CODE-SWITCHING AND BORROWING: DISCOURSE STRATEGIES IN DEVELOPING BILINGUAL CHILDREN'S INTERACTIONS

Iliana Reyes[1]
University of Arizona
Susan Ervin-Tripp[2]
University of California, Berkeley

1. Introduction

The success or failure of a child learning two languages is directly related to sociolinguistic factors affecting the child's experience. According to Fillmore (1991), the most important factor in becoming bilingual and learning an L2 is the amount of contact with the second language, including hearing and speaking the second language. The main sources for the child to have contact with L1 and L2 are through family, community, and peer socialization. The child learns the status of the two languages and how his family and community value each of these languages. In many cases, the native language has the same status as the second language, but this is not always the case.

Children who immigrate to the U.S. learn soon that English is the language that possesses high prestige and the one necessary to succeed in that society. However, even when children get the message that English has higher prestige than their native language, they cannot learn to speak the L2 language overnight. They cannot successfully learn academic English in one year transitional programs required in some states (see August & Hakuta, 1997 for further discussion). As researchers we need to observe and document the natural process that children pursue during their bilingual development, so we can make realistic recommendations to educators. The following are some of the questions we need to ask if we are to understand normal bilingual development: how is language used among those children who are on their way to bilingualism? How is bilingual competence achieved during the early stages? This

---

[1] Department of Language, Reading and Culture, University of Arizona, P.O. Box 210069, Tucson AZ 85721-0069. Fax (520) 621-1853, email: ireyes@email.arizona.edu.

[2] Department of Psychology, University of California 3210 Tolman #1650, Berkeley, CA 94720-1650. Fax (510) 642-5293, email: ervintrp@socrates.berkeley.edu.

paper addresses the issue of the development of bilingual competence and the ways in which children use both languages to interact with peers.

Bilinguals' use of both languages in a conversational turn, *code-switching,* is a specific type of strategy for discourse organization. In addition to code-switching there is what we call *lexical borrowing* of single items in bilingual interaction. This strategy is observed in a variety of styles among bilingual speech communities[3]. However, little attention has been given to how the use of lexical borrowing has an effect on the development of communicative competence in young children who are still learning an L2 and achieving bilingual competence.

In this paper we focus on the analysis of lexical borrowing among young developing bilinguals. The population in this study includes Hispanic children attending elementary school in United States, whose first language (L1) is Spanish and second language is English (L2). The goal of this study is to find how children develop the ability to alternate languages and how the ability to integrate lexical borrowings relates to the development of bilingual competence. In addition these results are compared to findings from our previous analysis of code-switching (Reyes & Ervin-Tripp, 1998) in the same transcripts with the purpose of identifying differences in children's use of borrowings and code-switches. The frequency of different types of borrowings and how their functions change with age will be explained in relation to children's development of bilingual communicative competence.

1.1. Code-switching and borrowing

Most of the early research on code-switching has looked at adult-adult and adult-child interaction. The few studies on peer code-switching (McClure, 1982; Zentella, 1982) have shed some light in terms of how bilingual children use a different language when addressing someone in particular. As pointed out by Poplack (1980), code-switching seems to be used by those individuals whose language skills in both languages are balanced. Therefore, code-switching might be a good indicator of bilingual fluency in children who are still learning English as their second language.

---

[3] In this analysis, we have assumed phonological integration of borrowed items. In some cases, children use "accent" as a social marker, for example in exaggerating Spanish features to convey social meaning in representing others' speech.

Research on children's code-switching (Saunders, 1975; Genishi, 1976; McClure, 1982; Zentella, 1982, 1997; Fantini, 1985; Reyes, 2001) has shown that children develop a bilingual communicative competence and learn to use their two languages depending on the addressee, the topic of the conversation, and the situation. Older children seem to manipulate their codes for a wider variety of stylistic purposes and situational demands than younger children do (Zentella, 1997). How children develop this ability over the years is an important question that needs to be investigated from a developmental perspective. McClure (1982) reports that younger children show more lexical item switching than older children. A common theory to explain this finding is that children code-switch when they do not know the word in that language; hence, they draw on the other language. It is incorrect, however, to assume that all cases of this type of code-switch are the result of incomplete knowledge of one of the codes. In some cases children might be momentarily unable to access a term for a concept in the language in use but can access it in another code at that moment. It might also be the case that the older children code-switch to the other language when they learn that elements of the other language convey the meaning of the intended idea more accurately (Halmari, 1997; Zentella, 1997).

In this study of lexical borrowing we take a sociolinguistic perspective to learn specifically how children from different ages switch languages to accomplish different discourse goals. The findings from our previous studies with this group of children showed that they used Spanish as the base language in most of their conversations (Reyes & Ervin-Tripp, 1998; Reyes, 2001). Based on this information, we can expect children to develop skills in their L2 using their native language as the base language. We will focus our discussion on the following research questions:

1) What are the borrowing and code-switching patterns in 7- and 10-year-old children?
2) How does bilingual competence influence children's borrowing and code-switching patterns?

In a previous analysis, we observed that older children alternated languages for a wider and more sophisticated variety of sociolinguistic functions than younger children. In addition, language dominance played a key role in terms of the frequency and type of language switches. Based on these previous findings, we expect that language dominance will influence the use of borrowings. It is expected that younger children

(Spanish dominant) will use more borrowings, since they are still in the process of learning their second language (L2). In contrast, older children (those balanced in both languages) will use fewer borrowings. In addition, we will focus on types of sociolinguistic functions used for lexical borrowings to determine if they share some similar functions to those of code-switches.

2. Method

2.1. Participants

The sample includes 10 self-selected friend dyads from second and fifth graders who attended an elementary school in Oakland, California. The school was selected because it had bilingual classrooms where teachers used both Spanish and English. The mean ages of the children were 10; 8 and 7; 9, for the fifth and second graders, respectively. A total of ten transcripts, five from each grade level, were included in the present analysis. Children were given a small gift (e.g., stickers, pencils) for their participation.

2.2. Materials

A wireless microphone was connected to a transmitter inside of a belt pack that was strapped to each child's waist. Each microphone was clipped to the child's shirt. Radio receivers and a cassette recorder were set up outside of the room where the study was being conducted in order to receive and record the children's conversations on separate channels for each voice. A video camera was set up in the room to record the children during the science activity. The camera was turned away from the children during the first part of the study and then was turned on to record the children while they worked together during the science activity.

The materials used for the science activity include a compartmented box containing magnets of different forms and colors, a compass, various rocks, and miscellaneous metal and non-metal objects (paper clips, thumb tacks, keys), and a clear plastic box containing iron. Items were labeled in both languages. A worksheet had eight questions with both English and Spanish translations on the same page regarding the items in the box and how they interacted with one another. This worksheet was used to stimulate conversation regarding the science activity between the children.

2.3. Design and procedure

About ten hours of conversations were taped over a period of eight weeks during the children's lunch break. Participants were told that the researchers were interested in children's conversations during a science project and that they would be participating in a science activity. The children were asked to nominate a friend with whom they wanted to participate in the experiment.

Each dyad was tested individually. First, children were taken to the cafeteria to eat lunch, and after that they were taken to the music room in the school auditorium to be tested. The children's conversations were recorded as soon as the microphones were put on them. They were instructed to have a seat and just talk while they waited for the two researchers to prepare the science activity. Both researchers present were bilingual and gave instructions to the children alternating between English and Spanish. The researchers left the room and monitored and recorded the children's conversation from an adjacent room. After 15 minutes, the researchers returned and explained the science activity to the children, alternating between English and Spanish. The researchers code-switched among themselves and to the children, in order to set the stage for code-switching. This way the researchers modeled code-switching to let the children know that it was acceptable to speak both languages. Zentella (1997) notes that historically there has been a pejorative connotation to "Spanglish," and for this reason we wanted to avoid this perception that some of the children might have had about code-switching. After another 15 minutes, the researchers returned and inquired about the dyad's science findings. This method of studying peer conversation is described in Ervin-Tripp (2000).

2.4. Data analysis

The conversations were transcribed for analysis using the Gumperz & Berenz (1993) transcription conventions. Each of the conversations lasted about 30 minutes. One speaker's turn, between the turns of speaking by the other child, was taken as the unit of analysis. Frequency counts of all borrowings during the children's conversation were made at two levels. First, all the one-word switches were identified and all the borrowings from English to Spanish, and Spanish to English were counted. Then, the number of borrowings per turn by each conversational dyad, were computed separately for each setting: the social talk context (ST), and within the science activity for task-

related talk (SA). We also found that some of the talk in the science setting was off task and social in nature. This intermittent social talk within the science task (SS) was analyzed separately. For comparison purposes, proportions were computed by dividing the number of borrowings by the number of turns for each child in each context to yield a measure of borrowing probability per turn in each context.

2.4.1. Coding categories for borrowing analysis

The main focus of this analysis was on those words that could be identified as borrowings. Different categories used to identify borrowings and code-switches were reviewed from the literature (Weinreich, 1953; Ervin, 1955; Haugen, 1956; Gumperz, 1967; Zentella, 1997). To our knowledge, no previous study has looked at how the functions of one-word switches and code-switches relate to the development of bilingual communicative competence. Switches designating food names, places and proper names were omitted from the analysis. The coders were trained to use the following scheme to identify the type of borrowings in terms of sociolinguistic categories:

A) Clarification: this category indicates a borrowing that occurs due to repairing a comprehension problem.

B) Difference in frequency: this category includes words that might have a low availability in the base language, but a higher availability in the guest language (e.g., school related terms- *magnets, recess*). Also check for frequency of use in conversation.

C) Emphasis: this category indicates a switch that is used to put emphasis on a specific command.

D) Interrogation/Question Shift: in this category a borrowing is used within a question.

E) Repetition: this category indicates a borrowing that is used by a child right after the other child has modeled the same borrowing.

F) Topic Shift: this category indicates a switch that occurs due to a change of topic in conversation.

G) Unique semantics: this category includes those words that have a special meaning when used in the target language and the child would not be able to express the same meaning using a word in the other language (e.g., *hella trucos un amigo*).

H) Preference: in some instances, no obvious sociolinguistic or psychological function for the switch could be identified. The switch simply seems to be the result of the speaker's preference of one code over the other.

3. Results

The results are presented in three main sections. First, we present a summary of the patterns for language use by 7- and 10-year-old children in each context. Secondly, we describe the developmental trends observed in the frequency of borrowings by each group along with a brief comparison with the code-switching patterns observed in our previous study (Reyes & Ervin-Tripp, 1998). Finally, we present the qualitative analysis of the sociolinguistic functions used by each group of children.

3.1. Language use

It was expected that children would use the two languages at different rates depending on the activity. In line with what was expected, social talk showed more use of Spanish by both groups of children. However, contrary to our expectations, a similar pattern was observed for language use during the science activity. Developmentally, it was expected that the 7-year-old children would use their native language with a higher frequency, and that 10-year-old children would use more English (their L2) in both contexts. This was expected for those children who have been exposed to English formally in a classroom for at least three consecutive years. Table 1 shows the amount of language used by age group in the social setting. These tables represent the turns without code-switching.

Subjects	Spanish	English
7-year-olds	81%	7%
10-year-olds	67%	17%

Table 1. Percentage distribution of language choice in social talk.

As can be seen in Table 1, second graders used Spanish in 81% of total turns, during the first 15 minutes of the study –the social condition, and used English for about 7% of their turns in that segment. In the fifth graders, there was a decrease in the use of Spanish, hence an increase in English. Overall, both groups of children used their first language, Spanish, as the base language during their conversations. However, we see that the 10-year-olds were using English about 17% of their turns, in comparison with the 7-year-olds, who were only using English for about 7% of their turns.

During the science activity (both on and off-task talk), surprisingly, both groups of children used Spanish again as the base language. Table 2 shows the percentage of the total turns taken in each language by both age groups.

Subjects	Spansh	English
7-year-olds	77%	9%
10-year-olds	68%	15%

Table 2. Percentage distribution of language choice in science activity.

Once again, we observed that second graders used Spanish for more than 75% of their total turns during the science activity. There was a small increase in the percentage of turns in English (2%). The younger children show a slight increase in use of English during the science activity. The older children, on the other hand, show a similar pattern of language use in both contexts. The important finding here is that regardless of the activity, most children from both age groups used Spanish as the base language throughout their conversation.

3.2. Frequency

In this section we present the analysis and comparison of borrowing patterns with the code-switching patterns previously observed in the same corpus (Reyes, 1998). The frequency of borrowings for the 7-year-old children was higher than their use of code-switches. The 7-year-old children code-switched for only 10% of their total turns, while they used borrowings 21% of their total turns. On the other hand, 10-year-old children code-switched 28% of their total turns, and used borrowings for 18% of their total turns. Therefore, the older children presented the opposite pattern from that observed among the 7-year-olds; they used borrowings with less frequency than CS. These findings seem to support our hypothesis that young children who are still developing their second language will incorporate one-word switches at a higher frequency than children who have achieved bilingual communicative competence.

A further analysis was carried to explore the relation between frequency of borrowings and code-switches, and the development of bilingual competence. In order to find out if these two variables were correlated, the 10-year-old children were assigned to two different groups according to the number of years each child had been exposed to the L2. The first group included those children who had been exposed to English (L2) for two years or less. In the second group only those children who had been exposed to L2 for three or more years were included. The results shows that those 10-year-old children who had been exposed to English for three or more years (group 1) used code-switches in 33% of their total conversational turns, in comparison with the

other 10-year-olds (group 2), who only code-switched in 15% of their total turns. Interestingly, their patterns for borrowing use were in the opposite direction. Those children from group 2, who had been exposed to English for less than two years, used borrowings for 21% of their total conversational turns, in comparison with children from group 1, who used borrowings for only 10% of their total turns. These results showed a trend in the relation between the number of years children have been exposed to a second language and the frequency and use of borrowings and code-switching in their conversations.

3.3. Sociolinguistic functions

The qualitative analysis provides important information on the sociolinguistic development of these bilingual children. Overall, children showed variation in the types of borrowing functions they used throughout their conversations. However, for both age groups similar patterns were observed in the type of borrowings used during both contexts. Table 3 (see below) shows the distribution of borrowings across the different sociolinguistic categories (results are collapsed across contexts since no difference was found).

The two most used categories among these children were *different frequency* and *unique semantics*. The most common category by both groups of children was 'different frequency' (on average 50% of the total borrowings). An example of this type of borrowing from a fifth grade boy is given below:

(1)   R[4]:   t: *veníamos aquí cuando éramos* **student council**
                    e: we came here when we were [part of the] 'student council'

The word 'student council' is classified as different frequency because the word has a low availability in the base language (Spanish in this case), but higher availability in the second language. Most fifth graders would not know the words for student council in Spanish (*comité de estudiantes*), because they have encountered this word in the school context in English.

The 7-year-old children used the *unique semantics* category at a higher frequency than the 10-year-old children did (10% difference). This type of borrowing is used because of the special meaning it carries in the target language that has no

---

[4] The first line t: is the transcript literally from the tape. Line e: is a free translation into English for anglophone readers.

equivalent in the matrix language. Children are learning and integrating new concepts at the lexical level.

Yet when equivalents exist in both languages, children used borrowings in each language. The following example illustrates this point, where Luis (a pseudonym), a 7-year-old boy, knows the word for 'bear' in both languages:

(2) 13. L: t: *mira el oso*
             e: look at the 'bear'
     14. J: t: *no hay un oso*
             e: there is no bear
     15. L: t: *no hay* fox
             e: there's no fox
     16.   t: *el* polar bear *mira el toro*
             e: the polar 'bear' look at the bull

In example 2, Luis used the word *oso* in Spanish, but immediately in his next turn (line 16) he used the word *bear*, the equivalent word for 'oso' in English. Examples like the one presented above were observed in most of the children's conversations. The use of equivalent words refutes the theory that children switch languages because they lack the vocabulary in both languages.

Sociolinguistic Function	7-year-olds %	10-year-olds %
Clarification	4	5
Different Frequency	53	51
Emphasis	3	3
Question Shift/ Interrogation	1	9
Repetition of other	7	4
Topic Shift	2	3
Unique Semantics	15	5
Preference	15	20

Table 3. Percent Distribution of Borrowings by Sociolinguistic Categories.

In our previous code-switching study (Reyes, 1998; Reyes & Ervin-Tripp, 1998) we found that across ages, the three most commonly used types of code-switching functions in the context called 'social setting' were topic shift, clarification, and emphasis. During the science activity, the three most common types of code-switches used across age groups were clarification, emphasis, and question shift. In this study we found that some of the borrowings served the same functions as the code-switches. The clarification and topic shift functions were used at both ages. The most interesting overlap in sociolinguistic functions is the use of the question shift/interrogation category. Interestingly, the older children showed a higher use of this category than the

younger children did for both code-switches and borrowings. From these data we learn that older children are using a wider range of sociolinguistic functions for borrowings and code-switches to achieve discourse goals.

4. Discussion

Overall, the study showed the complex interaction of language choice and development of bilingual competence. The evidence shows that the frequency of borrowings and code-switches is related to degree of bilingual competence children have achieved. The use of borrowings for the 7-year-old children was significantly higher than their use of code-switches. The opposite pattern was observed for the 10-year-old children who used code-switches at a higher frequency than borrowings. These findings support our hypothesis that bilingual children's frequency of borrowings and code-switches relates to their degree of bilingual competence. We argue that this indicator of bilingual communicative competence changes as children acquire relative proficiency in their second language. In accordance with previous findings, the code-switches in our children's conversations were mostly from Spanish, their dominant language, into English (recall that Spanish on the average was the base language for their conversations). Consequently, most of the borrowings reported were in English (93%). Our examples reflect children's use of borrowings as a means of gradually integrating their non-dominant language into their repertoire. In addition, we observed an increase in the use of different sociolinguistic functions from basic borrowings to more sophisticated rhetorical ones.

The results seem to indicate that lexical borrowings are used by those children who are on their way to bilingualism. That is, the shorter type of switch, at the lexical level, is observed in the younger children and longer syntactic units of code-switching are gradually adopted as the children develop bilingual communicative competence. It appears that younger children use borrowings at the early stages of their L2 development. This finding, along with previous ones from earlier research (Saunders, 1975; Zentella, 1982), suggests that such 'borrowings' are part of an early stage of learning a new language. Among the older children, those speakers with the greatest degree of bilingual communicative competence are the ones that most frequently used code-switching as a strategy to meet their conversational goals and to communicate with their peers.

5. Conclusion

Code-switching and borrowing are used as a common practice among the peer conversational interactions of bilingual children. For years the alternation of languages by the use of code-switching and borrowing has been seen as a deficiency in the bilingual child. The evidence from this study indicates that borrowings and code-switches are part of a natural stage for bilingual children. Children develop a strategy to use lexical switches until they develop and acquire the necessary skills in order to achieve full bilingual competence. Once these children have achieved full bilingual competence, they are able to use more sophisticated levels of borrowings, and eventually code-switches for rhetorical purposes. For example, Reyes (2001) previously found that when these children were paired with a friend, the ten-year-old children (the older children) accommodated to their partner's level of fluency and tended to code-switch to the language the other child was most proficient in. From this finding we can conclude that part of developing bilingual competence in these children is also to become aware and sensitive (metalinguistic awareness) to their peers' level of bilingual competence.

An important responsibility of researchers is to include parents, teachers, and community members in a dialogue to understand children's development of their two languages. We need to share our findings with them, so that we can help de-stigmatize discourse practices such as code-switching and borrowing. Teachers and educators need to understand that certain discourse patterns are the norm among developing bilinguals. Moreover, teachers and community members need to take advantage of children's home language resources. Code-switching and the use of borrowing is an important linguistic resource available to bilingual children. Therefore, why not take advantage of these skills and allow children to use them to develop bilingual competence while they link new concepts and words in L1 and L2?

Bibliographical references

August, D. & K. Hakuta (1997). *Improving schooling for language-minority children*: *A research agenda*. Washington, D.C.: National Academy Press.

Ervin, S. (1955). *The verbal behavior of bilinguals*: *The effect of language of report on the Thematic Apperception Test stories of adult French bilinguals*. Unpublished Ph.D. Dissertation, University of Michigan.

Ervin-Tripp, S.M. (2000). "Studying conversation: How to get natural peer interaction". In L. Menn & N.B. Ratner (eds.), *Methods for studying language production*. Mahwah, NJ: Lawrence Erlbaum, 271-88.

Fantini, A.E. (1985). *Language acquisition of a bilingual child*: *A sociolinguistic perspective*. San Diego, Calif.: College-Hill Press.

Fillmore, L.W. (1991). "Second-language learning in children: A model of language learning in social context". In E. Bialystok (ed.), *Language processing in bilingual children*. New York: Cambridge University Press , 49-69.

Genishi, C. (1976). *Rules for code-switching in young Spanish-English speakers*: *An exploratory study of language socialization*. Unpublished Ph.D. Dissertation, University of California, Berkeley.

Gumperz, J.J. (1967). "On the linguistic markers of bilingual communication". *Journal of Social Issues* 23, 48-57.

Gumperz, J.J. & N. Berenz (1993). "Transcribing conversational exchanges". In J.A. Edwards & M.D. Lampert (eds.), *Talking data*. Hillsdale, NJ: Lawrence Erlbaum, 91-122.

Halmari, H. (1997). *Government and code-switching*: *Explaining American Finnish*. Amsterdam & Philadelphia : John Benjamins.

Haugen, E. (1956). *Bilingualism in the Americas*: *A bibliography and research guide*. American Dialect Society; nº 26.

McClure, E. (1982). "Formal and functional aspects of the code switched discourse of bilingual children". In R.P. Duran (ed.), *Latino language and communicative behavior*. Norwood, NJ: Ablex, 69-94.

Poplack, S. (1980). "Sometimes I'll start a sentence in English Y TERMINO EN ESPAÑOL: Toward a typology of code-switching". *Linguistics* 18, 581-618.

Reyes, I. (1998). *The functions of code-switching in Spanish-English bilingual children*. Unpublished M.A. Dissertation, University of California at Berkeley.

Reyes, I. (2001). *The development of grammatical and communicative competence in bilingual Spanish Speaking children*. Unpublished Ph.D. Dissertation. University of California at Berkeley.

Reyes, I. & S. Ervin-Tripp (1998). "The uses and functions of code-switching by school children". Paper presented at the annual meeting of the American Anthropological Association, Philadelphia, PA.

Saunders, F. (1975). *Code switching in bilingual children*. Unpusblished Ph.D. Dissertation, University of California at Santa Barbara.

Weinreich, U. (1953). *Languages in contact*. The Hague: Mouton.

Zentella, A.C. (1982). "Code-switching and interaction among Puerto Rican children". In J. Amastae & L. Ellas-Olivares (eds.), *Spanish in the United States*: *Sociolinguistic aspects*. Cambridge: Cambridge University Press, 354-85.

Zentella, A.C. (1997). *Growing up bilingual*. Malden, MA: Blackwell.