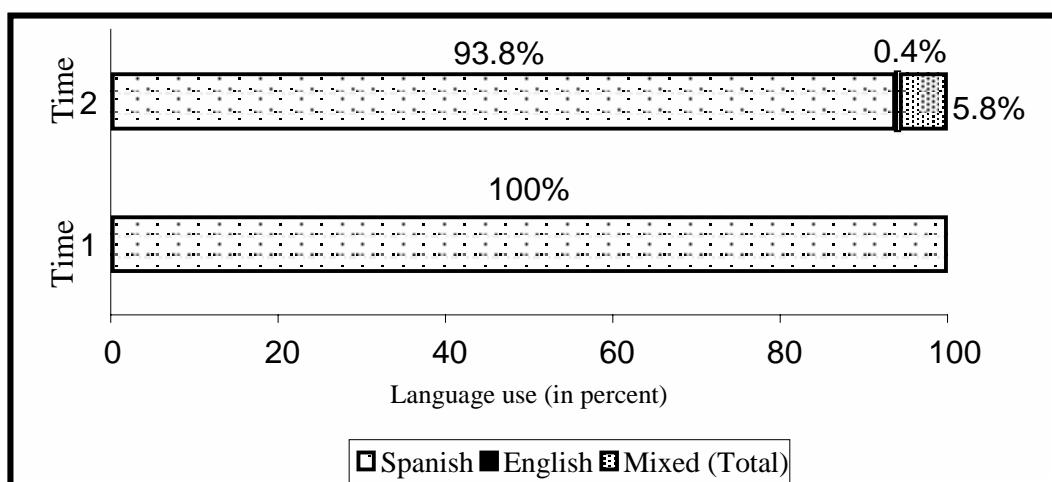
(a) the Tagalog-speaking Interlocutor



(b) the English-speaking Interlocutor



(c) the Spanish-speaking Interlocutors



The findings indicate that, at both times, all four interlocutors used one language most of the time when addressing Kathryn. This was especially true in the case of the Spanish-speaking adults, who at Time I addressed the child in their native language in 100 percent of their utterances. Kathryn’s mother code switched the most, and her use of English, both in English-only and mixed utterances, increased noticeably between Time I and II.

Thus, Kathryn’s amount and direction of language mixing was only in part related to her addressees’ specific patterns of code mixing. For instance, while it is true that the child’s use of English in the Tagalog context seemed to be directly correlated with the type of code-mixed input provided by her mother, Kathryn’s amount of English in the Spanish context surpassed her father’s and grandmother’s mixing rate. In other words, despite the Spanish speakers’ adherence to a single code in interactions with the child, conversations in which Kathryn insisted on addressing them in English were not uncommon.

It has been argued that “through their responses to language mixing,” parents provide crucial “metalinguistic input” to their children concerning the possibility and the “appropriateness” of such

mixing (Lanza 1997: 260). In particular, Lanza (1997) has proposed five parental discourse strategies towards child language mixing that can be placed along a continuum on the basis of the degree to which they “contribute ... to the negotiation of a monolingual or a bilingual context” (1997:268), as shown in Table 1.

Table 1. Parental Strategies Towards Child Language Mixes (adapted from Lanza 1997)

MONOLINGUAL CONTEXT				BILINGUAL CONTEXT
<i>Minimal Grasp Strategy</i>	<i>Expressed Guess Strategy</i>	<i>Repetition Strategy</i>	<i>Move On Strategy</i>	<i>Code-Switching Strategy</i>

At the monolingual end of the continuum lies the *Minimal Grasp Strategy*, or a request for clarification in the form of a question (*hm?, what did you say?, can you repeat?*), or a statement (*I don't understand*). With the *Minimal Grasp Strategy*, “the adult provides a minimal grasp to the child’s mixing of languages in interaction, thereby highlighting his or her monolingual role” (1997:268). Next lies the *Expressed Guess Strategy*, with which the adult attempts the reformulation of the child’s utterance using the other language, but he/she also asks for confirmation. With the *Repetition Strategy*, the role of the bilingual is more highlighted than with the *Minimal Grasp* and *Expressed Guess Strategy*, because the latter call for a response by the child, thus pointing to a possible trouble spot, whereas the former functions as a signal that mixed utterances are understood and that the use of another language is permissible. The *Move On Strategy* reveals even more a bilingual identity because, by continuing the conversation after a child’s mix, the adult indicates that what matters is the content rather than the form of the child’s utterance. At the end of the bilingual continuum lies the *Code Switching Strategy*, in which the adult code mixes both at the intrautterance and at the interutterance level.

According to Lanza (1997), a “child is socialized into language mixing or language separation in so far as the parent’ use of these contextualization cues ... becomes habitual” (Lanza 1997:269). For example, if the adult normally provides negative sanctioning when the child mixes languages (e.g. with a *Minimal Grasp* or an *Expressed Guess*), he/she will negotiate a monolingual context and socialize the child into language separation. If, however, the adult shows comprehension, and thus acceptance, of the child’s mixes (e.g. *Repetition, Move On* and *Code-Switching Strategy*), he/she will negotiate a bilingual context and socialize the child into language mixing.

An examination of the Spanish interlocutors’ responses to Kathryn’s language mixing reveals that both interlocutors tended to negotiate a *bilingual* context with the child by means of the *Repetition* and *Move On Strategy* (*bilingual* because they did not react to Tagalog utterances as positively as they did to English ones). In the excerpt in (5), for example, Kathryn and her father are looking at a story book. The father introduces a topic by asking a question about the story character. Kathryn replies in Tagalog, and points at a picture to clarify her answer. Her father’s failure to understand, however, causes the child to change topic and to switch back to the “appropriate” language:

(5) Excerpt from 1;9.29 (A)

[KATHRYN and FATHER are looking at a book]

- *FAT: Kathryn, la niña está durmiendo?
- %eng: Kathryn, is the little girl sleeping?
- %act: points at a picture of a little girl sleeping in her bed
- *FAT: ¿en su cama?
- %eng: in her bed?

*KAT: **unan.**
 %eng: pillow
 %exp: Tagalog
 *FAT: 0.
 *KAT: [e 'awa]
 %eng: it's water
 %exp: Spanish
 %act: points at a picture of a glass of water
 *FAT: sí ahí hay agua.
 %eng: yes there's water there

When Kathryn addressed her father in English, however, his response was of a different sort: he showed not only comprehension of what his child was trying to communicate, but also easy acceptance of words in a language other than his, so that the conversation could progress and breakdown could be avoided:

(6) Excerpt from 1;9.29 (C)

[KATHRYN, FATHER, and MOTHER are engaged in “book reading”]

*FAT: yo no sé +//.
 %eng: I don't know
 *FAT: yo no sé qué es eso.
 %eng: I don't know what that is
 %act: points at a picture of a motorbike
 *KAT: [ˈhAt].
 %exp: “hot”
 *FAT: sí, el motor de la moto está caliente.
 %eng: yes, the motorbike engine is hot
 *FAT: muy bien.
 %eng: very good

(7) Excerpt from 1;9.29 (C)

[later in the conversation]

*FAT: a ver busquemos +//.
 %eng: let's see let's look for
 *KAT: [wAs 'DIz]?
 %exp: “what's this”
 %act: points at a picture of a pinecone
 *FAT: esa es una piña una piña.
 %eng: that's a pinecone a pinecone
 *FAT: ¿y esto qué es?
 %eng: and what is this?
 %act: points at a picture of a tree
 *KAT: [wAs 'DIz]?
 %act: addresses the question to FAT but points at author's nose ring
 *FAT: ese es un anillo, anillo.
 %eng: that's a nose ring, nose ring

In the excerpts above, Kathryn's father is negotiating a bilingual context with her daughter. Although he does not initiate himself a code-switch into English, he responds to Kathryn's use of English by merely continuing the conversation, and by paying attention to the content and not to the form of her utterances. In particular, in (6) he replies to Kathryn's use of the English word *hot* by

indicating agreement and translating her mix into Spanish (*Repetition Strategy*); in (7), he does not even provide a translation equivalent for Kathryn's English utterance, but continues the conversation, exhibiting comprehension of her daughter's use of English (*Move On Strategy*). It is not surprising that the child persists in using the same English expression in the following turn.

Likewise, Kathryn's grandmother responded to Kathryn's English utterances by translating them into Spanish and/or merely continuing the conversation, involuntarily suggesting to the child that her mixes were not only being understood but they were appropriate:

(8) Excerpt from 1;9.29 (A)

[GRANDMOTHER and KATHRYN are playing]

- *GRA: Catarina, oye Catarina.
- %eng: Kathryn, listen Kathryn
- *GRA: ¿cómo te llamas tú?
- %eng: what's your name?
- *KAT: [(ja) pen].
- %act: shows a pen to GRA
- *GRA: sí este es el lápiz de la Bibi.
- %eng: yes this is Bibi's pencil
- *GRA: son de la Bibi estos lápices.
- %eng: these pencils are Bibi's

(9) Excerpt from 1;9.29 (A)

[a few minutes earlier KATHRYN is showing her stuffed kitty to GRANDMOTHER]

- *GRA: ¡oh qué gatito tan bonito!
- %eng: oh what a pretty kitty!
- *GRA: a ver, voy a poner a la niña +/.
- %eng: let's see, I'm going to put on this little girl
- *KAT: [wAs 'DIIs]?
- %act: points at GRA's shoes
- *GRA: zapatos de la Bibi, zapatos sí.
- %eng: Bibi's shoes, shoes

Therefore, since it is "the accumulation of the type of response to mixing that contributes to the language socialization for the child" (Lanza 1997:269), Kathryn's father and grandmother involuntarily socialized the child into mixing languages, especially those languages that they themselves spoke and understood. This finding, coupled with the facts that both interlocutors were often heard switching to English when addressing other speakers, that English was the main medium of communication in the home, and that Spanish was Kathryn's weakest language, provide an explanation for Kathryn's extensive use of English rather than Tagalog when addressing her Spanish-speaking father and grandmother. The context of the trilingual family residing in the United States made the use of English in everyday interactions not only acceptable but also appropriate.

Similarly, Kathryn's mother was often observed imitating her daughter's English and Spanish utterances without repeating the content in Tagalog, and incorporating the child's inappropriate instances of language choice into her own utterances (*Code-Switching Strategy*). It appears that her primary goal in interactions with Kathryn was indeed to encourage verbal production regardless of its form. In this way, however, she was conveying to her daughter a crucial meta-communicative message as far as the appropriateness of her mixing, namely, *this is a context in which the use of any language is fine*:

(10) Excerpt from 1;9.29 (C)

[MOTHER is asking KATHRYN what the stickers on the fridge are called]

*MOT: ano 'to Kathryn?
 %eng: what is this Kathryn?
 %act: points at a sticker with a picture of an apple on it
 *KAT: ['sana].
 %eng: apple
 *MOT: mansana.
 %eng: apple
 *KAT: **sol**.
 %eng: sun
 %exp: Spanish.
 %act: points at a sticker with a picture of the sun on it
 *MOT: **sol**, ito?
 %eng: sun, this?

(11) Excerpt from 2;4.19 (C)

[MOTHER asks KATHRYN whether she wants some cereal. KAT shakes her head and runs away. However, a few seconds later KAT comes back asking for some]

*KAT: uh mami!
 %act: wants to be lifted up so that she can grab some cereal from the cupboard
 *MOT: ano 'yon?
 %eng: what's that?
 *KAT: xxx.
 %exp: unintelligible utterance
 *MOT: anong **say** mo?
 %eng: what do you "say"?
 *KAT: **I want one**.
 *MOT: uh?
 *KAT: ['pi:s]
 %exp: "please"
 *MOT: matamis na matamis
 %eng: it's very sweet
 *MOT: **ask** si papa
 %eng: "ask" daddy
 *MOT: 'ndi ako puwede
 %eng: I can't
 %exp: MOT is not feeling well and she cannot lift KAT

By using the *Code-Switching Strategy*, Kathryn's mother was socializing her child into a trilingual context; therefore, when a trouble spot arose in a conversation and the mother issued a clarification request, as the example in (11) shows, it was her patterns of language use, together with her regular response to Kathryn's mixing that served as the anchoring point for the child to determine whether the trouble was related to mixing or not. And as shown in (11), Kathryn did not interpret her mother's clarification requests as proposals for a negotiation of context, that is, as a hint to switch over to Tagalog, but rather as a signal to repair some other aspect of her utterance.

In sum, Kathryn exhibited sufficient lexical resources to carry out most conversations in her mother's language; however, her mother's patterns of language mixing, coupled with her easy acceptance of languages other than her native one in interactions with the child, functioned as a cue for Kathryn that her mixed utterances were not only being understood but they were appropriate. The child's dominance in English at Time II favored even more her use of this language at the expense of Tagalog.

Finally, at Time I, the author also tended to accept utterances in Tagalog and Spanish in order for the conversation to progress and for breakdown to be avoided:

(12) Excerpt from 1;9.29 (B)

[AUTHOR and KATHRYN are engaged in “book reading”]

*AUT: what is this?
%act: points at a picture of a dog
*KAT: **aso.**
%eng: dog
%exp: Tagalog
*AUT: a dog?
*KAT: **bola.**
%eng: ball
%exp: Tagalog
%act: points at a picture of a ball
*AUT: **bola?**
*AUT: where is the ball?

But at Time II, Kathryn’s decrease in her production of mixed utterances in the English context may have resulted from the author’s involuntary proclivity to provide negative sanctioning to the child’s mixing:

(13) Excerpt from 2;4.19 (C)

[KATHRYN and AUTHOR are playing with some paint]

*AUT: it’s to paint, uh?
%act: points at a tube of paint
*AUT: what is this shape of?
*KAT: [(j´) 'asen].
%eng: open
%act: points at the cap of the tube of paint
%exp: *alisin* is “open” in Tagalog
*AUT: 0.
*KAT: [a'sen].
*AUT: <OK you have to say> [/ -] yes I open it up
*KAT: open.
*AUT: open say open.
*KAT: open.
*AUT: very good!
*AUT: say it here now, open.
%act: brings microphone closer
*KAT: open.
*AUT: ah very good!
*AUT: so to mommy you say “asen.”
*AUT: and to Simona you say open.
*KAT: open.
*AUT: uh this is very hard.
%act: tries to open the tube of paint

The interaction in (13) bears all the flavor of a language-teaching episode: the author first responds to Kathryn’s use of the Tagalog word *alisin* by instructing the child, in up to three turns, to employ the corresponding English translation equivalent; then, she praises Kathryn twice for her

immediate English response; and finally, she explicitly attempts to establish separation by interlocutor in her language use by highlighting the lexical item from the respective languages according to addressee (*to mommy you say “asen” and to Simona you say “open”*). Episodes like (13) were very common at Time II: most of the author’s mixed utterances were indeed produced during her involuntary attempts to enhance the child’s trilingual awareness. It is thus not surprising that Kathryn produced such a limited amount of language mixing in the English context at age 2;4.19.

Moreover, it must be recalled that Kathryn’s peers as well as the staff at the day-care were for the most part monolingual English speakers. When Kathryn addressed them in a language other than English, they would probably respond with a topic shift, or in the likeliest scenario, they would provide no response at all, causing the child to experience communication failure and frustration. According to Arnberg (1987:72), a so-called “language shock” can particularly enhance a bilingual (or multilingual) child’s awareness of her two (or more) languages. Her research showed that children’s awareness of their different languages, and thus their ability to use their languages differentially and appropriately with different speakers, increased dramatically after the children had experienced a “language shock,” that is after they had undergone failure and frustration in trying to communicate with their grandparents in a language the latter did not speak. Therefore, it seems plausible to conclude that at Time II, Kathryn’s monolingual experience at the day-care, together with her increased dominance in English and the author’s negative sanctioning to language mixing, functioned as inhibitors to the child’s use of languages other than the adult one in the English context.

4. Conclusion

In conclusion, the child in this study showed herself more than capable of managing linguistic boundaries in her early trilingual output. Kathryn was observed to modify, across all language contexts, the amount that she used one of her native languages to match the specific language of the addressee. This finding was interpreted as evidence that the child was differentiating her languages pragmatically, thus providing support for the claim that multilingual children have distinct representations of their input languages from an early age.

Language mixing was shown to result from proficiency and input-related factors rather than from the child’s underlying competence. In particular, the amount and direction of language mixing produced by the child in this study appeared to be correlated with her proficiency levels in each of her languages, and changes in language exposure patterns were shown to have a dramatic effect on the child’s choice of one language over another.

More importantly, Kathryn was shown to modify, across all language contexts, the amount of her mixing in proportion to the interlocutors’ patterns of language use and to *their response* to her mixing, indicating an awareness of the adults’ perception of and expectations concerning the overall appropriateness of language mixing. The child’s language socialization appeared to have serious consequences on her patterns of language choice, suggesting the undeniable importance of the sociolinguistic environment in early trilingual development.

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