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Language choice in the earliest utterances: a case study with methodological implications*

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ABSTRACT

In this case study we investigate how early a developing bilingual exposed simultaneously to English and Spanish can make appropriate language choices. We propose two methodological requirements for studies of this kind: (1) detailed records of the development of the child's lexicon; and (2) data collection in more than one language context. Our own study relies on detailed records of the child's cumulative vocabulary from the first word at ten months, and on weekly audiovideo recordings in both English and Spanish contexts from age 1;3. Analysis of the data shows a strong tendency for the language of the child's utterances to match that of the context at ages 1;7–1;8.

INTRODUCTION

The purpose of this paper is to investigate how early a developing bilingual can choose between her two languages according to the demands of the context, and what appear to be the factors determining choice. We aim to propose and illustrate how the quality of a study in language choice by young bilinguals can be enhanced by collecting detailed information on the children's vocabulary as it develops (cf. Quay, 1995, based on Deuchar's data), as well as by collecting data in several contexts. When these methodological requirements are fulfilled, it is possible to study language choice in the earliest utterances.

Lanza (1992, 1997), has already established through a detailed case study of two two-year-old children acquiring Norwegian and English sim-

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ultaneously, that 'bilingual children as young as 2 years of age can and do use their languages in contextually sensitive ways' (Lanza, 1997:319). Some evidence that language choice is possible BEFORE age two is also available in studies such as those by Vihman (1985), Genesee, Nicoladis & Paradis (1995), Nicoladis & Genesee (1996), and Nicoladis & Secco (1998).

Vihman (1985), in a study of her son's bilingual acquisition of English and Estonian from age 1;1, provides a detailed list of his English words produced from ages 1;1 to 1;10 in the Estonian language context where data were mainly collected. While data from both language contexts would be needed for a complete study of language choice relating to one-word utterances, Vihman's analysis of English multiword utterances is made with reference to both the English and the Estonian contexts. She reports that the proportion of English multiword utterances used in the Estonian context decreases from age 1;8 to 2;0, which suggests that the child is gradually learning to match the language of the utterance to that of the context.

Genesee, Nicoladis & Paradis (1995) collected data from five French-English bilingual children in separate language contexts. Each child interacted with his or her English-speaking mother in one context, and with his or her French-speaking father in the other. The children ranged in age from 1;10 to 2;2 and in MLU from 1·23 to 2·08. Four of the children, including the two youngest, were found to use more English with their mothers than their fathers, and more French with their fathers than their mothers. This was true even though the four children were considered to be 'dominant' in either English or French. The investigators found some evidence for the children's 'code-mixing' to be related to their language dominance, and suggest that 'bilingual children make do with whatever linguistic resources they have available to express themselves' (Genesee *et al.*: 629). We shall see in relation to our own study that this point can be made even more strongly if one has available detailed information about the child's lexical resources in each language.

Another four French-English bilingual children are the subject of an investigation by Nicoladis & Genesee (1996) into the ability of developing bilinguals with an average age of 1;7 at the beginning of the study to use the appropriate language with each parent. Their results show that for each child, there is an initial period when the children do not choose language appropriately, but that this ability emerges at ages varying from 1;9 to 2;4. They suggest that bilingual children may need 'some minimum repertoire of vocabulary in each language' (Nicoladis & Genesee 1996: 461) in order to achieve this ability. Although their own study makes detailed inferences about the children's vocabulary on the basis of their recordings, they would have benefited, as they suggest, from information about the children's vocabulary from other sources.

Nicoladis & Secco (1998) make use not only of recordings but also of

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parental reports on vocabulary in their case study of a developing English-Portuguese bilingual between the ages of 1;0 and 1;6. Their data enable them to demonstrate that when the child uses a word in the inappropriate language for his interlocutor, he tends not to have in his vocabulary a translation equivalent in the other language. To assess fully the child's ability to choose between his languages, it would be useful to know to what extent words used appropriately DID have translation equivalents. In our study, as we shall see, separate analyses were performed on words with and without translation equivalents.

The main contribution of our own study is not only to document the early development of language choice in a particular child under two, but also to provide a model from a methodological point of view. We consider that for a systematic study of language choice to be conducted, two preconditions must be satisfied: (1) records must be kept of when each new word appeared, so that a cumulative lexicon is available for the child; and (2) data must be collected in two separate language contexts, so that language choice in one context can be compared with that in another. The first condition is particularly important for the study of bilinguals under two, since it cannot be assumed that a word known by the child in one language has yet been acquired in the other. We have tried to satisfy both conditions in our study.

METHOD

The case study

The study to be described is based on data collected during the second year of life from a child, the first author's daughter, who was exposed to English and Spanish from birth. Spanish was spoken in the home by both parents, although English was used when monolingual English-speakers were present. The child was exposed to English outside the home, particularly on the university campus, where she was looked after in a creche. It was estimated that about half of her total language input was in Spanish, the other half in English.

Data sources

Diary records were kept from birth, and audiovideo recordings of the child's speech were made from age 1;3 (see Deuchar 1989). These diary and audiovideo records were used to construct a lexicon for the child, indicating at what point each new English or Spanish word first appeared, and whether there was an existing equivalent word previously produced by the child in the other language. (For further details, see Quay, 1995: 374–75.)

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Audiovideo data collection

Between the ages of 1;3 and 3;3, audiovideo recordings were made twice weekly, once with an adult speaking English, usually the monolingual maternal grandmother, and once with an adult speaking Spanish, usually the father, a Spanish native-speaker who had learned English as a second language. In these recordings the grandmother would always speak English to the child, and the father would speak Spanish to the child. In some recordings the mother appeared alongside the other adult, and she would speak English in the sessions with the grandmother, Spanish in the sessions with the father. Thus there were two sets of recordings, 'English-context' (where the language of the adult(s) was English) and 'Spanish-context' (where the language of the adult(s) was Spanish).

Analysis

For the purpose of this analysis, recordings were analysed from two specific periods: when the child was aged about 1;4, and when she was aged 1;7–1;8. The purpose of examining recordings from two different periods was to determine at what point, if any, the child began to make appropriate language choices. Since we expected the establishment of appropriate language choice to be a gradual process, we hoped to identify its beginning in a quantitative analysis which showed a statistically significant preference for English words to be chosen in an English language context, and for Spanish words in a Spanish language context. We used only the audiovideo records for this quantitative analysis, not the diary records, since only the audiovideo records would reflect the relative frequencies for each language from a quantitative point of view. The diary provided more qualitative information showing what was possible rather than what was common, and was important in providing additional information for constructing the lexicon. The lexicon then allowed us to determine to what extent, for each utterance, the child had a choice about which item she used.

Criteria for word identification

Two pairs of recordings were analysed from between ages 1;3.29 and 1;4.8, and six pairs from between ages 1;7.5 and 1;8.18. Each pair consisted of an English-context and a Spanish-context recording made within three days of one another. The authors listened together to the recordings and made lists of as many words as they could which could be unequivocally identified as having an English or a Spanish source. For each recording, word types rather than tokens were counted. The process of identification was a particularly difficult task in the case of the earlier set of data, since the phonetic form of

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potential words often raised doubts about their identification, and this was particularly important to get right in a quantitative study of language choice. For potential word candidates to be firmly recognized as such, the following criteria had to be met:

(1) To exclude imitated words, the word must not have been produced by an adult in the previous utterance, or within a period of ten seconds before the child utterance in question; furthermore, if this was potentially the first occurrence of a word, it must not have been produced by the adult at any previous point in the recording, in order to minimize the possibility that the child was unduly influenced by the adult's language choice in relation to a new word for her.

(2) The reference or use had to be similar to the adult's, or to the child's own in other situations.

(3) There had to be phonetic similarity to a source word in English or Spanish; for example, it might be a phonetically simple version of an adult word.

(4) The adult's behaviour must not indicate that they had not recognized the word (except when the word comes from a language not currently being used by the adult).

(5) the meaning of any accompanying non-verbal behaviour must not conflict with the meaning of the word.

These criteria can be compared to those proposed by Vihman & McCune (1994), which are fairly similar to ours except that imitated tokens of words are allowed by them in order to help distinguish word forms from babble. Our study had a different focus, that of language choice, and imitations were not allowed because of the possibility that they could reflect a direct influence of the adult on the language of the word used by the child. Another criterion not used by us at all was that of multiple use. A word was identified by Vihman & McCune with more confidence if it appeared more than once. Many of the words we identified did in fact appear more than once in the same recording, but we did not use this as a criterion. A criterion found in both our list and that used by Vihman & McCune was the phonetic criterion, our no. (3). Theirs was more demanding than ours in that a match was normally required between at least two segments of the child's and the adult's form, whereas we allowed any phonetically simpler form which bore some resemblance to the adult form, so that e.g. [da] was considered a close enough match to the adult form [dʌk]. This is described below. Vihman & McCune in fact occasionally applied their phonetic criterion less strictly when other criteria provided strong support for a word form.

Words which had been recognized according to our criteria listed above were then subjected to another test to determine whether or not they could be used in our study of language choice: they had to be identified as having an unequivocally English or Spanish source.

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Exemplification of criteria

These criteria may seem clearer when applied to some examples. We shall take these from a pair of recordings made when the child was 1;3.29 (English context) and 1;4.1 (Spanish context). In the first recording the only potential word which satisfied all the criteria was *duck* [da]. (A transcription of this recording may be found in the CHILDES data (CHAT file 861023eg.cha, see MacWhinney, 1995.) This utterance appeared once in the session and satisfies all five criteria for the following reasons:

(1) It was not used by an adult at all in the recording before the child produces the utterance: this is important because the word is not recorded at an earlier date in the lexicon.

(2) It was used while looking at a picture of a duck, so the reference of the word is as in the adult language.

(3) Its phonetic form is similar to that of the adult word [dʌk] although it is phonetically simpler, lacking the final consonant.

(4) The child's grandmother responded by saying the word *duck* twice, probably indicating that she recognized the word.

(5) The child leaned forward and touched the picture of the duck as she said the word, non-verbal behaviour which is compatible with the utterance of *duck*. Finally, *duck* could be identified as having an unequivocally English source. The Spanish word for 'duck', *pato*, is phonetically quite distinct, and in fact appears in the child's vocabulary a little later, at age 1;4.22, as [pa].

We can compare the identification of *duck* with the word *car* or *carro* (Latin American Spanish word for 'car' used to the child), which like *duck* satisfies all five criteria but then fails on having an unequivocally English or Spanish source. The criteria are applied as follows:

(1) The word *car* is not used to the child in this recording by an adult before she produces it (nor indeed is the Spanish word *carro* used in this recording when addressing the child). We may note that [ka] (meaning 'car') has previously appeared in the child's vocabulary at age 1;2.8.

(2) The child is looking at a picture of a car.

(3) The utterance [ka] is phonetically similar to the word *car* in English, but also to the word *carro* in Spanish, of which it could be a phonetically simple form.

(4) The child's grandmother indicates that she has recognized the word (in English) by saying *car yes*.

(5) The child passes the picture of the car to her grandmother. It is clear that this is an instance of a word in the child's vocabulary, [ka], meaning 'car', but it is not clear whether the source word is the English word *car* or the Spanish word *carro*, since both were in the input to the child. At a later stage the child is found to have two phonetically distinct words *car* and *carro* but at this stage we cannot say that she has more than one word. Thus this

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word cannot at present be used in a study of language choice which attempts to study the extent to which the language of the word matches the language of the context.

Results of recordings at age 1;4

As a result of applying these criteria to all possible words in the recording, we were left with only one word, *duck*, which we could have used in a study of language choice. We arrived at similar results when looking at the recording made two days later in the Spanish context, when the child was 1;4.1. (CHAT recording 861025sf.cha). In this session *duck* was again recognized as having an unequivocally English source, and [ka] was again recognized as having either the English source word *car* or the Spanish source word *carro*. In addition to *duck*, there was just one word which satisfied all five criteria and which also had a language-specific source, the Spanish word *más*, meaning 'more', pronounced by the child as [ma].

In the same recording, *pato* (pronounced [pa]) was a word candidate, but it failed our word recognition criteria nos. 1 and 2. According to 1, if the word candidate has not appeared in the lexicon before, it must not have been produced by an adult at any previous point in the recording. As we have already seen in relation to our discussion of the word *duck* in the first recording, *pato* did not appear in the lexicon until the child was age 1;4.22, 21 days later than the date of this recording. Furthermore, the word candidate fails on criterion 2, according to which the reference or use must be similar to the adult's, or to the child's own in other situations. The word candidate *pato* was produced in this recording while the child was looking at a picture of some geese. It seems very likely that she either thought these were ducks or thought they looked similar enough to use the word *pato* as an overextension, but the reference of the word was strictly not the same as the adult's, and as the word had not previously appeared in her lexicon, we had no evidence as to what the child's meaning of the word might be. This word candidate could thus not be counted as a word for the purposes of our study. Some of the child's utterances in the recordings which seemed to be meaningful did not even reach the status of word candidates for this study of language choice. For example, both recordings just considered had many examples of the vocalization [m̩] which according to the diary and the lexicon was used by the child from age 1;0.13 to show that she wanted something. This interpretation seems plausible in many of the situations where the utterance was produced in the recordings, but [m̩] was not considered a possible word because it does not resemble in any way an adult word in English or Spanish. This is not to deny that children often produce 'nonce' words of their own with a recognizable meaning, and we have included words of this kind in our lexical records, but such words could not be used in a study of language choice.

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As indicated, each of the two recordings just considered only yielded one word each which satisfied our criteria and which had an unequivocal language source. We examined another pair of recordings, made at age 1;4.6 in the English context, and 1;4.8 in the Spanish context, but each of these yielded only two words.

Recordings from ages 1;7–1;8

In analysing the recordings from age 1;4, we had two major difficulties which prevented us from obtaining useful results:

(1) the extent of the child's rather small vocabulary (32 words at 1;4) was not fully displayed in the recordings;

(2) the phonetic form of her words made it difficult for the criteria discussed above to be satisfied in order for words to be counted for the purposes of the analysis.

As a result, the small number of usable words made analysis impossible. We decided, therefore, to analyse data from an age when the child had over a hundred words in her vocabulary and when the phonetic form of the words made it easier for them to be unambiguously identified. At the age of 1;7.0, the child had a vocabulary of 125 words. 53 words were unequivocally English and 53 Spanish. Thus the numbers of English and Spanish words in the vocabulary were equal. By the age of 1;7.0 the child had 17 words in English and 18 in Spanish which had equivalent meanings. (One English word, *down*, had two Spanish equivalents, *bajar* and *silla*.) It was also easier at this stage to identify words on a phonetic basis. For example, the word *duck*, pronounced as we saw above as [da] at age 1;3.29, was pronounced as [dʌk] by age 1;7.

For the analysis we used six pairs of English/Spanish recordings, made between the ages of 1;7.5 and 1;8.18. Each Spanish recording was made two or three days after the corresponding English recording. For each word identified in the recordings, we noted whether or not the child already had a translation equivalent in her vocabulary, referring to the child's lexicon. For example, one of the words used by the child in a Spanish-context recording at age 1;7.29 was the English word *spoon*. We know from our lexicon that the word *spoon* had first been produced at age 1;7.3, but that the child did not use the equivalent Spanish word *cuchara* until age 1;8.4. So at 1;7.29 the word *spoon* was classified as not having a translation equivalent. However, when the word *cuchara* was produced in the Spanish-context recording at age 1;8.4, it was classified as having an equivalent. The aim was to do a quantitative analysis of the extent to which the source language of the child's words matched the language of the context. This analysis was done separately for words produced by the child which had equivalents in the lexicon and for words which did not. It was hypothesized that, if the child was developing a sense of appropriate language choice, then she would be more likely to

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TABLE 1. *Language of context by language of all words with equivalents (types)*

		Language of all words with equivalents	
		English	Spanish
Language of context	English	19	18
	Spanish	13	67

Chi square value: 14·04, $p < 0{\cdot}001$.

TABLE 2. *Language of context by language of all words without equivalents (types)*

		Language of all words without equivalents	
		English	Spanish
Language of context	English	45	27
	Spanish	24	65

Chi square value: 20·40, $p < 0{\cdot}001$.

produce a word matching the context when she had two words to choose from, one which matched and one which did not.

RESULTS AND DISCUSSION

Table 1 shows the results of considering the words WITH equivalents across all recordings. The results of a chi square test applied to the data show that there is a significant association between the language of the child's words and the language of the context. Overall, we can say that the child's words which have equivalents are more likely to match the context than not. This is particularly true in the Spanish context, where there are more than five times as many Spanish as English words, while in the English context the numbers of English and Spanish words are more or less equal.

Surprisingly, the association between the language of the child's words and the language of the context is even stronger in Table 2 for the words WITHOUT equivalents across all recordings. Compared with the results for the words with equivalents, the tendency for English words to be selected in the English context is stronger, whereas the tendency for Spanish words to be selected in the Spanish context is slightly weaker than before, but still very strong.

One way of explaining the results of Tables 1 and 2 is to suggest that the child 'knows' in some sense which words belong to which languages, or

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TABLE 3. *Language of context by language of all words with and without equivalents* (*types*)

		Language of all words with and without equivalents	
		English	Spanish
Language of context	English	64	45
	Spanish	37	132

Chi square value: 38·76, $p < 0{\cdot}001$.

which words match which contexts, so that she may to some extent exercise a choice between using an appropriate word or remaining silent. Otherwise, we would have expected words without equivalents as shown in Table 2 to be used randomly in the two contexts, which does not happen.

Table 3 combines the data from Tables 1 and 2, listing all words produced in each language, regardless of whether or not there was an equivalent in the child's vocabulary. The table shows that there was a highly significant tendency for English words to be selected in the English context, and Spanish words in the Spanish context; that is, for the language of the child's words to match the language of the context. The table also shows that the pattern of matching the language to the context was stronger in the case of the Spanish context. In the Spanish context, only 37 words (21·89%) out of a total of 169 were in English, whereas in the English context, 45 (41·28%) out of a total of 109 words were in Spanish. This predominance of Spanish words cannot be explained by the child having a larger vocabulary in Spanish, since by 1;8.18 (the last recording in this particular analysis) she had 120 English words in her vocabulary and only 101 Spanish words.

Explanations for asymmetry in language choice

It is possible that this asymmetry we have found in language choice could in part be explained by aspects of our methodology. Whereas the diary data were collected mostly in two situations defined according to location (inside the home versus on the university campus), the audiovideo data were collected, for convenience, at home. But as far as the input to the child in everyday life was concerned, the main determining factor for the language addressed to the child was the situation. The mother, who was the child's main interlocutor in terms of number of hours per day, addressed the child in Spanish while at home and in English when on the university campus, where English was the language of the environment and other English speakers were often present. The child was also addressed in English on the university campus, mostly by caregivers in the creche, including her

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grandmother who helped in the creche one afternoon per week. At home, the child was addressed in Spanish by her father. The only situation at home in which the child would be addressed in English was when there were monolingual English-speaking visitors present, such as her grandmother. The grandmother in fact visited the home once a week for half a day, the other half of the day being spent with the child in the creche. While the grandmother was visiting the home, she addressed the child in English, and the mother also addressed the child in English in the presence of the grandmother. In our analysis of the recordings made in the home, the assumption was made that the language used in addressing the child was the main factor determining the language context as English or Spanish. However, the fact that the audiovideo recordings (on which the quantitative analysis is based) were made at home, the normal location for Spanish being spoken, may have influenced the child's production in the direction of Spanish. We know from the sociolinguistic literature that the factors determining language choice are complex, and may include, for example, interlocutor, location, topic etc. (Ferguson, 1959; Fishman, 1965; Grosjean 1982). In our study it is possible that in the so-called 'English context' of the audiovideo recordings, the language of the interlocutor influenced the child towards choosing English, but that the location at home, with its Spanish-speaking associations (the grandmother only spent time there half a day per week) provided a counter-influence towards English. In the Spanish context, however, both the language used by the interlocutor and the location would have pointed in the same direction, towards Spanish.

Additional data from English language context outside the home

To check the possibility that the location or setting was more important than we had anticipated in influencing the child's language choice, we needed to analyse data collected in an English language context OUTSIDE the home. For the period on which we are focusing (age 1;7–1;8), such data were available in diary records kept by the mother while with the child on the university campus, and in one audiovideo recording made in the university creche when the child was 1;7.24. This recording had been made in addition to the normal schedule for recordings made in the home, and had been excluded from our original analysis. In this recording (made with the mother absent), the child produced 15 clearly identifiable English word types, and three Spanish word types. Of the Spanish words produced, none had equivalents in the child's vocabulary. These data turned out to pattern in a similar way to those collected in diary records: during the period covered by the audiovideotapes (from the ages of 1;7.5 to 1;8.18 inclusive), thirteen one-word utterances were noted in the diary as being produced in the context of the university campus. (Two-word utterances were excluded at this stage, as in the audiovideo recordings.) Of the 13 word types produced, 11 were English and

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two were Spanish. Neither of the Spanish words had English equivalents in the child's vocabulary at the stage at which they were produced. Both these small sources of English context data, then, seem to pattern differently from data collected in the English context at home in that the child uses Spanish much less in English-context situations OUTSIDE the home than within it.

Factors influencing the child's language choice

It seemed, therefore, that the language used to address the child was not the only factor influencing language choice for her, but that the usual setting or location in which she heard the language was also a factor. Lanza (1997) has suggested that language choice may also be affected by the extent to which a child's interlocutor 'negotiates' a monolingual or a bilingual context, in particular, how willing he or she is to accept utterances by the child in the 'wrong' language for the context. In our recordings made at home, the English-speaking grandmother was monolingual, and hence would have been unable to negotiate a bilingual context. However, the mother was sometimes present during the recordings (both with the grandmother and with the father), addressing the child in the same language as the other, main interlocutor. In recordings with the grandmother, she sometimes translated a Spanish word produced by the child into English, which in Lanza's view would presumably go some way towards the creation of a bilingual context. However, she was also found to do the opposite in the Spanish context; that is, she supplied a Spanish equivalent for the English word produced by the child. This strategy was also used frequently by the child's father, so that both parents could be seen to be creating a bilingual context, although the grandmother clearly did not. The father varied in his strategies, however, and sometimes pretended not to understand English (consistent with creating a monolingual context) while at others he just accepted the English word and continued the conversation (Lanza's 'move on' strategy, which creates a bilingual context). See Lanza (1997:262) for a detailed description of possible strategies.

In the absence of a more detailed analysis of the adult interlocutors' communication strategies, it cannot be said that there is a clear difference between the strategies used in the English and the Spanish contexts. If anything, it is likely that a more monolingual context was negotiated by the grandmother in the English-speaking context, and yet this is the context where the child produced more words in the inappropriate language. This tendency, however, disappeared when the child was in an English-speaking environment OUTSIDE the home, whether or not her mother was present. The data which we have examined suggests that the language used by the interlocutor is not the only important factor influencing the child's language choice, but the location or setting also plays its part.

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Two-word utterances

So far we have considered only the distribution of one-word utterances in the English and Spanish contexts. However, the child infrequently produced some two-word utterances from about age 1;7, when her MLU was only 1·06. Twenty two-word utterances appeared in the six pairs of audiovideo

TABLE 4. *Utterances recorded on audiovideotape at ages 1;7 and 1;8 (types)*

Number	Age	Utterance	Gloss	LC	EQs?
1	1;7.26	***más*** *banana*	More banana	E	*more*, —
2	1;7.26	*more* ***galleta***	More biscuit	E	***más***, —
3	1;7.29	*oh-dear* ***cama***	Oh-dear bed	S	—, —
4	1;7.29	***gato dos***	Cat two	S	*cat*, —
5	1;8.4	***pata dos***	Foot two	S	—, —
6	1;8.4	***pata papá***	Foot daddy	S	—, *daddy*
7	1;8.4	***pupú dos***	Poo two	S	*poo*, —
8	1;8.4	***dos pato***	Two duck	S	*duck*, —
9	1;8.4	***dos media***	Two sock	S	—, —
10	1;8.4	***bola dos***	Ball two	S	*ball*, —
11	1;8.4	***mono dos***	Monkey two	S	—, —
12	1;8.4	***dos pájaro***	Two bird	S	—, *bird*
13	1;8.4	***dos pato***	Two duck	S	—, *duck*
14	1;8.12	***dos*** *ball*	Two ball	S	—, ***bola***
15	1;8.12	***pato dos***	Two duck	S	*duck*, —
16	1;8.16	***uno dos***	One two	E	—, —
17	1;8.16	*daddy* ***dos***	Daddy two	E	***papá***, —
18	1;8.16	*my paper*	—	E	— , —
19	1;8.16	***más*** *paper*	More paper	E	*more*, —
20	1:8.16	*more picture*	—	E	***más***, —

LC = 'Language context': Spanish (S) or English (E); EQs? = equivalent words found in the child's lexicon?;Language of words in utterance: Spanish words are in bold italics underlined; English words are in italics.

recordings used for the analysis of one-word utterances on which we have reported so far. These utterances appear in Table 4. (We have excluded any utterances containing words which could not be unequivocally assigned to either English or Spanish.) The distribution of these two-word utterances as

TABLE 5. *Language of context by language of two-word utterances (types)*

		Language of two-word utterances		
		All-English	All-Spanish	English + Spanish/ Spanish + English
Language of context	English	2	1	4
	Spanish	0	11	2

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all-English, all-Spanish or a combination of English and Spanish according to language context is shown in Table 5.

If we look at the figures in Table 5 for all-English and all-Spanish utterances, we see that all or most of both types of utterance matched its language context: that is, out of a total of two all-English utterances, two appeared in an English context; and out of a total of 12 all-Spanish utterances, 11 appeared in a Spanish context. In the English context, the one all-Spanish utterance which appeared was *uno dos*: neither of the words had English equivalents in the child's vocabulary.

Turning to the 'mixed' English-Spanish and Spanish-English utterances, four occurred in the English context and two in the Spanish context. The four in the English context listed in Table 5 are nos. one, two, 17 and 19. In utterances one and 19, the word not matching the English context is the Spanish *más*. Although the child had the English equivalent 'more' in her vocabulary, it is noted elsewhere (Deuchar, to appear) that these 'function' words tended to be treated by the child in a non-language-specific way. In utterances two and 17, the Spanish words which appear, *galleta* and *dos*, do not have English equivalents in the child's vocabulary.

The two 'mixed' utterances appearing in the Spanish context are nos. three and 14 in Table 4. The English word *oh-dear* (appearing in utterance three) did not have a Spanish equivalent in the child's vocabulary. The word *ball* did, but a word recognizable as *bola* had only appeared for the first time two weeks earlier, at age 1;7·29.

The numbers in Table 5 indicate that there was a tendency for the language of two-word utterances to match the language of the context (although the numbers are too small for statistical tests). Exceptions to this tendency have been mostly accounted for in terms of gaps in the child's lexical resources.

CONCLUSION

We hope to have shown in this paper that a developing bilingual CAN demonstrate the ability to make appropriate language choices before the age of two years, both in one-word and in two-word utterances. This is apparent in our case study from the age of 1;7. We also found that the factors influencing language choice were not limited to the language of the interlocutor, but that location inside versus outside the home was also a factor. It was possible to reach these conclusions because we collected data in more than one context and because we could draw on our records of the child's developing lexicon.

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