Language change in young Panjabi/English children: implications for bilingual language assessment

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Language change in young Panjabi/English children: implications for bilingual language assessment

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Abstract

This paper reports some of the more frequent language changes in Panjabi, the first language of bilingual Panjabi/English children in the West Midlands, UK. Spontaneous spoken data were collected in schools across both languages in three formatted elicitation procedures from 50 bilingual Panjabi/English-speaking children, aged 6–7 years old. Panjabi data from the children is analysed for lexical borrowings and code-switching with English. Several changes of vocabulary and word grammar patterns in Panjabi are identified, many due to interaction with English, and some due to developmental features of Panjabi. There is also evidence of pervasive changes of word order, suggesting a shift in Panjabi word order to that of English. Lexical choice is discussed in terms of language change rather than language deficit. The implications of a normative framework for comparison are explored. A psycholinguistic model interprets grammatical changes in Panjabi

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and a sociolinguistic approach offers a social motivation for language code choices. The implications for assessing home language and identifying speech and language difficulties are discussed.

Introduction

The *Special Educational Needs Code of Practice* (DfES, 2001) recommends that bilingual learners with educational difficulties have an assessment of their language and learning skills in their first/home language. Furthermore, professionals must take care to distinguish between educational difficulties attributable to learning difficulties within the child and difficulties learning through a language they may not know. Standard practice among speech and language therapists (SLTs) and other professionals involved in the process of identifying language and communication difficulties is to compare the language performance of a child or young person with alleged difficulties with typical language performance of their peers. In the case of bilingual learners with alleged difficulties, one of the central challenges for SLTs and other professionals is teasing out whether the learner has difficulties learning (any) language as opposed to having difficulties learning only the additional language. There are important implications for educational management of the learner depending on the outcome. A recommended approach is to establish that language performance in the first and longer established language is developing typically and is similar to that of bilingual peers (Duncan, 1989).

To date, standard (lexicographic) descriptions of minority languages have been relied on to compare children's and young people's typical language development in the home language. In addition, developmental language descriptions (e.g., Panjabi: Madhani, 1989; Sylheti Bengali: Stokes, 1989) are drawn on to make informed judgements about children's home language development. However, languages are dynamic and susceptible to change, particularly when languages are in contact in multilingual environments (reviewed in Romaine, 1995). In contexts of language change, there are implications for assessing and identifying typical and atypical language development in bilingual learners with alleged difficulties.

This paper is interested in describing aspects of language change in Panjabi, one of the most widely spoken minority languages in the UK, and discussing the implications for assessing bilingual children with alleged language difficulty, in terms of distinguishing the variety of home language from language difficulties. That is, to what extent could assessing home language

help to identify speech and language difficulty? To what extent should home language be used to assess language skills and behaviour?

Code-switching between languages

Code-switching occurs when different languages are in contact: 'the use of two or more linguistic varieties in the same conversation, without prominent phonological assimilation of one variety to the other' (Myers-Scotton, 1988). The languages in contact in the study are Panjabi and English. Code-switching is determined by speakers' choices between Panjabi and English due to immediate sociolinguistic and pragmatic factors, such as contextual appropriateness, and speaker/listener understanding in/of both languages.

Code-switching can be evidenced in at least three ways:

- by 'borrowing' and 'loaning' words and phrases between languages;
- through interaction between patterns of word level grammar of the two languages within and between utterances;
- switching language codes at conversational/discourse level, within and across turn-takes.

The code-switching data in this paper focus on vocabulary borrowing and loans, and patterns of word level grammar within utterances, rather than at discourse level across utterances and speaker exchanges. The term code-switching rather than 'code mixing' is used here, although sometimes they can be used synonymously and at other times 'mix' suggests either a more stable integration of the two varieties or 'even implies unprincipled chaos' (Myers-Scotton, 1988).

The theory of code-switching used here to interpret the interaction between Panjabi and English language data is a psycholinguistic approach, based on the Matrix Language Frame (Myers-Scotton, 1993). A fuller exploration of the Matrix Language Frame and these data is discussed elsewhere (Martin *et al.*, 1999). There are other theories interpreting code-switching behaviours that focus more on socio-linguistic and pragmatic factors; these are not drawn on here to interpret the data. From an educational perspective it would be important to interpret code-switching across children's languages from a number of perspectives in order to understand the communicative repertoire children are drawing on to make meaning. However, it is not possible to offer several interpretations in one short article. We look now at the way in which the Matrix Language Frame interprets interaction between languages.

The Matrix Language Frame model

The Matrix Language Frame (MLF) uses the speech processing model developed by Levelt (1989) which was adapted by de Bott (1992) to deal with data from bi- and multilingual data (Clyne, 1997). It assumes language competence has three levels of lexical structure where 'lexical structure is both abstract and complex' (Jake and Myers-Scotton, 1997: 26):

1) relationship between vocabulary and thoughts/concepts (lexical–conceptual structure);
2) grammatical patterns for words in utterances (predicate–argument structure);
3) word level grammar, e.g., patterns for placing function words, word endings (morphological realization patterns).

The MLF model argues that borrowing vocabulary and interaction between languages happen at a conceptual level. The bilingual speaker selects the language in which they wish to speak; that is the matrix language (Panjabi). This choice is informed by both sociolinguistic and psycholinguistic factors. The matrix language, Panjabi, is activated and the embedded language, English, is less activated. In sociolinguistic terms, Panjabi is a nondominant language in England and consequently is the language likely to receive borrowings and loans. English, being the dominant language, is more likely to donate vocabulary and grammatical elements to Panjabi.

This relationship is reflected in the data of Panjabi and English languages in the bilingual children in this study, and we suggest that it is similar in most parts of the UK. Panjabi is seen to borrow, loan and receive words, phrases and other aspects of English, while the English of the bilingual children reflects no Panjabi code switches.

Vocabulary borrowing

There are two kinds of vocabulary borrowing across languages: cultural loan words and core vocabulary: 'cultural loan words' are culturally related words taken from the embedded language and used in the matrix language where there is no matrix language equivalent (Myers-Scotton, 1992). Common examples refer to inventions and aspects of culture that have become global, for example, television, computer, car, Spice Girls.

Core vocabulary is the set of English words represented in the vocabulary of both languages. In Panjabi spoken in England there are many examples of core

vocabulary, such as *brush*, *book*, *clean*. Table 2 (see below) is the only illustration of both child *and* adult data. The English words show examples of what might have been cultural loan vocabulary, such as *school*, *shop*, but which are long established in typical adult Panjabi. The Panjabi/English bilingual authors feel that other lexis, such as *mummy*, *daddy* and *teacher* may also be established core vocabulary both in Indian Panjabi as well as in this West Midlands–UK variety of Panjabi.

Word level grammar

For the purposes of this paper we focus on word level grammar patterns in the analysis of the data. Word level grammar patterns include:

- sequence of words in an utterance;
- word prefixes and word endings;
- function words required for language-specific well-formedness, such as case marking, subject–verb agreement, pre/postpositions.

There is a distinction between lexical words and grammatical words/word endings. Lexical words are usually nouns and verbs and participate in the meaning relationship of a sentence by representing the actor, action or recipient of the action. Grammatical words/word endings are similar to, but not identical with, function words and grammatical elements, and they add to the meaning of lexical words, such as tense over events and articles over noun phrases. They are arbitrary and language-specific, such as case endings, plurality or gender agreement, and they are not activated at a conceptual level because they do not help to encode the speaker's intentions. Most of the child data are single utterances, and analysis of the occurrence of borrowing and code-switching is 'within utterances'.

When a speaker engages in borrowing or code-switching within an utterance, an English lexical word, from the embedded language, is inserted into the grammatical frame prepared by Panjabi, the matrix language. This process involves *congruence*. Congruence means the evaluation of the appropriateness of the grammar and meaning of the embedded language element with the matrix language counterpart. Usually there can be one of two outcomes:

- The borrowed element is *congruent*, that is, the English word (embedded language) which is inserted into Panjabi (matrix language) is as grammatically and meaningfully appropriate as the Panjabi counterpart;
- When there is insufficient congruence compromise strategies follow. There are very few examples of this outcome in the data, and it is not discussed further here.

Research questions about Panjabi language change

- Is there evidence for English vocabulary stored in the Panjabi lexicon of Panjabi/English bilingual children which goes beyond notions of 'cultural loan words' or 'core' vocabulary?
- Is there evidence that Panjabi word level grammar is assigned to inserted English vocabulary? (i.e., evidence of congruence)
- Is there evidence for pervasive influences of English word order patterns on Panjabi word order patterns?

Procedures

The participants in the study were 50 bilingual Panjabi/English-speaking children (25 boys and 25 girls), aged 6–7 years old, who had been speaking Panjabi since birth, and English since entry to school about three years previously. They were from the same religious group (Sikhs), from a similar low socio-economic group, from first- and second-generation Panjabi families, and none had any known difficulties.

Spontaneous spoken data were collected in schools across both languages in three elicitation procedures:

- a formal 'testing' procedure using pictures and a puppet (the 'Sandwell Test', Duncan *et al.*, 1988);
- a semiformal interview about being bilingual; and
- a story (re)telling with pictures (a simple story about a woman, young boy and girl dressed in Panjabi clothes, and a dog)

The Panjabi data for each child across each task were transcribed into an English-based phonetic orthography and put onto computer files to form a data corpus by the Panjabi-speaking researchers. The absence of narrow phonetic transcriptions for the orthographic English words in the Panjabi data may have had methodological repercussions that are discussed later. The corpus was submitted to word frequency counts, concordances and discourse analyses (Sinclair, 1997). Concordances were sought for transcribed English words and the surrounding words in the utterance. The data were analysed according to English borrowing and interactions of vocabulary, word level grammar and word order. Table 1 shows the dimensions of the corpus. Evidence is presented to respond to the research questions.

Table 1 Panjabi child-only data across all three tasks

	Tasks			
	All	Interview	Story	Test
Total children	50			
Total files	146	49	48	49
Total tokens	36 480	9420	9431	17 629
Average tokens	250	192	196	360

Results and discussion

The direction of the interaction in the data we present is from English into Panjabi. We found no evidence in our data of Panjabi words being borrowed into English. The absence of this direction of borrowing and code-switching is likely to be due to sociolinguistic factors (Myers-Scotton, 1988; Martin and Stuart-Smith, 1998). The Panjabi interviewer was bilingual and the children knew that she could code-switch between the two languages, indeed her own Panjabi showed code switches and borrowings from English. The Panjabi/English speakers recognize the linguistic choices open to them and the use of English code-switching is a further signifier of meaning making. There is a psychological reality to the social negotiation of code-switching (Myers-Scotton, 1988). There may have been additional strong influences; for example, the interviews took place in school, which is an English-speaking environment where the children would not expect to speak Panjabi with adults.

Borrowing

> Is there evidence for English vocabulary stored in the Panjabi lexicon of Panjabi/English bilingual children which goes beyond notions of 'cultural loan words' or 'core' vocabulary?

There seem to be few examples of English 'cultural loan words' in the Panjabi of the children or the interviewer. Table 2 is the only illustration of both child *and* adult data. The English words show examples of cultural loan vocabulary, such as *school*, *shop*, *train* which are long established in typical adult Panjabi.

There are many examples of 'core' vocabulary in the data, such as *brush*, *book*, *clean*. The Panjabi/English bilingual authors feel that other words, such as *mummy*, *daddy* and *teacher* may also be established core vocabulary both in Indian Panjabi as well as in this British variety of Panjabi. Judging from the contexts where they occur in the data, these words seem to reference similar

Table 2 English content morphemes with no equivalents in Panjabi in child and adult data

mummy	coat	bag	sweet (=candy)	funny
daddy	bed	table	icecream	box
teacher	gas	train	school	(story)
friend	fence	boat	shop	

meanings in Panjabi and in English. However, the words might have different phonological representations in each language.

There is one example of English items that appear in the child-only data but which also have Panjabi equivalents in the adult data. For example, *story* appears in the children's data but not in the adult's, while the Panjabi equivalent of *story*, *kahaaNii*, occurs only in the adult data. Since there is no breakdown in communication between the children and adult over this, it seems that the children and adult have representations of *kahaaNii* and *story* in the Panjabi lexicon but for various reasons access only one expressively. The speakers could be motivated by different pragmatic reasons, such as the adult was very committed to speaking in Panjabi. It could be that the children found *story* easier to access since this was a 'school-type' activity. On the other hand, psycholinguistically, the children may have found it more difficult to access the Panjabi word *kahaaNii* for expressive purposes.

Finally, we cannot be sure that just because no Panjabi equivalents appeared in their data that the children do not have them. However, the two Panjabi adults involved in the project reported that, although they were able to refer to Panjabi equivalents, they no longer used them. It is likely that the children are no longer exposed to them in daily Panjabi talk. Functionally, the Panjabi lexicon seems to have a corpus of English vocabulary that has no Panjabi equivalents and, further, this corpus may be increasing in younger speakers.

Do these English elements perform differently from others that do not have Panjabi equivalents in the data and in the children's lexicons?

There are four pieces of evidence in the data to consider for this research question. First, the data in Table 3 show the most frequently occurring English words, including nouns, adjectives and prepositions, which are functioning in Panjabi. Many of these English words remain unchanged at surface level when inserted into Panjabi, although we cannot comment on their phonological realization. Other words are integrated into Panjabi word level grammar, which is discussed later in an example where English verbs function as nouns in Panjabi.

Table 3 English words that have Panjabi equivalents

English	Panjabi	English	Panjabi
because	karke	happy	khush
dog, doggy	kutte	sad, not happy	khush nahi
letter	chitti	nice	change
man	bande	middle	gabbhe
house	ghar		
like	pasand		
read	paRh		
write	likhean		
book	one occurrence of *kitab* in the data		

Secondly, there is also evidence in the data that children use both English and Panjabi equivalents in the same utterance (noted also by Romaine, 1995). For example:

Child: PS04
Setting: Child telling a story in Panjabi:
DOG *kuttaa* HAPPY *aa*
dog dog happy be-PRES-3PS
'the dog is happy'

Thirdly, there are approximately a further 120 English words that occur less frequently in the data (between seven and 453 occurrences across all the children's data). These data again indicate that there seems to be an identifiable corpus of English lexis that is regularly, although less frequently, inserted or borrowed into Panjabi by the children. The implications for the development of Panjabi lexicon is that for most children there are many instances where they combine Panjabi grammatical information with borrowed English lexis.

Fourthly, there are hundreds of singly occurring English words with less than seven occurrences in the Panjabi data. These English insertions (nouns and verb words) are less predictable than the borrowings discussed above. This kind of interaction seems to be related to speakers' pragmatic purposes and needs to be studied in more detail within the discourse.

These findings have implications for assessment of the Panjabi home language. Bilingual children regularly exercise lexical decisions concerning pragmatic appropriateness of English vocabulary in Panjabi. When bilingual children exercise these decisions we need to consider whether to interpret use of English vocabulary as a pragmatic decision (sociolinguistic competence) or as a lack of, or inability to access, Panjabi vocabulary (psycholinguistic incompetence). Furthermore, the child's decision is taking place within a community of speakers who may prefer to use one lexical form over another.

The appropriation of English lexis is a form of assimilation that is 'a gradient, not a categorical, concept and can provide us only with a continuum as a metric for evaluation' (Myers-Scotton, 1988).

Although we did not identify a research question, we found evidence that suggests developmental aspects of Panjabi. There are occurrences of changes to Panjabi case endings, and failure to signal Panjabi case endings which, the Panjabi authors believe, appear more likely to have arisen for developmental reasons rather than as a result of contact with English. Three most frequently occurring examples in Panjabi are tabulated in Table 4.

Nearly half the children show instances of nontarget forms of cases. Of a total of 159 uses of nontarget case forms, the three most frequent are analysed. Incidentally, the term 'nontarget form' also presents problems in a study of language change. It is used here to indicate the usual adult spoken form.

1) A noun or pronoun followed by a postposition takes the case ending, *oblique form*. In many nouns the oblique form does not morphologically differ from the direct, or nonoblique, form. For example, the oblique form is only required with masculine nouns, which change their case form before a postposition. Hence, the noun *mundaa* (boy) is a frequent example, while in *kuri* (girl) it is absent. The incidence of the nontarget form of the nonoblique, or direct form, before a postposition is 44 times by 21 children, 2 of whom used it 5 times and 7 used it at least once.
2) *ne* is used as an agent postposition in two forms and where the agent postposition also takes the oblique form. The most frequent nontarget use of *ne* is omission when it is required after the subject noun phrase of a transitive verb in the perfective form. Together with other nontarget uses of *ne*, these amount to about 30% of all the nontarget uses of case forms.
3) *nuun* has three important target forms, with definite objects, in dative constructions and in 'obligation' constructions. The most frequent nontarget use of *nuun* is omission and together with other forms of its nontarget use amount to 18% of all the nontarget uses of case forms.

The Panjabi authors believe that a likely explanation of these forms is that they are developmental, and may be signalled in older, more proficient Panjabi

Table 4 Nontarget case forms occurring in Panjabi child data

Error type	Nonoblique form used	*ne* omitted	*nuun* omitted/misused
No. of errors	44	32	20
No. of children	21	23	11

speakers. Nevertheless they are features of the variety of Panjabi spoken by this cohort of Panjabi/English six-year-olds.

Congruence and integration

> Is there evidence for congruence between inserted English vocabulary and Panjabi word level grammar?

We present three examples of evidence of English vocabulary items that had been assigned Panjabi word level grammar, so that English words were integrated into Panjabi.

Plurals. In the data, the Panjabi plural gender word ending *aan* is the most frequently occurring example of integrating English words into Panjabi. There are over 700 occurrences (approximately 2% of the data) of this example, with the highest frequency in *sweet*, *book*, *picture*, *friend*, *car*, *shop*, *icecream*, *story*, *game* and *photo*. There seems to be only one example in the data of grammatical case endings shown in the locative case ending, meaning 'to' or 'at': *school-e*, which appears in the children's and the adults' speech.

Pre/postpositions. Words indicating position are placed after the noun phrase in Panjabi (post positions) and before the noun phrase in English (prepositions). For example:

(i) **Panjabi adult target**:	**ghabbe vich**
Literal translation:	middle in
Children's spoken variety:	**middle vich**
Literal translation:	middle in
English:	in the middle

In example (i) *middle*, the English word has simply been inserted into the congruent Panjabi structure.

(ii) **Panjabi standard target**:	**baaltii table (de) thalle aa**
Literal translation:	bucket table (of) under is
Children's spoken variety:	**baaltii thalle table de aa**
Literal translation:	bucket under table of is
English:	the bucket is under the table

In example (ii), the postposition *de thalle* has been split and *thalle* prepositioned and the optional *de* is postpositioned. This is *not* recognized as a developmental form by Panjabi speakers. Analysis of the example suggests

that the grammatical patterns for prepositioning in Panjabi may come from English prepostioning word order. English influence may come from pervasive contact with English or from the code-switch English word *table*, even though *table* is established core vocabulary in Panjabi lexis.

Verb compounds. A further example of congruent integration is English vocabulary into Panjabi verb compounds. Panjabi verb structure has an auxiliary verb, such as *kar* (do) with a noun or adjective (nominalized verb participle). Examples from the data include:

(i) hair comb kardii
hair comb do-SHE 3PS
she combs her hair
(ii) ball nuun kick kardaa
ball at kick do-HE 3PS
he kicks the ball
(iii) brush teeth kardaa aa
brush teeth do-HE 3PS
he brushes his teeth
(iv) walk kardii aa wall te
walk do-SHE 3PS wall on
she walks on the wall

In the first two examples, the object comes first (hair, ball) then 'kardaa/kardii' immediately follows the English verb. However, in (iii) the word order is not 'teeth brush'. Instead, it is 'brush teeth' suggesting it has become a compound noun (but not 'comb hair'). Further examples in the Panjabi data include verb compounds with English lexis: *start*, *change*, *read*, *learn* and *balloon*. They are borrowed as Panjabi lexis and integrated into Panjabi with the appropriate grammatical entailments to form Panjabi verb compounds.

Word order changes (morpheme order principle)

In the absence of English lexical surface forms, is there evidence for pervasive influences of English word order patterns on Panjabi word order patterns?

Word order is very flexible in many languages, particularly Panjabi. However, in the child-only Panjabi data, there are many examples (approximately 5% of the data) where word order has changed from that required by Panjabi to that of English. There seems to be no obvious motivation, such as pragmatic,

semantic or grammatical reasons. Table 5 gives the most frequent examples and their occurrence.

In category (a) a typical example is:

PT12	mundaa kick kardaa ball	SVO
	boy kick do-HE-3PS ball	
	the boy kicks the ball/the boy is kicking the ball	SVO
	The usual Panjabi word order would be:	
	mundaa ball kick kardaa	SOV

Particular features of the data are worth noting:

(i) The SVO (subject verb object) pattern, which is the English pattern, is reflected in the Panjabi utterances of the children and occurs equally whether or not there are any English words before the subject.

(ii) About a quarter of the nontarget word order data contained no explicit subject; since Panjabi does not need to signal subjects, this is appropriate. However, the remainder of the data did include a noun or pronoun in the subject noun phrase position, and all bar one in Panjabi lexis. The effect of having a stated subject noun phrase makes the word order less flexible. Thus there could be a combination of English word order constraints moving to shift the Panjabi word order constraint.

(iii) There is no easy arithmetic correlation between a higher incidence of English vocabulary in these data than in the data with target Panjabi word order. There was less than half (approximately 40%) English vocabulary in these data.

According to the MLF model where there is interaction between languages, the word order pattern should remain that of the matrix language, which here is Panjabi (Myers-Scotton 1993, 1997: 83). However, this principle is clearly transgressed in the data just analysed. It seems that most of the children at some time in the data shifted from the word order of the matrix Panjabi language frame of their first language, to the embedded English

Table 5 Nontarget word order in Panjabi child data

Category	Occurrence	Children
(a) SVO order used in place of required SOV	128 (50%)	36 (72%)
(b) Adverbial phrase placed *after* the verb	66 (25%)	33 (66%)
(c) Adverb of place/position nontarget order	17 (7%)	12 (24%)

language word order frame, prompted by a combination of changes, such as explicit subject noun phrase. This signals an important change in the relationship between matrix and embedded languages in young bilingual children (Bolonyai, 1999). There are also important implications for assessment of first-language Panjabi speakers. Word order of Panjabi elements in utterances has been seen as a key marker for distinguishing typical from atypical language development.

Implications

We now summarize the main findings in the light of the research questions. In interpreting these findings we note the theoretical and methodological constraints of the approach. Finally, we explore the wider theoretical and practical implications of the findings for bilingual language assessment.

Summary of main findings

The first research question asked was: Is there evidence that English vocabulary is stored in the Panjabi lexicon of Panjabi/English bilingual children which goes beyond notions of 'cultural loan words' or 'core' vocabulary? The data showed that there is evidence that Panjabi speakers, particularly this cohort, did not have access to some Panjabi words and had appropriated a range of English vocabulary not simply cultural loan or core vocabulary. There was also further information. There is vocabulary in Panjabi that is represented in both language codes and can be accessed receptively if not expressively in Panjabi, which allows communication to be maintained. The second question was: Is there evidence for congruence between inserted English vocabulary and Panjabi word level grammar? The data suggest that there is, although there were few instances in the data where whole English phrases were inserted and which would demonstrate incongruence. The data also showed that aspects of Panjabi word level grammar were developmental. While the first two findings suggest that the level of code-switching is focused at word level, the third question looked for information of influences across the whole utterance. The third question asked: Is there evidence for pervasive influences of English word order patterns on Panjabi word order patterns? A minority of the data showed that there were changes in word order that reflected English grammar patterns. There seemed to be no obvious triggers to the word order changes, such as English lexical borrowing.

Methodological constraints

These findings need to be interpreted within certain theoretical and methodological constraints. Four important aspects are discussed here: transcription, data collection, developmental dimension and the theoretical implications of MLF.

We cannot be sure that just because no Panjabi equivalents appeared in their data that the children do not have them. However, the two Panjabi adults involved in the project reported that, although they were able to refer to Panjabi equivalents, they no longer used them. It is likely that the children are no longer exposed to them in daily Panjabi talk. Functionally, the Panjabi lexicon seems to have a corpus of English vocabulary that has no Panjabi equivalents and, further, this corpus may be increasing in younger speakers. The English words do not seem to behave differently from Panjabi words and they carry Panjabi word grammar.

The English-based phonetic orthographical representation of the children's Panjabi did not reflect some of the phonetic information that would have distinguished Panjabi realizations from English realizations. The absence of narrow phonetic transcription may have been a methodological omission, but not necessarily. Myers-Scotton (1988) discusses the 'expected hypothesis' that borrowed words are more assimilated phonologically into the matrix language than code-switched words. She argues from her own data that borrowed words that are not phonologically assimilated show 'deep assimilation' in word level grammar congruence. The hypothesis that a Panjabi phonological realization of an English word indicates that the word is represented in the child's Panjabi mental lexicon, and an English phonological realization indicates it was represented and stored in the English lexicon is not necessarily upheld. A Panjabi phonological realization may not be necessary to indicate 'deep assimilation', and congruence seems to be a more reliable indicator of assimilation.

An advantage of computerized data is that it allows for corpus analysis and enhanced reliability. Previous studies (e.g., Reynolds and Akram, 1997) relied on hand transcription and counting of code-switching phenomena that may not have been as reliable or replicable as corpus analysis.

There are constraints on the data collection procedures. The data was collected through a test procedure, a closed question interview and prescribed story telling procedures, and did not represent naturally occurring language in the contexts of everyday life. However, these procedures are often used in clinical and educational language assessment scenarios and would be similar to those used by professionals assessing bilingual children with alleged language difficulties.

The children in the cohort were still developing both languages, Panjabi and English, which most of them had mainly been exposed to only since entry to

school three years previous, and the data reflected instances of developmental Panjabi. Data from an older cohort might offer a different profile not only in more developed word level grammar in Panjabi but also in other aspects of code-switching.

The data has been interpreted through the lens of the MLF model. The frame adopts a psycholinguistic analysis of language with structural descriptions of language change, that is, looking at words, word level grammar and utterance grammar. The MLF does not explore individuals' selection and organization of meaning–making in code-switching or the sociolinguistic motivations driving the process of community language change. In addition, theoretical implications of using the MLF would be to generalize and suggest that these changes might be happening in the language of young Panjabi speakers throughout the UK. A different theoretical approach with a more sociolinguistic emphasis might argue the need to explore the nature of other Panjabi speech communities. In this case the cohort came from two adjacent neighbourhoods of Sikh communities, which shared many cultural, religious and language practices but also differed in many ways, particularly socio-economically. A study concerned with the sensitivities of speech communities would explore this dimension more thoroughly than the MLF allows. However, many professionals, particularly SLTs and educational psychologists, draw on a psycholinguistic approach to interpret and plan intervention for speech and language difficulties in children. Presenting interpretations of language change through the MLF analysis has theoretical and professional relevance.

The languages of other linguistic minority communities in the UK are also likely to be changing. The MLF model allows us to predict that similar processes of change in vocabulary, word level grammar and word order patterns in minority languages are likely to occur. Consequently, similar issues about assessing home languages will arise and need discussion with bilingual assistants. More research is needed on other minority languages to explore these trajectories of language variation.

Implications for assessing home language Panjabi

The findings of this initial report of the data tentatively suggest theoretical and practical implications for language assessment of bilingual children. We discuss the implications of the findings for assessing Panjabi in bilingual children with alleged language difficulty. We look at the implications of distinguishing Panjabi variation from language difficulties. That is, to what extent could assessing home language help to identify speech and language difficulty? More importantly, to what extent should home language be used to assess language skills and behaviour as a way of identifying difficulties and needs?

One of the most important findings concurs with an intuitive perception that Panjabi, particularly among youngsters, is changing from 'standard' Panjabi and they are developing a new British Panjabi variation. The appropriation of English vocabulary into Panjabi occurs along a continuum. On the one hand the amount and kind of appropriation of English vocabulary may vary from child to child, and on the other hand the child's decision is taking place within a community of speakers who prefer to use one lexical form rather than another. Panjabi-speaking children regularly exercise lexical decisions concerning pragmatic appropriateness of English content words in Panjabi that are socio-psychologically motivated. It is important not to offer "folk explanations taking account only of the speaker (rather than the interaction) such as 'he switches because he can't think of the right word'" (Myers-Scotton, 1988). Code-switching and borrowing English words may in fact be a pragmatic decision, that is, sociolinguistic competence, and not a lack of, or inability to access Panjabi words, which would be psycholinguistic incompetence.

The findings suggest at least four implications concerning identifying language difficulties in Panjabi-speaking children. Developmentally, assessment of home-language Panjabi in young children needs to take account of developmental explanations for nonadult type Panjabi grammar, in particular word level grammar. Also, it must take account of the fact that appropriate Panjabi word level grammar may be used with borrowed English vocabulary. From a pragmatic perspective, some bilingual children may show difficulty in socially negotiating the appropriate variety of Panjabi, that is, reflecting similar lexical choices as the other speaker in the normative framework of code-switching. Bilingual children who have difficulty doing this may have pragmatic difficulties in higher-order language use and communication. It would be worthwhile exploring and monitoring their sociolinguistic competence. From a psycholinguistic approach, it may be harder to identify difficulties learning new words in bilingual children, particularly from conversation activities. It would be important to note behaviours associated with word-finding difficulties, such as hesitation, word-search behaviours, malapropisms, and difficulty learning new words, such as curriculum vocabulary. However, it is likely that specific probing of skills in vocabulary learning in Panjabi would be needed to explore these difficulties, as they are with monolingual children. Fourthly, instances of Panjabi word order changes from standard Panjabi to English word order may not be the important signifier of grammatical weakness as might have been thought. Specific language impairment and other language difficulties are often linked to word order patterns in English and a more sensitive exploration of Panjabi word order patterns would be needed.

For children with severe communication problems from Panjabi-speaking homes an assessment of language understanding and skills in the home language assessment may be orientated towards exploring the child's and family's use of Panjabi vocabulary. It is likely that some of this vocabulary may in fact be English core vocabulary used in Panjabi. It would be worthwhile building on this as shared vocabulary between home and school or day care centre, as well as developing other Panjabi vocabulary.

There are implications for test procedures in Panjabi based on traditional descriptions of Panjabi. Published descriptions of vocabulary, grammar and word level grammar need to be revisited and amended for an emerging British variety of Panjabi. Traditional descriptions of Panjabi can no longer be used as target forms for 'normative' comparison with speakers of new varieties of British Panjabi. It is further evidence that 'for multilingual speakers . . . the search for standardized assessments may be unrealistic . . . one would have to standardize not for monolingual speakers but for particular language combinations.' (Müller, 2003: 7).

Political and social implications

The findings about an emerging new variety of Panjabi have political importance, that is, concerning putting policy into practice, for home language assessment. There are implications for putting into practice the injunction in the Code of Practice (DfES, 2001) that bilingual learners with educational difficulties should be assessed in their home language. Assessors need to be aware that the changing forms of the home language are a sociolinguistic dynamic rather than a feature of language disability. There are also implications for training bilingual assessors to conduct a reliable and informed home language assessment.

Language is intimately involved in the construction of identity, particularly with bilingual speakers. Speaking Panjabi continues to be a defining feature of Panjabi communities and of being a Panjabi person. Older members of the Panjabi community position themselves as gatekeepers of Panjabi language, religion and culture (see Martin and Stuart-Smith, 1998). The findings showing changes in Panjabi as the subordinated language influenced by the dominant language, English, were disturbing to the older Panjabi members of the research team. Feelings of concern and loss were expressed, specifically concerning the loss of the standard form of the language. The 'standard' variety of Panjabi was changing influenced by English, giving rise to considerations about the intimate relationship between language and identity: for example, if you speak a more anglicized Panjabi, are you more English and less Panjabi?

There are implications of this perspective for Panjabi assistants who work in this field. They may share with the researchers some of the concerns of changes from the standard form to a new variety of Panjabi. They may need opportunities to express their thoughts and feelings about these changes and the emergence of a new variety of Panjabi. While home language is an aspect of clinical investigation, it is also an aspect of social and individual identity (Müller, 2003). As professionals, bilingual assistants, SLTs and educationists need to be aware of the relationship between language and identity and the personal feelings that may be involved concerning language change, if we are to work successfully with Panjabi-speaking families and communities.

Implications for working with bilingual assessors

The findings offer further support for the recommendation that bilingual assessors need to be speakers of the local variety or be familiar with it. They must be aware of typicality and difference. They need to have an awareness of the patterns and processes of young children's Panjabi language and developmental features. They also need to be aware of the kind of vocabulary that is likely to be borrowed from English, and also vocabulary that is likely to have lost its equivalence in the home language and only English elements are represented, and accessible. In optimal circumstances bilingual assistants in home language assessments need also to have an awareness of the behaviours associated with language difficulties to avoid confusing behaviours associated with language difficulty and disability, with language variation. SLTs are required to distinguish between language variations and language difficulties and a substantial amount of their professional study is dedicated to developing these skills. Bilingual assistants need to study aspects of their languages so that they can bring that knowledge, understanding and skills to bear on their evaluations of learners with alleged language learning difficulties. These findings suggest that knowledge, skill and understanding of this kind should be developed with bilingual assistants in their home language and that this is no longer a preference but an essential requirement.

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