Running Head: BILINGUAL CHILDREN'S REPAIRS

Bilingual Children's Repairs of Breakdowns in Communication

Liane Comeau

Invest in Kids

Fred Genesee & Morton Mendelson

McGill University

Abstract

This study examined two- (n=10) and three-year-old (n=16) French-English bilingual

children's repairs of breakdowns in communication that occurred when they did not use the

same language as their interlocutor (Language breakdowns) and for Other reasons (e.g.,

inaudible utterance). The children played with an experimenter who used only one language

(English or French) during the play session. Each time a child used the other language, the

experimenter made up to five requests for clarification, from non-specific (What?) to specific

(Can you say that in French/English?). The experimenter also made requests for clarification

when breakdowns occurred for other reasons, e.g. the child spoke too softly, produced an

ambiguous utterance, etc. Both the two- and three-year olds were capable of repairing

Language breakdowns by switching languages to match that of their experimenter and they

avoided this repair strategy when attempting to repair Other breakdowns. Moreover, they

switched languages in response to non-specific requests. The results indicate that even two

and a half year old bilingual children are capable of identifying their language choice as a

cause of communication breakdowns and they can differentiate language from other kinds of

communication breakdowns.

Bilingual Children's Repairs of Breakdowns in Communication

Communicative competence entails sensitivity to feedback from one's interlocutors concerning the effectiveness or appropriateness of one's message. Clarification requests play an important role in effective conversations, and children must learn the conversational rules for interpreting and responding to such requests. Two classic studies have shown that children can integrate clarification requests and responses to requests in their conversations from a young age. Gallagher (1977) observed children in Brown's Stages I, II, and III while they were playing with an experimenter who asked 'What?' every three minutes. She found that even children in the earliest stages of acquisition usually responded appropriately to such requests and they seldom ignored the experimenter's requests for clarifications. Garvey (1977) found, further, that two- to five-year-old children responded appropriately to one another's clarification requests and were capable of embedding repair sequences in their conversations without disrupting turn-taking. It has also been found that children between 1;5 and 2;0 respond differentially to different kinds of requests for clarification (Wilcox & Webster, 1980; Marcos & Bernicot, 1994) indicating that they know that different forms of request require different responses.

For young bilingual children, language choice is an additional possible cause of breakdowns in communication as, for example, if a French-English bilingual child uses French with a monolingual English-speaking interlocutor. If bilingual children are to respond appropriately to requests for clarification from monolingual interlocutors or bilinguals who prefer one language over another, they must determine whether their interlocutor's requests for clarification are intended as requests for a change in language or for another type of repair. However, requests for clarification are not always explicit and leave it up to the child to figure

out what kind of response would repair the breakdown as, for example, when an interlocutor queries a child by asking 'What?' following an incomprehensible utterance.

To date, research on bilingual children's communicative competence has focused on their ability to use their two languages appropriately with different interlocutors and on how language socialization shapes their use of their two languages (e.g., De Houwer, 1990; Döpke, 1992; Lanza, 1997; Deuchar & Quay, 2000). A number of studies have indicated that young bilingual children can use their languages differentially and appropriately with familiar (i.e., parents) and with unfamiliar interlocutors during dyadic conversations (Genesee, Nicoladis & Paradis, 1995; Genesee, Boivin & Nicoladis, 1996). For example, Genesee, et al. (1995) compared two-year-old French-English bilingual's language use with each of their parents, who usually spoke only their native language to their child, and found that, although the children used both of their languages when speaking with their parents (i.e., code-mixed), they used a higher proportion of the mother's language with their mothers than with their fathers, and vice-versa for the father's language (see also Padilla & Liebman, 1975; Saunders, 1988; Goodz, 1994; Meisel, 1994; De Houwer, 1995; Lanza, 1997). Döpke (1992) and Lanza (1997) have examined the relationship between parental discourse strategies and their bilingual children's language choices. Both report that certain kinds of parental discourse strategies are associated with children's use of one language over the other (Döpke, 1992) or the use of mixed versus non-mixed patterns (Lanza, 1997), indicating that parental language use can influence children's language choices. In contrast, in a study of naturalistic conversations between French-English bilingual children (1;9 to 2;7) and their parents, Nicoladis & Genesee (1998) were unable to find a statistically significant relationship between parents' discourse patterns and the children's tendencies to code-mix. Arguably,

Nicoladis & Genesee's results differ from those of Lanza and Döpke because the former were based on turn-by-turn analyses of parents' and children's responses in contrast to those of Lanza and Döpke which examined extended patterns across entire conversations (see Lanza, 2001, for a detailed discussion of this issue). Moreover, there may be a number of mitigating factors in parent-child interactions, such as children's past history with parents' language preferences and language socialization with regards to the acceptability of code-mixing, that over-ride turn-by-turn patterns.

The present study was conducted to examine the extent to which bilingual children understand and correctly interpret requests for language change during dyadic interactions. In particular, our purpose was to investigate young bilingual children's ability to repair breakdowns in communication that occur when the child does not use the same language as their interlocutor (hereafter referred to as the experimenter's language). Such breakdowns can only be repaired with a translation or reformulation, in part or in whole, of the child's utterance in the experimenter's language. In comparison, breakdowns in communication due to other causes, such as inaudible utterances or poor lexical choice, can be repaired by repetition or reformulation of an utterance with no change in language. Because of possible mitigating influences in parent-child interactions, noted earlier, we chose to examine this issue in interactions between bilingual children and unfamiliar interlocutors. We were also interested in examining what type of requests would elicit a change in language and, more specifically, whether young bilingual children could identify language as the source of breakdown if the interlocutor provided only implicit requests for a change in language; as for example, if an English-speaking interlocutor replied 'What?' to a child who had just said something in French. To do this, we provided each child with up to five requests for

clarification varying from general (e.g., 'What') to specific (e.g., 'Can you say that in French/English?') (see also Brinton, Fujiki, Loeb & Winkler, 1986). Our analyses focused on the children's responses immediately following each request since, to be effective, repair strategies must be contingent on the interlocutor's request in a particular speech turn.

In a preliminary phase of this project (see Comeau & Genesee, 2001), we found that the majority of three-year-old English-French bilingual children (10 of 12) translated or reformulated their response using the experimenter's language in response to requests for clarification of utterances that were initially not in the experimenter's language. The majority of language switches were made in response to requests such as 'What? that did not specify that language was the source of the breakdown. The children rarely switched languages in response to requests following breakdowns that occurred for other reasons; e.g., poor lexical choices or inaudible utterances. The present study is an extension of our earlier study and differs from it in that it includes a group of younger children (M age = 2;7; n = 10), a somewhat larger three-year-old sample (n = 16), and more detailed statistical analyses of all results (including alternative response strategies and not just language switches).

Method

Participants

Ten two-year-olds (9 girls and 1 boy; M age = 2;7, range 2;3 to 2;10) and 16 three-year-olds (8 girls and 8 boys; M age = 3;1, range 3;0 to 3;7) participated in the study; the gender distribution in the two-year-old sample was circumstantial. The children lived in the Montreal area of Quebec and were acquiring English and French in the home from their parents, except one child who was learning French from both parents at home and English in daycare which she had attended full-time since birth. Most parents claimed that they used

their native language most of the time when talking with their children. The parents reported

that the children were not regularly exposed to other languages and that they had no known

hearing or speech problems and no other developmental delays or disorders. Most families

were middle-class. In 20 out of 26 families, at least one parent had a university or a

postgraduate degree; and in four families, the parents had completed high school. Twenty-six

parents worked as professionals, and 11 were employed in blue-collar occupations or as

skilled tradespeople.

Each child's mean length of utterance (MLU) and the percentage of utterances

comprised of two or more words (MWU) were calculated for English and French. These

calculations were based on the children's language use during the first 20 minutes of the play

session with the experimenter. Only the children's fully intelligible utterances in the language

used by the experimenter during these sessions were used to compute these indices (e.g.,

English when the experimenter used English and French if the experimenter used French);

mixed utterances and utterances in the other language were not counted: two-year olds –

MLU = 2.5 (SD = 1.11); MWU = 46.1% (SD = 19.36); three-year-olds – MLU = 3.1 (SD =

1.02); MWU = 57.8% (SD = 12.26). The children's standardized scores on English and

French receptive vocabulary tests, the Peabody Picture Vocabulary Test (PPVT-R; Dunn &

Dunn, 1981) and its French adaptation, the Echelle de vocabulaire en images Peabody (EVIP,

Dunn, Thériault-Whalen, & Dunn, 1993), were also obtained: two-year-olds – English M =

92.70, SD = 16.03; French M = 84.00, SD = 11.60; three-year-olds – English M = 102.44, SD

= 16.03; French M = 101.69, SD = 21.69. Twenty-three of the 26 children obtained scores that

fell within the normal range for monolingual age-mates in at least one of their two languages,

with 15 of these children performing within or above the norm in both languages; 3 children

scored below the normal range in both of their languages.

In order to ensure that the two-year-olds had sufficient expressive ability in both

languages to participate in the study, we also recorded them for approximately 30 minutes

while playing with each parent on two separate occasions prior to the experimental sessions.

Twenty minutes from each parent-child session were transcribed according to the CHAT

system (MacWhinney, 2000), and the children's utterances were coded for: language

(English-only, French-only, mixed (French and English)), MLU, and MWU. MLU and MWU

were based on the number of fully intelligible utterances in the parent's preferred language

during a given session so that MLU and MWU in English were calculated when the children

were with the English-speaking parent, and in French when they were with the French-

speaking parent (see Comeau & Genesee, 2001, for more details): English MLU $M = 2.80$

($SD = 0.79$); English MWU $M = 52\%$ ($SD = 18\%$); French MLU $M = 2.59$ ($SD = 0.74$);

French MWU $M = 52\%$ ($SD = 15\%$). We did not deem it necessary to assess the three-year-

olds' expressive abilities with their parents since it was possible to ascertain their general

proficiency in both languages during our experimental sessions with them. Finally, the parents

of all children were asked to identify their child's 'dominant' language, defined for purposes

of the study as the language used most often by the child on a daily basis and the one which

the parents felt their child was more advanced in and/or more comfortable using.

Procedure

Aside from the visits for recording the two-year-olds with their parents, all the

children were visited at home twice. The vocabulary tests were administered during one visit

by a bilingual research assistant or by the first author, who was also bilingual. During the

second visit, the children were taped for up to one hour while playing with an experimenter

(either the first author or a trained research assistant). We ensured that the adult with whom

the children played was not the same person who had administered the vocabulary tests in the

previous visit so that the conversational partner of the child was unfamiliar to the child. The

children played with their own toys or toys brought by the experimenter. Most parents left the

room once the children felt comfortable with the experimenter. Those who stayed were

instructed to limit their interactions with their child and to not help their child answer the

experimenter's clarification requests. The observer who filmed the session seldom spoke and,

on those few occasions when she did, she used the language in which she was addressed. The

experimenter used only the child's less proficient language, as indicated by the child's parents,

on the assumption that this would result in more breakdowns than if the child used his or her

more proficient language. There was a match between the parental reports and the language

development indices obtained from the sessions with the two-year-olds and their parents in 9

out of 10 cases; the language dominance of the three-year-olds, however, could not be

verified in advance of our recording sessions. While it was preferable to observe the children

while they spoke their less proficient language, our interpretation of the results does not

depend upon it.

The experimenter spoke the less proficient language of the children with native or

native-like proficiency and behaved as though they did not understand the children when they

used their other language. She did not use the child's other language with others while in the

children's presence. Bilingual experimenters were used because pilot testing indicated that it

was often difficult, and sometimes impossible, for monolingual experimenters to determine

the language of a child's utterance and/or plausible breakdowns in communication due to

other causes besides language. Judging whether the children provided satisfactory repairs of

Language breakdowns was also difficult for monolinguals. The fact that the experimenters

were bilingual raises the possibility that the children inferred that the interlocutor understood

both languages. Thus, the situation examined here should be regarded as one where the

child's interlocutor displays a strong preference for one language and the results may not be

representative of how young bilinguals would respond to a true monolingual.

Each time a child used the experimenter's language, she made up to five requests for

clarification; the following are the English versions of these requests:

1. What?

2. I don't understand

3. Can you tell me that so I can understand?

4. I don't speak French/English.

5. Can you tell me that in English/French?

The first three requests were non-specific while the last two specified the source of the

breakdown and, thus, the nature of the required repair. The less specific requests were asked

first in order to test the children's understanding of implicit requests for language change. The

explicit requests allowed for the possibility that the children had the linguistic proficiency to

translate their initial utterance or to reformulate it in the other language, but failed to do this

because the request did not specify explicitly what the source of the breakdown was. The

same sequence was used following Other breakdowns except that request types 4 and 5 were

modified to be appropriate for the specific source of breakdown (e.g., if a child spoke very

softly, the experimenter asked 'I can't hear you.' as request 4 and 'Can you speak more

loudly?' as request 5).

Transcription and Coding

Twenty consecutive minutes of each experimental session after the first 5 minutes were fully transcribed. Since the number of breakdowns for some children was quite small when we limited our analysis to 20 minutes, we also scanned the entire recording for each child to identify all possible breakdowns, either language or other, and each of these breakdown-repair sequences was transcribed for further analysis. The children's utterances were coded for language: French-only, English-only, or Mixed (utterances containing elements from both languages). This was done to determine the extent to which the children used the same language as the experimenter. Incomprehensible utterances were omitted from the analyses. In addition, all breakdown sequences (Language and Other) at any time during the entire session were analyzed. A breakdown sequence began with a turn by the child in which the child did not use the experimenter's language (Language breakdown) or produced an incomprehensible utterance (Other breakdown) followed by one or more requests for clarification from the experimenter and the child's responses to those requests; see examples (1) and (2). The sequence was terminated when the child either (a) repaired the breakdown, (b) changed the subject, or (c) said or did something that made it impossible for the experimenter to continue to make requests for clarification (e.g., left the room or became noticeably frustrated with the experimenter's requests). In the following examples, glosses of utterances including French are provided in square parentheses.

(1) Example of a Language breakdown: Child with French-speaking Experimenter:

CHI: There's water right here.

EXP: Quoi? [*What*?]

CHI: Water!

EXP: Je comprends pas. [*I don't understand.*]

CHI: De l'eau. [*Water.*]

(2) Example of an Other breakdown: Child with an English-speaking experimenter:

CHI: It's a tree xxx xxx. (xxx=incomprehensible)

EXP: What?

CHI: Tree?

EXP: I don't understand.

CHI: Tree, climb up!

The following features of each breakdown were coded.

Type of breakdown (Language or Other): Language breakdowns consisted of

sequences during which the child used a mixed utterance or an utterance entirely in the

language not spoken by the experimenter. Other breakdowns consisted of sequences when a

child used the experimenter's language but the utterance was inaudible, unclear, or

incomprehensible for other reasons. Some of the Other breakdowns occurred naturally, and

some were initiated by the experimenter when there was a plausible reason; e.g. the child

produced an ambiguous utterance, mispronounced a word, or spoke too softly to be heard.

Responses to Clarification Requests: The child's responses to the experimenter's

requests were classified as: Appropriate Language Change (ALC; see example 1),

Inappropriate Language Change (ILC; see example 3), Repetition (REP; see example 4),

Reformulation (REF; see example 5), Subject Change (SC; see example 6), No Response

(NR) , and Other (O). Responses were classified as Reformulations and Repetitions only if

there was no change in language; if there was a change in language, then the response was

classified as ALC. Responses classified as Other were seldom used and included replying to a

request for clarification by responding 'yes' or 'no,' asking someone else for help, changing

the pronunciation of a word to make it sound like the other language, or using gestures, such

as pointing to an object. The categories of Subject Change, No Response, and Other were

combined into one category (SC/NR/O) because all three are instances when the child did not

provide a repair; there were few responses of these types. The child was credited with use of

more than one response if he or she did not repair the breakdown after the first request for

clarification. For example, if the experimenter made three requests for clarification of a

specific language breakdown, the child was credited with use of three responses; each

response (including repairs) the child made was coded according to the above categories. If

the same response was used more than once in a single breakdown sequence, the child was

credited with use of that response type as often as it was used. The number of responses to

each request for clarification was greater than the number of breakdown sequences for each

child because they usually did not repair breakdowns following the first request for

clarification.

(3) Inappropriate Language Change: Child with an English-speaking experimenter

      CHI: But c'est pas c'est pas noir. [*But it's not it's not black.*]

      EXP: Can you say that so I can understand?

      CHI: C'est pas blanc. [*It's not white.*]

(4) Repetition: Repeating the initial utterance verbatim

      CHI: Arrose les fleurs. [*Water the flowers.*]

      EXP: Quoi? [*What?*]

      CHI: Arrose les fleurs. [*Water the flowers.*]

(5) Reformulation: Rephrasing the initial utterance in some way, by adding, deleting, or substituting elements

CHI: Ah ah un mouton. [*Ah ah a sheep.*]

EXP: What?

CHI: Ah chèvre chèvre. [*Ah goat goat.*]

(6) Subject change: Introducing a new topic of conversation or activity

CHI: No I just I don't just don't like um the video but I like the thing.

EXP: What?

CHI: Hey you wanna read these two books they're funny.

All transcripts were coded by the first author, and a trained research assistant independently coded the responses of randomly chosen children within each age group (2 two-year-olds and 3 three-year-olds). Inter-rater reliability was 90.5% and disagreements were resolved by discussion.

Serial position of children's repairs: The child's responses were coded with respect to the serial position of the immediately preceding experimenter's request to which the child's response was being made; e.g., responses to the request 'What?' were coded as '1;' reponses to the request 'I don't understand' were coded as '2,' etc. This allowed us to determine what type of requests elicited a change in language from the children.

Results

Children's Language Use with the Experimenter

Despite the fact that most of the children were using their less proficient language, both the two-year-olds and three-year-olds used the experimenter's language most of the time: two-year olds 90.5% and three-year olds 85.8%; these percentages are the number of

utterances produced by the children in the experimenter's language divided by the total

number of utterances the child produced (English-only, French-only, mixed) during the 20

minute sections of the recordings that were transcribed. The four children, 2 two-year olds

and 2 three-year-olds, who used the experimenter's language 100% of the time, had relatively

low MLUs ($M = 1.95$), well below the average for both groups combined ($M = 2.80$),

suggesting that appropriate use of the experimenter's language was not highly correlated with

linguistic ability (see also Genesee et al., 1996).

Repairs of Language Breakdowns

The number of breakdown sequences (Language and Other) per child varied widely,

from 1 to 36, as did the number of responses by each child to their interlocutor's requests for

requests for clarification, ranging from 1 to 97. Tests of proportions were carried out to

examine the children's relative use of Appropriate Language Change in comparison to the

other types of responses following Language and Other breakdowns (see Figure 1). Separate

analyses were done for each age group and the alpha level was adjusted to 0.005 to

compensate for the number of pair-wise comparisons. These analyses were carried out on the

frequency of the children's use of each type of response expressed as a percentage of the total

number of responses of all types made by the children during the entire session (Totals: two-

year olds: 109; three-year olds: 344).

_____

Insert Figure 1 about here

_____

Analyses of the two-year-olds' results showed that they used Appropriate Language

Change more often than most of the other response types, namely Inappropriate Language

Change ($z = 3.47$, $p < 0.005$), Reformulation ($z = 4.55$, $p < 0.005$), and Subject Change/No

Response/Other *($z = 2.91$, $p < 0.005$)*. However, they used Repetition and Appropriate

Language Change equally often ($z = 1.52$, $p > 0.005$). The three-year-olds also used

Appropriate Language Change more often than Inappropriate Language Change ($z = 7.07$, $p < 0.005$) and Repetition ($z = 4.47$, $p < 0.005$). However, unlike the two-year-olds, they used

Appropriate Language Change and Reformulation equally often ($z = 1.03$, $p > 0.005$). Further

analyses involving Repetition and Reformulation revealed that the younger children favored

Repetition, a basic repair strategy, over Reformulation, which entails more complex responses

($z = 3.00$, $p < 0.005$). In contrast, the three-year-olds preferred to reformulate their utterances

rather than repeat them ($z = 3.43$, $p < 0.005$). Finally, unlike the younger children, the three-

year-olds used Subject Change/No Response/Other and Appropriate Language Change

equally often ($z = 1.08$, $p < 0.005$).

While all 13 three-year-olds repaired Language breakdowns using an Appropriate

Language Change at least once, only 5 of the 8 two-year-olds did so ($X^2 = 5.69$, $df = 1$, $p < 0.05$). The children who made appropriate language changes used this strategy in two ways: a)

they gave a total or partial translation of their initial utterance, as shown in Example (7), or b)

they gave responses in the appropriate language that included subject changes, yes or no

answers, and short utterance such as 'Like this.' with accompanying gestures, as in Example

(8).

(7) NIC (3;4) and French-speaking experimenter

     NIC: N'est pas une une boat.   [*Is not a a boat*.]

     EXP: Quoi? [*What?*]

     NIC: Euh c'est bateau bateau.   [*Uh it's boat boat*.]

(8) JUL (3;2) and English-speaking experimenter

> JUL: And a scie. [*And a saw.*]
>
> EXP: A what?
>
> JUL: Scie. [*Saw.*]
>
> EXP: I don't understand.
>
> JUL: A scie. [*A saw.*]
>
> EXP: Can you say that so I can understand?
>
> JUL: For… (Child shows how to cut with a saw)

Some children also used Inappropriate Language Change when attempting to repair Language breakdowns (3 two-year-olds, and 7 three-year-olds), although rarely. A X^2 analysis comparing the frequency of use of this response by each age group shows that the two-year-olds and three-year-olds were equally likely to use this strategy ($X^2 = 0.53$, $df = 1$, $p > 0.05$.) In every case, the children initially produced a mixed utterance and, then, rather than translating the components that were in the inappropriate language, they used only the inappropriate language in their reply; see Example (9).

(9) JUL (3;2) with English-speaking experimenter

> JUL: And look vert. [*And look green.*]
>
> EXP: What?
>
> JUL: Vert. [*Green.*]
>
> EXP: I don't understand.
>
> JUL: Vert. [*Green.*]

To examine whether the children were able to make an Appropriate Language Change in response to an implicit request, we calculated the frequency of occurrence of a language

change by each child after each clarification request by the experimenter as a percentage of

the total number of language changes made by the child in response to all requests for

clarification during the entire session (Totals: two-year-olds – 36; three-year olds – 81). As

shown in Figure 2, nearly half (47%) of all Appropriate Language Changes made by the two-

year-olds occurred after the first request, with an additional 25% occurring after the second

request, and 11% after the third request. Thus, 83% of language changes were made in

response to implicit requests to change language. The three-year-olds also made the majority

of their Appropriate Language Changes in response to the first three requests: 23% after the

first request, 32% after the second request, and 26% after the third request (Total = 81%).

_____

Insert Figure 2 about here

_____

Comparisons of Repairs of Language and Other Breakdowns

Tests of proportions were carried out to compare the children's use of language

change to repair Language and Other types of breakdowns for evidence that their responses to

requests for clarification following Language-based breakdowns were distinctive. Separate

analyses were conducted for each age group and the alpha level was adjusted to compensate

for the number of comparisons made. For purposes of these analyses, all responses involving

a language change – inappropriate or appropriate – were combined to form one response

category, Language Change. The two-year-olds used Language Change only when attempting

to repair Language breakdowns ($n = 37$); they did not use this strategy when attempting to

repair Other breakdowns. The three-year-olds sometimes used Language Change when

repairing Other breakdowns, but seldom; they changed language far more often when repairing Language breakdowns, Language = 93; Other = 2 ($z = 11.1$, $p < 0.005$).

————————————————

Insert Figure 3 about here

————————————————

<u>Self-Repairs Involving a Language Change</u>

It is worth noting that some of the children made spontaneous auto-corrections involving a language change -- they changed to the experimenter's language for part or all of their initial utterance in the absence of feedback from the experimenter, as illustrated in examples (10) and (11).

(10) TAL (2;9)

TAL: La la soeur. The the sister. (pause) The sister.

(11) JIA (3;2)

JIA: Un a. (pause) A bird.

In example (10), TAL translates her short utterance into English, the experimenter's language, after having produced an equivalent utterance in French. In the other example, JIA interrupts her utterance and starts again, translating the first portion of the utterance before completing her thought in the experimenter's language. In total, there were 14 instances of self-repairs involving a language change: 3 were made by the two-year-olds (by 2 different children), and 11 were made by the three-year-olds (by 6 of the children). Similar self-repairs have been reported by De Houwer (1990) in her study of a young child acquiring English and Dutch.

Discussion

The present study contributes to the growing body of evidence that young bilingual children are sensitive to their interlocutor's language preferences. More specifically, the present results indicate that young bilingual children can recognize that their use of a particular language can lead to breakdowns in communication. Indeed, both the two- and three-year-olds were capable of interpreting requests for clarification as cues for language change even in the absence of specific feedback about the cause of the breakdown. The findings suggest further that bilingual children can treat Language breakdowns differently from Other breakdowns. Although the first three requests for clarification were the same for both types of breakdowns, the children rarely switched languages when attempting to repair Other breakdowns but did so frequently for Language breakdowns. While both the two- and three-year-olds demonstrated this pattern, more of the three-year-olds did so. In particular, all of the three-year-olds who experienced Language breakdowns used Appropriate Language Change as a strategy, whereas some of the two-year-olds did not. Both groups appeared to know when not to use this strategy (that is, to repair an Other type of breakdown) even if they sometimes failed to use it when it was needed. They also used appropriate strategies such as Repetition and Reformulation when repairing Other breakdowns. In contrast to the three-year-olds, however, the two-year-olds showed a preference for Repetition, arguably a minimal, less sophisticated repair than Reformulation which entails the ability to convey one's meaning in more than one way. This finding is consistent with earlier studies showing that monolingual children use increasingly complex repair strategies as they get older and as their linguistic abilities increase (Gallagher, 1977; Konefal & Fokes, 1984; Marcos & Kornhaber-le Chanu, 1992).

That the children did not switch languages even after two, three, or four requests in some cases may be due to a number of factors. It may simply be difficult for young bilingual children to determine with total accuracy whether a language change is required. Lack of proficiency in the experimenter's language may also come into play, sometimes preventing the children from providing adequate translations. This would not be surprising given that most of the children were using their less proficient language. It is also possible that the children did not truly believe their interlocutor to be monolingual and that through interactions with parents and others in their home environment who are bilingual they have been socialized to view code-mixing as an acceptable and effective strategy. Additional analyses and research are called for to examine reasons for the individual variation that is evident in these data.

References

Brinton, B., Fujiki, M., Loeb, D. F. & Winkler, E. (1986). Development of conversational

    repair strategies in response to requests for clarification. *Journal of Speech and*

    Hearing Research **29**, 75-81.

Comeau, L. & Genesee, F. (2001). Bilingual children's repair strategies during dyadic

    communication. In J. Cenoz & F. Genesee (eds), *Trends in bilingual acquisition*, 231-

    256. Amsterdam: John Benjamins.

De Houwer, A. (1990). *The acquisition of two languages from birth: A case study.*

    Cambridge: Cambridge University Press.

De Houwer, A. (1995). Bilingual language acquisition. In P. Fletcher & B. MacWhinney

    (eds), *The handbook of child language*, 219-250. Oxford: Blackwell.

Deuchar, M. & Quay, S. (2000). *Bilingual acquisition: theoretical implications of a case*

    study. Oxford: Oxford University Press.

Döpke, S. (1992). *One parent one language: An interactional approach.* Amsterdam: John

    Benjamins.

Dunn, L. M. & Dunn, L. M. (1981). *Peabody Picture Vocabulary Test-Revised.* Circle Pines,

    Minnesota: American Guidance Service.

Dunn, L. M., Thériault-Whalen, C. M. & Dunn, L. M. (1993). *Échelle de vocabulaire en*

    images Peabody. Toronto: Psycan.

Gallagher, T. (1977). Revision strategies in the speech of normal children developing

    language. *Journal of Speech and Hearing Research* **20**, 303-318.

Garvey, C. (1977). The contingent query: A dependant act in conversation. In M. Lewis & L. Rosenblum (eds), *Interaction, conversation, and the development of language: the origins of behavior, Vol. 5*, 63-93. New York: Wiley.

Genesee, F., Boivin, I. & Nicoladis, E. (1996). Talking with strangers: A study of bilingual children's communicative competence. *Applied Psycholinguistics* **17**, 427-442.

Genesee, F., Nicoladis, E. & Paradis, J. (1995). Language differentiation in early bilingual development. *Journal of Child Language* **22**, 611-631.

Goodz, N. (1994). Interactions between parents and children in bilingual families. In F. Genesee (ed), *Educating second language children: the whole child, the whole curriculum, the whole community,* 61-82. Cambridge: Cambridge University Press.

Konefal, J. A. & Fokes, J. (1984). Linguistic analysis of children's conversational repairs. *Journal of Psycholinguistic Research* **13**, 1-11.

Lanza, E. (1997). *Language mixing in infant bilingualism: a sociolinguistic perspective.* Oxford: Clarendon Press.

Lanza, E. (2001) Bilingual first language acquisition: A discourse perspective on language contact in parent-child interaction. In J. Cenoz & F. Genesee (eds), *Trends in bilingual acquisition* (pp. 201-230)*.* Amsterdam: John Benjamins.

MacWhinney, B. (2000). *The CHILDES project: Tools for analyzing talk*. Third Edition. Mahwah, NJ: Lawrence Erlbaum Associates.

Marcos, H. & Kornhaber-le Chanu, M. (1992). Learning how to insist and clarify in the second year: Reformulation of requests in different contexts. *International Journal of Behavioral Development* **15**, 359-376.

Marcos, H. & Bernicot, J. (1994). Addressee cooperation and request reformulation in young children. *Journal of Child Language* **21**, 677-692.

Meisel, J. M. (1994). *Bilingual first language acquisition: French and German grammatical development.* Amsterdam: John Benjamins.

Nicoladis, E. & Genesee, F. (1998). Parental discourse and code-mixing in bilingual children. *International Journal of Bilingualism 2*, 85-100.

Padilla, A. M. & Liebman, E. (1975). Language acquisition in the bilingual child. *Bilingual Review* **2** 34-55.

Saunders, G. (1988). *Bilingual children: From birth to teens.* Clevedon, Avon: Multilingual Matters.

Wilcox, M. J. & Webster, E. J. (1980). Early discourse behavior: an analysis of children's responses to listener feedback. *Child Development* **51** 1120-1125.

Footnotes

1. Numbers in parentheses are the frequencies of occurrence of each type of repair for the two- (first entry) and three-year-olds (second entry).

2. Numbers in parentheses are the frequencies on which the percentages were based for the two- (first entry) and three-year-old (second entry).

3. The percentages in this table are based on the total number of breakdowns experienced by the children (Language and Other).

Figure Captions

Figure 1. Percentage[1] of Each Repair Strategy used by Two- and Three-Year-Olds in

Response to Requests for Clarification following Language Breakdowns.

Figure 2. Percentage[2] of Appropriate Language Changes Made by Two- and Three-Year-Olds

in Response to Each Clarification Request Numbered from 1 to 5 (from 'What?' to 'Can you

say that in English/French?').

Figure 3. Percentage[3] of Two-Year-Olds' and Three-Year-Olds' Repair Strategies Following

Language Versus Other Breakdowns
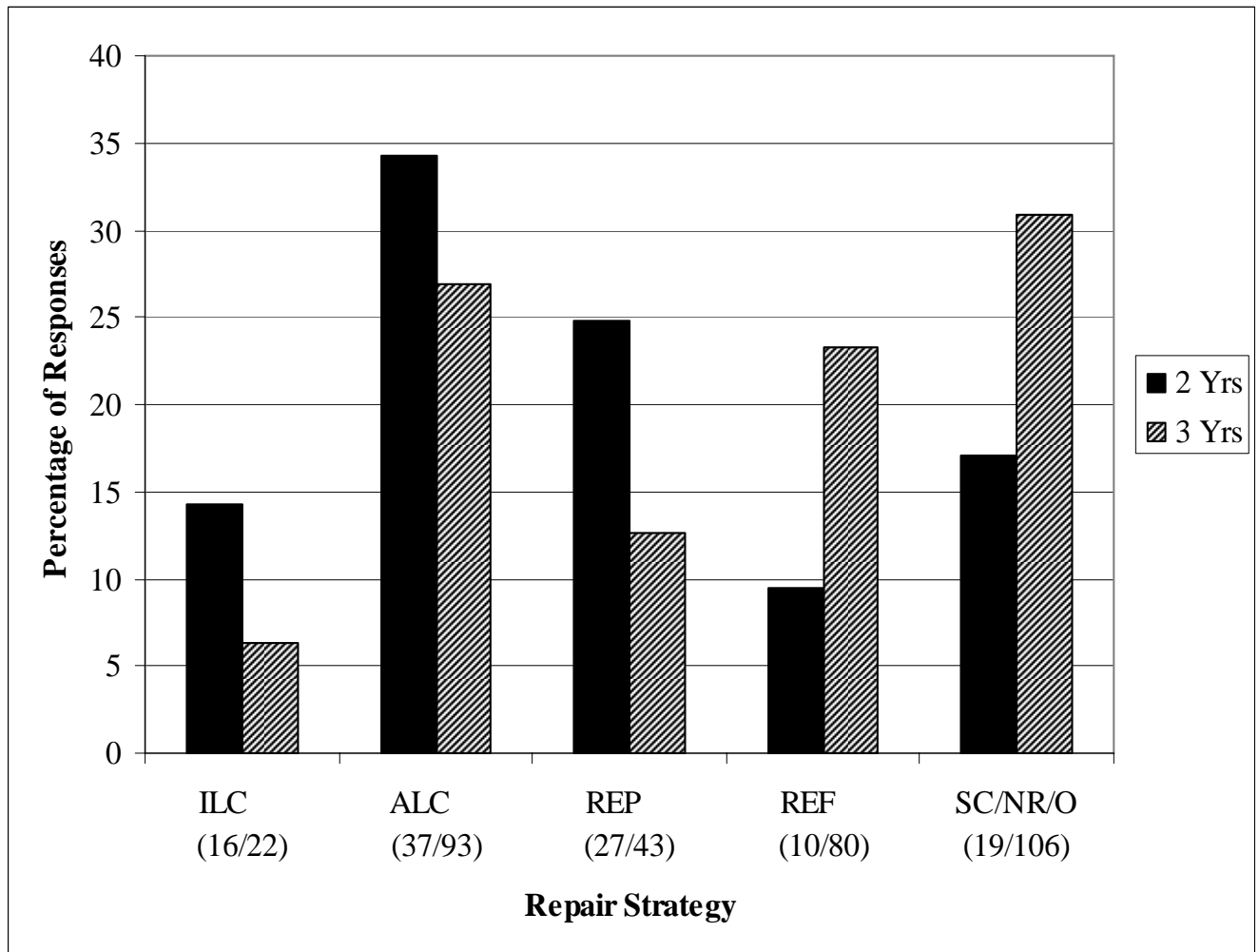
Note. ILC = Inappropriate language change; ALC = Appropriate language change; REP =

Repetition; REF = Reformulation; SC/NR/O = Subject change/No response/Other.

Serial Position of Request Resulting in a Language Change