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Speech and Language Sciences Section
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BILINGUAL LANGUAGE DEVELOPMENT IN PAKISTANI
HERITAGE CHILDREN IN ROCHDALE UK:
INTRASENTENTIAL CODESWITCHING AND THE
IMPLICATIONS FOR IDENTIFYING SPECIFIC
LANGUAGE IMPAIRMENT

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the requirements for the degree of
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DECLARATION OF ORIGINALITY

The material presented in this thesis is the original work of the candidate except as otherwise acknowledged. It has not been submitted previously in part or in whole, for any award at any university, at any other time.

A handwritten signature in purple ink that reads "S. Pert". The signature is written in a cursive style with a long horizontal stroke at the end.

Sean Pert

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ABSTRACT

This research aimed to describe the patterns of language development and frequency of codeswitching in Pakistani heritage children. Receptive and expressive language skills of 167 participants aged between 2;6 and 7;2 were sampled in their home language, Mirpuri, Punjabi or Urdu. In terms of MLU, Mirpuri children developed language in the same way as their monolingual English peers with comparable scores for children aged 3;0 to 4;5. Expressive language samples contained a high frequency of intrasentential codeswitching with a stable mean of between forty and fifty percent of multiword utterances.

Data were examined using the Matrix Language Frame (MLF) and 4-M models (Myers-Scotton 2006, 2002, 1993) and found generally to conform to adult codeswitching patterns. Noun insertion was more frequent than verb insertion. A monolingual frame language was employed for over ninety eight percent of utterances, even when English verbs were incorporated into Mirpuri utterances. A Mirpuri compound verb structure consisting of noun plus an operator was a common site for codeswitching. First described by Romaine (1986) in adult Panjabi codeswitching, the Mirpuri noun was often replaced by an inserted English noun or verb. Forty five novel codeswitched compound verbs were found in the data, nineteen formed from an English noun plus a Mirpuri operator, and twenty six from an English stem verb plus operator. The large number of codeswitched compound verbs suggests that this structure is highly creative and novel verbs were not examples of borrowings. These findings challenge surface constraint codeswitching models and support the MLF and 4-M models. EAL acquisition was examined. Codeswitching from the home language into English was rare and EAL patterns contrasted with monolingual English acquisition patterns. Three case studies of children presenting with specific language impairment confirmed the hypothesis that codeswitching patterns may assist in identifying SLI in a child from this community.

PUBLICATIONS RESULTING FROM THIS THESIS

- PERT, S. and LETTS, C., 2006, Code switching in Mirpuri speaking Pakistani heritage preschool children: bilingual language acquisition. *International Journal of Bilingualism*, **10** (3), 349-374.
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NOTES

The Mirpuri language does not have a written form. Examples in this thesis are given using Roman script that constitutes a rough approximation to the forms used. A description of the phonology of Mirpuri is provided in Stow and Pert (2006a, 2006b).

Throughout this thesis the terms used to refer to a person or population's ethnicity are drawn from official classifications set out by the Office for National Statistics. The word 'heritage' is also used to denote a person or population that has cultural and linguistic connections to a particular country.

**CHAPTER ONE:
INTRODUCTION TO THE STUDY**

1.1 INTRODUCTION

This study examines the language acquisition of bilingual children with specific focus on the high frequency intrasentential codeswitching employed by Pakistani heritage children sequentially acquiring Mirpuri followed by English. Codeswitching is regarded as a sign of linguistic sophistication in adult speakers (Genesee *et al.* 2004, Muysken 2000, Poplack 1980, Ritchie and Bhatia 2004). However, in the past, it has been viewed negatively by both monolinguals and bilinguals (Romaine 1995, Toribio 2001). Baker and Genesee *et al.* (2000, 1995) report that it has been claimed that children are unable to differentiate their two (or more) languages. Intrasentential codeswitching is a term to describe the phenomenon when bilingual or multilingual speakers combine elements, lexical items and grammatical features, from two or more languages into one sentence (MacSwan 2004, Muysken 2000). Other analogous terms have also been used, with differences in terminology to reflect the unit of analysis. These include intra-utterance codeswitching (Genesee *et al.* 2004) and reference to the CP (projection of complementizer) as the unit of analysis (Myers-Scotton 2002). Whichever unit of analysis is used, there is now broad agreement amongst linguists that codeswitching within a single unit is rule-governed, grammatically sophisticated, behaviour (Bhatt 1997, Boztepe 2003, Di Sciullo *et al.* 1986, Nishimura 1995, Romaine 1995). The specificity of the rules involved in intrasentential codeswitching is a matter of on-going debate. Some researchers and linguists propose constraints which are specific to bilingual utterances (Bhatt 1997, Di Sciullo *et al.* 1986, Paradis *et al.* 2000, Pfaff 1979, Poplack 1980), whilst others propose universal linguistic rules (Clyne 2000, Gardner-Chloros and Edwards 2004, MacSwan 2004, Myers-Scotton 1993), arguing that intrasentential codeswitching is merely one example of human language where the rules are more overt due to the origin of the words and morphemes involved. Auer regards codeswitching as ‘...a subject matter which is recognised to be able to shed light on fundamental linguistic issues, from Universal Grammar to the formation of group identities and ethnic boundaries through verbal behaviour’ (Auer 1998a: 1). Typically developing bilingual children have been shown to demonstrate intrasentential codeswitching in a similar manner to adults for European languages such as

French and English (Paradis et al. 2000). Although the area is highly complex and controversial, English speaking children with specific language impairment have been reported to have particular difficulty with learning language rules relating to grammatical morphology (Leonard 1998). These difficulties vary with the language spoken, and findings on English speaking children with Specific Language Impairment (SLI) are not always relevant to children presenting with SLI who are acquiring other languages (Leonard 1998). If children with SLI have difficulty with the mapping of meaning onto syntax and grammar, it is likely that bilingual children with SLI will present with difficulties with the rules governing intrasentential codeswitching. If this were observed in bilingual children with confirmed SLI, then impaired codeswitching may prove to be a useful indicator of SLI.

This thesis presents findings from a study on a previously under-reported but significant bilingual population within the UK. Culturally appropriate data collection tools were designed and normative data collected. Language data were collected from 211 typically developing Pakistani heritage children living in Rochdale, UK. The first cohort were aged 2;6 to 7;2. The children spoke one or more Pakistani heritage languages, Mirpuri, Punjabi and Urdu in combination with English, although individual children ranged from monolingual in a Pakistani heritage language to monolingual in English. A very high level of intrasentential codeswitching was observed in those children who provided an expressive language sample. The nature of the intrasentential codeswitching was found to conform to a rule-governed form in the same way as adult codeswitching.

A further cohort of forty four Pakistani heritage children from the same population aged between 3;10 and 6;9 years of age were assessed in English. The children's English as an additional language acquisition (EAL) patterns and any codeswitching from the home language into English were examined.

The clinical implications of this finding were tested by retrospective evaluation of the language development of three bilingual children who currently attend a

speech and language unit. These children lived in the same area as the normative sample and the clinical tool developed for the population had been used to assess the bilingual SLI children's expressive language.

1.2 RESEARCH POPULATION

Bilingual populations are a unique product of their situation. It is unlikely that the language development of a Pakistani heritage child in the UK is identical to that of a child growing up in Pakistan. Terminology and labels for languages and dialects and type of bilingual language acquisition are often used in different ways by different researchers. It is important to describe not only the population in question, but also the local circumstances in which they live. The Pakistani heritage population in Rochdale has not been previously described in detail. Mirpuri, also referred to as Potohari, Punjabi, Pohari (Rahman 2003) is the main language spoken by the population described in this thesis. Rahman estimates that '...there are over 500,000 speakers...' in England (2003: 215), whilst Bunting (2005) estimates that 70% of the British Muslim population were Mirpuris (people originating from Mirpur in Pakistani Kashmir who speak the Mirpuri language). The 2001 census reported that there were 686,000 Pakistani Muslims in the UK (National Statistics 2004c) which would point to an estimated 480,200 Pakistani Muslims who are Mirpuris. According to the 2001 census, 582,368 people aged 3 and over were able to speak Welsh, or 20.8% of the population (The Welsh Language Board 2005). Mirpuri is therefore possibly the third most widely spoken language in the UK after English and Welsh (Smithers 1999). Mirpuri has not been described in detail and has previously been dismissed as a dialect or described as a variant of Punjabi (Reynolds 2002). The Mirpuri speaking population rarely name it as their first language and report that they are Punjabi or Urdu speakers (Pert and Letts 2003, Stubbs 1985). The bilingual children from the Pakistani heritage community in Rochdale, UK are sequential minority language speakers living in socio-economically deprived areas. This chapter explores issues around bilingualism and describes the Pakistani heritage population in Rochdale, UK in detail.

1.3 DEFINITIONS OF BILINGUALISM

1.3.1 MONOLINGUALISM

'Monolingual' is defined as '*adj* knowing or using only one language' (Allen 2002: 568). This appears to be a straight forward dictionary definition that is easy to verify. However, when the current author asked a group of 30 speech and language therapy undergraduates if any of them were bilingual, only those students who used a home language on a regular basis responded in the affirmative. 'Monolingual' students who also had acquired another language through formal learning, for example GCSEs or 'A' level qualifications, did not define themselves as bilingual. They retained the label 'monolingual' and classified foreign language learning as knowledge in the same way as any other formally learnt subject. Ideas of the age at which an additional language was learnt, the manner (i.e. formal instruction rather than naturalistic acquisition) and relative competence were all cited as reasons why the students viewed themselves as monolingual English speakers. These students are expressing views which are commonly found in cultures where '... monolingualism and uniculturalism are promoted as the normal way of life...' (Li Wei 2004: 5). Linguistics has been strongly influenced by the monolingual view, with linguists such as Chomsky stating that 'Linguistic theory is concerned with an ideal speaker-listener in a completely homogeneous speech community' (1965: 4). As a result, most of the research into language acquisition in children has studied the subject from a monolingual, rather than a bilingual perspective (Romaine 1995). The result is that when research papers, books and other media refer to language acquisition, specific language impairment or any other topic the default is monolingualism, and, if not, bilingualism must be specifically stated. As Romaine states 'It would certainly be odd to encounter a book with the title *Monolingualism*,' (1995: 1).

The sheer number of bilingual speakers on the planet testifies that monolingualism is a special and unusual state, rather than bilingualism. Crystal points out, bluntly, that those members of the Western society who think that monolingualism is the normal way of life '...are wrong' (1997: 362). Estimates vary, but it is thought that there are some 5000 to 6000 languages used in

fewer than 200 countries, with a combined population of hundreds of millions (Bhatia and Ritchie 2004, Crystal 1997, Li Wei 2004).

Monolingualism has been regarded as the norm for children in particular. Meisel points out that this misplaced attitude ‘...may lead to the assumption that deviating from this norm implies risks which had better be avoided’ (2004: 91). The belief that bilingual language acquisition is harmful or ‘confusing’ to a child has been strongly challenged by the literature for many decades now. Despite this, it is claimed that the majority of the public and some professionals continue to expound the myth that bilingualism is adverse to the development of normal speech and language skills (Abudarham 1987).

1.3.2 BILINGUALISM AND MULTILINGUALISM

Although bilingualism is used literally as the ability to understand and use just two languages, the term ‘Bilingualism’ is often used to include all speakers of two *or more* languages (Li Wei 2004, Stow and Dodd 2003). The term ‘bilingualism’ therefore encompasses other terms found in the literature including ‘trilingualism’ (three languages) and ‘multilingualism’ (many languages). In addition, I include any child that has been exposed to more than one language, including those with limited proficiency and receptive only skills. This definition will be used throughout the thesis. A plethora of terminology has been applied to people who speak two or more languages. These terms often refer to the timing, proficiency, manner or circumstances in which languages are acquired. Li Wei listed 37 terms to describe a variety of bilinguals, a list which is not exhaustive (2000: 6-7). Some of these terms are defined below.

1.3.3 SIMULTANEOUS AND SEQUENTIAL BILINGUALISM

The terms ‘simultaneous bilingual’ and ‘sequential bilingual’ are related to the point in a person’s life when they acquired their additional language(s). A simultaneous bilingual acquires both languages together at a young age. Within this definition, the exact age a child must have begun to acquire more than one language is debated, but it is generally agreed to be at least before the age of three (Abudarham 1987). This is because monolingual children are thought to

have completed much of their language learning by this age (Abudarham 1987: 6). Sequential bilinguals acquire one language as a monolingual and then learn an additional language. A distinction is made between second language (L₂) acquisition and L₂ learning. In L₂ acquisition there is no formal learning and the child or adult acquires the L₂ in naturalistic situations. In L₂ learning, formal teaching is the method of acquiring the L₂. This is thought to lead to less native-like speech and language, especially when learners are older, resulting in a poorer acquisition of grammar (Moskovsky 2001: 1). The distinction has caused much debate and the presence or otherwise of a critical period for native-like language learning continues. For example, DeKeyser (2000) contrasted native speakers of Hungarian on a test of grammaticality judgement of English. Subjects included two groups, those who had entered the USA as adults and those who entered under the age of sixteen. The latter group were more successful. Although some adults did perform at similar levels to the child arrivals, those adults had high levels of verbal analytical ability. DeKeyser claims that this supports the hypothesis that adults use problem-solving abilities to *learn* a second language, whilst children use innate language acquisition processes which fade gradually over time.

1.3.4 ELITE BILINGUALISM AND LINGUISTIC MINORITIES

Language learning/acquisition of any kind does not occur in a vacuum. The social context of language acquisition has produced labels for groups of bilinguals according to their relationship to society. The motivations and social environment of language learning interact directly with the linguistic outcomes of bilingualism. Researchers studying bilingualism have described phenomena that affect both the individual and whole groups.

Bilingualism within an individual or group is almost never static. As a child grows, s/he is required to communicate with more conversational partners in a variety of settings. For example, a child entering school may have used a language at home, which is not the majority language. School entry will require that the child not only interact with other children and adults, but to do so via a new language medium. 'Additive bilingualism' occurs when the addition of a

language leads to positive social and cognitive developments. However, the inverse, 'subtractive bilingualism' is also possible. Subtractive bilingualism was initially defined by Lambert in 1974 (in Abudarham 1987: 10) and is characterised by the erosion of first language skills. This occurs when a child is 'submerged' in a new language when the child's first language is incomplete leading to an undermining of the first language or incomplete acquisition of both the first and second language, or 'double semi-lingualism' (Romaine 1995: 246).

Wong Fillmore (1991) studied children in the USA from linguistic minority children on entry to either home language medium or bilingual medium education centres. She concluded that 'The timing and conditions under which they come into contact with English, however, can profoundly affect the retention and continued use of their primary languages as well as the development of their second language.' (323).

Why should the introduction of one language negatively affect another? Bilingualism does not always lead to such an outcome, and in fact there are minority language communities flourishing in close contact with other languages all over the world. Wong Fillmore points to Western monolingual dominant societies such as the USA and Canada as contexts where '...linguistic or ethnic diversity are not especially valued.' (Wong Fillmore 1991: 341). Socio-cultural assimilation forces are blamed, not linguistic forces.

In contrast to the dramatic language loss in the children of minority ethnic families in the USA, English has not undermined other languages in other contexts, despite long periods of contact. Camilleri (1996) investigated the use of Maltese and English in classrooms on the island of Malta. Malta was a British Crown Colony from 1802 until finally being granted independence in 1964. The island's people adopted Maltese and English as official languages when Malta became a republic in 1974. Maltese schools are mixed medium and there is no official language policy. 90 percent of the children acquire Maltese as their first language. In schools however, English is widely used, even at primary school

level. Instead of losing their Maltese, the children become bilingual, codeswitching to signal different functions within the discourse. Camilleri concluded that 'English was associated with formal, written discourse...establishing distance between speaker...' whilst Maltese '...created an informal atmosphere...and encouraged participation...' (Camilleri 1996: 101).

Skutnabb-Kangas (1984) (in Romaine 1995: 25) categorised the societal conditions under which children have become bilingual. Skutnabb-Kangas suggests four groups of bilinguals:

1. Elite bilinguals. Elite bilinguals are people that may *choose* to become bilingual as it enhances their social or economic standing (Bourguet and Plaha 2004, Romaine 1995). Children are not able to choose their language acquisition circumstances, rather their parents make a positive choice as they see bilingualism as a desirable situation . They are spoken to at home by their parents and family and then sent to school. Children of elite bilinguals may be exposed to two languages from their parents, but the parents have a choice as to whether they use only the majority language or indeed bring up their child in a bilingual household, or send the child to a bilingual or 'immersion' type school, for example schools in Quebec and Wales. The attitude to language use is that bilingualism is positive, and a positive decision has been made to use more than one language.
2. Children of linguistic majorities. Children of parents who speak the majority language do not usually have concerns about education, as the home language is the one used in schools. However, for some majority language speakers the families may have no choice but to become bilingual through education. Such a case would be the Maltese situation, where English is routinely taught in schools, but Maltese is the main language at home. Both languages have high status.

3. Children from linguistic minorities. Children growing up in a linguistic minority household will acquire the home language and then be required to learn the majority language at school. The only difference between these children and the children mentioned above is the status of the language spoken at home. Often the home language is not used in education settings. Many such children will be growing up in areas of deprivation.
4. Children from bilingual families. These children are similar to elite bilinguals. The parents may speak different language(s) to each other and from the majority population but live in a monolingual society. Typically, at least one parent is considered an 'elite' bilingual.

The children investigated in this study are *Children from linguistic minorities*.

1.3.5 LANGUAGE CONTACT

Any language is continually evolving. Even the English language spoken in the UK, despite the perception of many, is altering with time. One major source of change is the influence of other languages. Multi-cultural Britain has begun to introduce words into mainstream English, through television and everyday contact, particularly in second-generation speakers who have access to both languages. It has been reported in the UK press (Asthana 2004) that Hindi-Urdu words such as 'gora' (white male) and 'chuddies' (shorts) are being employed by young British Asians and then into general usage. The process of borrowing lexical items and phrases from other languages is not new. Arabic words such as *alcohol* and *algebra* have become permanent inter-language borrowings (Edwards 2004: 18) and would not be identified as anything other than English lexical items by English speakers. Myers-Scotton (2002: 41) identifies two main categories. Firstly, cultural borrowings are '...objects and concepts new to the culture'. These are often technological or product related, and would be new to the people of the origin culture as well as to other cultures. Such items quickly become established, e.g. *hard drive*, *global warming*. Secondly, core borrowings replicate or approximate to existing words and phrases, such as the

French borrowing of *le weekend*. These enter the language in a gradual manner.

For bilingual communities, language contact is not always restricted to the exchange of lexical items. One of the most important and frequently investigated phenomenon of language contact is codeswitching, where more than one language is used in one discourse. This is explored in detail in Chapter 2.

1.3.6 PARENTAL STRATEGIES IN BILINGUAL LANGUAGE ACQUISITION

In addition to the social circumstances in which a child is raised, the parental use of language in the home is a key consideration in bilingual language acquisition.

A popular approach often described in the literature is the 'one person-one language principle (Ronjat 1913). This is where one parent speaks only one language to the child and one parent speaks another. This principle is applied usually in the belief that one language may interfere with the other (Goodz 1989) or that the child may be confused by hearing parents codeswitching. Furthermore, the frequently observed codeswitching behaviour, thought to be a sign of sophistication in adults is often described as an overt sign of linguistic confusion in children. There is consensus that the one person-one language approach will eliminate codeswitching in children (Goodz 1989). The approach is still discussed enthusiastically in guides aimed at parents, although both positive and negative aspects are generally presented (Cunningham-Andersson and Andersson 2004). Romaine (1995: 186) points out that a great many studies '...have been done by parents educated as linguists, i.e. middle-class professionals, investigating their own children's development.' This situation is not the manner in which the majority of bilingual children are raised. The main criticism of the one-person-one-language approach is that it is not actually possible in practice. Bilingual adults are often unaware of their code switching behaviour. Goodz (1989) studied child-adult interactions and found that '...all the parents spoke both languages to their children under some conditions' (32).

Goodz's finding also '...suggest that language mixing is related to level of proficiency in each language.' (1989: 37). Romaine points out that there are many factors affecting the outcome using this approach, but that 'A very common outcome of the 'one person – one language' method was a child who could understand the languages of both parents, but spoke only the language of the community in which they lived' (1995: 186). The families in this study do not use the one-person-one-language method, but may have been advised to follow this approach by health or educational professionals.

A similar approach to the 'one person-one language' strategy is the 'one person – one place' strategy. For example, parents may decide that only one language will be spoken at home, and a different language, typically the majority language outside the home. The 'place' is highly likely to involve different people and so the strategies may overlap, with the child associating both person and place with a particular function, e.g., school language and teacher with English. Most parents in the present study commented that they did not have a deliberate language usage policy.

1.4 THE PAKISTANI HERITAGE POPULATION IN THE UK

1.4.1 NUMBER AND DISTRIBUTION

It is estimated that more than half of the UK Pakistani heritage population are British born (British Broadcasting Corporation 2004). The community cannot, therefore be considered 'immigrants', they are British Pakistanis. In 2001 the community formed 1.3% of the total population and 16.1% of the non-white population, some 747,285 people (terminology and figures National Statistics 2004f).

In contrast to other minority ethnic groups, the Pakistani heritage population are not concentrated in London. Almost half of the non-white population resides in London (45 percent). The Pakistani heritage community are more widely distributed with only 19 percent in London, 21 percent in the West Midlands, 20 percent in Yorkshire and the Humber and 16 percent in the North West

(National Statistics 2004e). It is this latter population that is the focus of the study.

1.4.2 RELIGION

The Pakistani heritage community, along with the Bangladeshi heritage community are the most homogenous ethnic groups with regard to religious diversity. 92 percent of the Pakistani heritage community described themselves as Muslims, and Pakistani Muslims accounted for the largest faith group after Christians (National Statistics 2004c).

1.4.3 EMPLOYMENT, SOCIO-ECONOMIC STATUS AND HEALTH

Pakistani heritage community members, along with Chinese community members in employment, were more likely to be self-employed than other ethnic groups (22 percent). Pakistani men are reported to be most likely to work in the transport and communication industry (25%) with relatively low rates of people working in professional occupations. One in six Pakistani men were employed as taxi drivers or chauffeurs compared to only one in one hundred white British men (all figures National Statistics 2004d).

Young Pakistani men experience over double the rate of unemployment as their white British counterparts, 25 to 31 percent compared with 12 percent (National Statistics 2002). Pakistani women had very low economic activity rates (28 percent).

Pakistani households are large, with an average size of 4.1 people. This is the second highest household average after the Bangladeshi community. This compares with an average of only 2.3 people for white British households (National Statistics 2004b).

Pakistani and Bangladeshi men and women had the highest rates of self-reported 'not good' health in 2001. The same groups also had 1.5 times the rate of disability as White British men and women (National Statistics 2004a).

1.5 THE PAKISTANI HERITAGE POPULATION IN ROCHDALE, UK

1.5.1 ROCHDALE

Rochdale is located 10 miles north east of the centre of Manchester at the foot of the Pennines. Rochdale was a mill town, an integral part of the textile industry (wool and later, cotton) in the nineteenth and early twentieth century. Although it is now part of Greater Manchester, it was originally part of the county of Lancashire.

The last census in 2001 (National Statistics 2003) reported that there were 205,357 people residing in Rochdale. The age profile of the population did not match the average UK population. Rochdale had a higher percentage of younger people (20.8% were aged less than 16 years of age compared with the national average of 20.2%). This was reflected in the average age (37.1 compared with a national average of 38.6). Rochdale had a high minority ethnic population with the largest group being the Pakistani population (7.7% of the total compared with 1.4% for England as a whole). There is evidence of a South Asian community in Rochdale as early as 1931 (Nawaz 2002: 3), although many men arrived in the 1950s and 1960s seeking work in the textile mills. Some people arrived in Rochdale via East Africa, following the expulsion (either directly or via political pressure) from countries such as Kenya in the 1960s and in 1972, from Uganda. The vast majority of the Pakistani heritage community are Sunni Muslim with roots in Pakistan and Kashmir, with most people living in central Rochdale (Nawaz, 2002: 5-6).

1.6 DEPRIVATION / POVERTY

Deprivation is a key theme when considering speech and language development. In general, it has been found that poverty has a dramatic impact on children's development. Miller (1998) found that 'poverty is the largest single predictor of an abnormal developmental screening score.' This was still true when other characteristics were adjusted for, such as maternal and household characteristics (35).

Deprivation is associated with literacy and other educational outcomes. Locke *et al.* (2002) studied two hundred and forty nursery aged monolingual English children in Sheffield UK. All the children lived in areas of social and economic deprivation. Locke found that 'The children in this sample performed, on average, well below the level expected in the general population; more than half could be diagnosed as having moderate, moderate-to-severe or severe language delay' (10). When investigating the speech and language of children from minority ethnic populations it is important to consider that poor performance on standard tests may be due to deprivation and issues of social class rather than culture.

A study in the USA (Huaqing Qi *et al.* 2003) examined the performance of 701 low-income African American preschoolers (36 to 52 months old), compared to 50 European-American children for the same child care centres and classrooms. This study found that, on average, the African American children performed at one standard deviation below the expected means for their ages. The tool employed, the PreSchool Language Scale-3. Further item-by-item analysis found that there were only six items that appeared particularly difficult for the African-American children; and for only four of these items were there significant differences between their performance and the European-American children. The authors concluded that in order to diagnose language disorder in children from low socioeconomic backgrounds '...a more stringent criterion of 2 SD as an indicator of significant language delay' (588). Furthermore, that 'Further test development efforts should assess the performance of these populations and create subscale population norms'. (589)

Salameh *et al.* (2002) compared monolingual (Swedish) children with bilingual children referred to a speech and language clinic. The study's authors acknowledged that the clinic population may be biased by social and cultural factors. Their findings suggested that '(male) gender and possibly also hereditary factors seemed to need to interact with environmental factors in order to appear as risk factors for increasing severity' (1384).

It appears that there is an overlap of poor performance of children from minority ethnic populations, children from deprived areas and children presenting with speech and language delays. In addition, specific test development / normative data is required for specific populations where there are socioeconomic or cultural differences from the majority population.

1.6.1 DEPRIVATION – ECONOMIC

New Indices of Deprivation (ID 2004) were published in 2004, based on data from 2001. Rochdale is in the 50 most deprived districts in England in each of the measures. Small stable geographic areas known as *Super Output Areas* (SOAs) are now being used to measure deprivation. There are 135 in Rochdale borough:

- Two are in the 100 most deprived SOAs in England
- Thirty five are in the 10% most deprived SOAs in England
- Fifty eight are in the 20% most deprived SOAs in England

(Source: Rochdale Borough Council 2004: 1)

1.6.2 DEPRIVATION – HEALTH

Rochdale was named as one of the 88 most health deprived areas in England (19th November 2004) by the UK government Health Secretary, John Reid. The Rochdale Health Care Trust would therefore be prioritised for funding for services to address health inequalities.

1.6.3 DEPRIVATION – SURE START GOVERNMENT PROJECT

Sure Start is a Government programme which aims to achieve better outcomes for children, parents and communities (Sure Start 2004). It is targeted at disadvantaged areas. Rochdale currently hosts five Sure Start programmes. The Pakistani heritage community mainly resides in two of these areas.

1.7 RESEARCH QUESTIONS

There is a paucity of data on the patterns of bilingual language acquisition for children from migrant populations, especially for those learning a non-European language in combination with English. In contrast, there is a body of research

on the development of bilingualism in a controlled simultaneous environment, with European and European-origin languages dominating the attention of researchers. Language combinations such as verb-second German along with a contrasting language such as French, Italian, Portuguese or English have been reported (Meisel 2004).

Codeswitching has been examined in adults who speak Panjabi-English in Birmingham, UK (Romaine 1986) and for Panjabi-English speaking children in Newcastle upon Tyne, UK (Moffatt 1991, Moffatt and Milroy 1992). It is difficult to comment on the comparability of these findings with the population in Rochdale, UK as no information was given on the heritage of the subjects. It is known that Panjabi populations may be Sikh Indian heritage populations, whose language differs significantly to the Punjabi spoken in Rochdale, UK (Martin *et al.* 2004). The situation is further complicated by the inclusion of Mirpuri utterances in examples given by Moffatt and Milroy (1992: 359). The similarities and differences between the three Pakistani heritage languages Mirpuri, Punjabi and Urdu are discussed in detail in Chapter Three.

This thesis originated from a practical clinical requirement. The local speech and language therapy department specialist service to bilingual children had no normative data on which to base clinical decisions, and yet received referrals for children from the large local Pakistani heritage community for children with suspected speech and language difficulties. Lahey (1992) points out that although there is variability amongst linguistically and culturally diverse populations '...with enough data on a particular population, I do believe we can describe a child's language performance in relation to such variability' (638).

This thesis describes the typical bilingual language acquisition for Pakistani heritage children in Rochdale, UK. Intrasentential codeswitching found in the normative data is examined in the light of codeswitching models more commonly applied to adult language usage. This description and the theoretical implications are explored. The findings are then applied to the clinical question

of SLI, the original motivation for the study. This research therefore set out to investigate the following questions:

- What are the patterns of language development in typically developing Pakistani heritage children growing up in England?
- Is codeswitching in young Pakistani heritage children common?
- Do the patterns of codeswitching in young Pakistani heritage children conform to any existing models of adult codeswitching?
- Do bilingual Pakistani heritage children with SLI differ from their typically developing peers in terms of their use of codeswitching?

The unique social and cultural nature of the Pakistani heritage population under investigation must be considered throughout the thesis. Although the thesis focuses on the linguistic outcomes of codeswitching, it would be impossible to view these outcomes as purely linguistic phenomena. Auer (1998b) states that ‘...code-switching is related to and indicative of group membership in particular types of bilingual speech communities, such that the regularities of the alternating use of two or more languages within one conversation may vary to a considerable degree between speech communities...’ (3). The socio-economic factors for this community also mean that deprivation may have a major impact on language development. This also needs to be considered when applying notions of language delay and disorder for children from this particular community.

In order to answer the above questions, and consider the unique factors mentioned, the thesis is organised as follows. Chapter Two is a review of the literature focusing on language contact phenomena, in particular codeswitching. The review presents various codeswitching models and includes the model selected to analyse examples of codeswitching found in the expressive language data of typically developing bilingual children in Rochdale, UK. Other relevant language contact phenomena such as language attrition are also presented. Chapter Three describes the methodology used to collect language data and presents information on the Pakistani heritage languages under

investigation. The main focus is on the Mirpuri language as this has not been previously described and the language is the most frequently encountered in the data. Chapter Four describes the development of culturally sensitive data collection tools. Chapter Five presents the normative data for 167 Pakistani heritage children aged 2;6 to 7;2 years. Chapter Six examines the codeswitching data in terms of lexical distribution across languages, an analysis of the codeswitching data (both descriptive and in terms of mean length of utterance) and finally the use of compound mixed verbs previously described in adult Panjabi-English codeswitching data by Romaine (1986). Chapter Seven reports the development of home language (L₁) and English language skills for seven Pakistani heritage children involved in the initial normative data collection at two points separated by twelve months. This was undertaken to collect longitudinal data to examine the impact of English acquisition on L₁ development, particularly the use of intrasentential codeswitching. Chapter Eight reports the English skills of the second cohort of 44 Pakistani heritage children aged between 3;10 and 6;9 years. This was carried out to examine the development of English as an additional language for this population and also if codeswitching was common in their EAL and occurred to the same extent as in L₁. Chapter Nine reports the development of language skills of three Pakistani heritage language children diagnosed with specific language impairment attending a language unit in Rochdale. This chapter draws on the information generated from the data gathered from typically developing Pakistani heritage bilingual children to compare and contrast typical bilingual language development and disordered bilingual language development. Patterns of intrasentential codeswitching are examined. Chapter Ten summarises the main conclusions and highlights further areas for future research.

**CHAPTER TWO:
CODESWITCHING AND OTHER LANGUAGE
CONTACT PHENOMENA**

2.1 INTRODUCTION - CODESWITCHING

In order to answer the research question: ‘Do the patterns of codeswitching in young Pakistani heritage children conform to any existing models of codeswitching?’ it is important to identify the current models of codeswitching. A literature review was therefore undertaken and the most prominent models evaluated. This chapter first defines the language contact phenomena and then examines various models.

2.1.1 DEFINITION

Codeswitching or language switching is described by Crystal as follows:

‘A long narrative may switch from one language to the other. Sentences may alternate. A sentence may begin in one language, and finish in another. Or phrases from both languages may succeed each other in apparently random order (though in fact grammatical constraints are frequently involved).’ (Crystal 1997: 365).

Studies of codeswitching may be divided into two viewpoints, grammatical descriptions of codeswitched utterances and social motivations such as a tool for signalling identity, or as a tool for conveying social messages, i.e. structural and sociolinguistic viewpoints (Auer 1998, Bentahila and Davies 1995, Boumans 2001, Boztepe 2003, Jisa 2000). Some researchers have devised psycholinguistic models to not only describe, but also to explain and then predict the grammatical outcomes of codeswitching.

The definition of codeswitching is complicated by the various uses the term is put to by different researchers. *Code mixing* is sometimes used to describe the alternation of languages across sentence boundaries (Brice 2000), whilst others have used codeswitching and language mixing as being synonymous with intrasentential codeswitching (Heredia and Altarriba 2001, Juan-Garau 2001). Most researchers and linguists now define codeswitching as one of two types (MacSwan 2004):

- Intrasentential codeswitching where two languages are integrated into one utterance, e.g. “old man hand wash kar-na pija” (old man is washing his hand; English-Mirpuri utterance),

- Intersentential codeswitching where one utterance is completely in L₁ and the following utterance is completely in L₂ (Goodz 1989), e.g. “That boy’s eating. eh kursi upper behta va” (he’s sitting on a chair; English utterance followed by a Mirpuri utterance).

The term ‘mixing’ is rejected by some linguists such as Myers-Scotton as it implies ‘...the creation of an entirely new entity and the disappearance of both constituents’ (Myers-Scotton 2002: 3).

Research into intrasentential codeswitching has been of particular interest to linguists in the past two decades (Myers-Scotton 2002). The challenge of explaining the complexities of codeswitching for all the various language combinations has been the arena of much debate. If a model could explain, and crucially, predict codeswitching behaviours, then this may give insight into the universal functioning of sentence production. This would have linguistic implications beyond the sphere of bilingualism.

2.2 MODELS OF CODESWITCHING

Several frameworks have been suggested for codeswitching. These include descriptive and theoretical (explanatory) models. The descriptive models focus on the surface patterns of codeswitching, whilst the theoretical models attempt to capture codeswitching behaviours by explaining codeswitching in the terms of linguistic theory itself (MacSwan 2004). The topic of structural constraints has caused much debate in the literature. Both the existence and nature of grammatical constraints have been questioned. Even those that strongly agree with structural constraints acknowledge the debate surrounding their universality. As (Di Sciullo *et al.* 1986) state ‘The question, in other words, is not whether there are any structural constraints but what is the best way to characterize them, and whether they can be made to follow from an independently motivated, more general principle’ (2). The following models are examined, with reference to both the theory underlying the model and criticisms of the model:

- Constraint Models
 - Descriptive constraints
 - Functional constraints, Structural constraints, Semantic constraints, Discourse constraints, Structural triggers, Mixing and language change (Pfaff 1979)
 - Linguistic constraints
 - Equivalence constraint and Free morpheme constraint (Poplack 1980, Poplack 1981, Poplack 2000, Sankoff 1998)
 - Government constraint (Di Sciullo *et al.* 1986)
 - Functional head constraint
- Minimalist approach
 - (Chomsky 1995, MacSwan 2004)
- Grammatical Frame / Content insertion models
 - Frame – Content hypothesis (Azuma 1993)
 - Matrix Language Frame and 4M model (Myers-Scotton 1993, Myers-Scotton 2002, Myers-Scotton and Jake 2000b, Myers-Scotton and Jake 2000a)

Muysken (2000: 3) identifies three processes which correspond to ‘...dominant models for code mixing that have been proposed. These processes include:

- **“insertion** of material (lexical or entire constituents)
- **alternation** between structures from languages
- **congruent lexicalization** of material from different lexical inventories into a shared grammatical structure”.

Myers-Scotton’s Matrix Language Framework model (1993) is primarily an insertion model. Alternation is concerned with how two languages are brought together at places of congruence and was proposed by Poplack (1980). The equivalence constraint and free morpheme constraint were developed from alternation principles. These are defined and discussed below. Finally, congruent lexicalization is associated with triggering as proposed by Clyne (2000). This is where a word occurs which may originate from either one of the speaker’s languages, triggering a switch. These ‘bilingual homophones’ are words which sound the same in two languages and include proper nouns and

compromise forms. These models are described and the limitations and criticisms discussed below.

2.2.1 PFAFF'S MODEL

Pfaff's model is a descriptive constraint model. Rather than a cohesive model of sentence processing, the constraints highlight sites where codeswitching is observed in the data, in addition to possible motivational factors to explain the switch. Pfaff (1979), who studied Spanish-English codeswitching in the USA, stated that those speakers who employ codeswitching were '...competent in the syntactic rules of both languages' (314). Pfaff also rejected the need for a third intermediate grammar, preferring to view intrasentential codeswitching as '...meshed according to a number of constraints' (314).

Pfaff acknowledged that language mixing was socially motivated, but that these mixes were shaped by a number of constraints. Pfaff (1979: 294) noted that, although works in the mid to late 1970s had previously suggested syntactic constraints, most authors based their conclusions on only very limited data. Pfaff (and other researchers such as Poplack; see below) addressed this concern by conducting studies where extensive recordings were made. These recordings included approximately 200 speakers '...of various ages and social backgrounds...' (Pfaff 1979: 294). Pfaff found that unmodified noun codeswitches were the most common in the data, with Spanish to English switches accounting for the most frequent form, i.e. a single noun switched into English within a Spanish utterance with no determiner present.

Pfaff proposed six constraints that arose from the data. These were:

1. Functional constraints

This constraint addresses the tense/aspect obligations of the grammar of one language, when absent in the other. Examples are verb inflection and – noun gender/number agreement. This constraint leads to two types of verb codeswitching. Unadapted English verbs '...occur after Spanish auxiliaries or complement-taking verbs which are inflected for tense, moods and

subject agreement' (Pfaff 1979: 300), hence fulfilling the requirements of the Spanish grammar. Morphologically adapted English verbs also occur.

2. Structural constraints

When both languages involved in the switch share common surface structures, codeswitching is more likely in these sites. This is similar to Poplack's 'equivalence constraint'.

3. Semantic constraints

This constraint deals with non-clausal switches (i.e. intrasentential where the switch occurs at a clause boundary, e.g. '*We have it planned for October twenty-ninth / a las seis en el Methodist Student Centre*' (Pfaff 1979: 302) and states that switches tend to occur before main lexical items (main verbs, nouns or adjectives). These may be triggered by lexical gaps or appropriateness.

4. Discourse constraints

Switches which appear to violate the semantic constraints are associated with discourse and social function. Pfaff gives examples including the use of a noun phrase including a determiner when first mentioned. Pfaff explains the violation of structural Spanish grammar by highlighting the social environment demands Spanish, whilst the formal discussion topic requires English. The resulting switch '*Va a hablar él de writing style and technique y los que están interesados in this workshop*' produced as a calque *be interested in* rather than standard Spanish.

5. Structural triggers

Longer codeswitches tend to occur in advance of the head lexical item or continue past the head.

6. Mixing and language change

Pfaff differentiates code mixing from converged forms, when mixing results only in the loss of gender and number inflection. She concludes that there is

no new composite grammar and that ‘Only in the case of verb + particle structures...may...prove to be the starting point for more significant convergence...’ (Pfaff 1979: 315). Pfaff therefore rejects that the codeswitching in the corpus represent language change as the speakers retain monolingual grammar, with the exception of the extension of the grammar using *hacer* + infinitive (to do + stem English verb).

2.2.2 CRITICISMS OF PFAFF’S MODEL

Pfaff’s constraints are derived from the data observed and are therefore examples of normal bilingual behaviour. Criticisms of the constraints highlight contrasting behaviours from observations of other bilingual communities or alternative interpretations of the observed utterances. Romaine contrasts Pfaff’s finding that nouns were the main word class affected by borrowing. Romaine found that Panjabi/English adults borrowed English verbs more frequently than nouns (Romaine 1995).

Di Sciullo *et al.* (1986) noted that for Spanish-English codeswitching, adjectives present the speaker with different ways of codeswitching. Spanish requires post-nominal adjectives whilst English requires pre-nominal adjectives. Pfaff’s data showed that adjectives were most frequently codeswitched ‘...outside the immediate domain of the noun they modify’,

es esco color como [[muy *dark*] *maroon*] (Pfaff, 1976: 256)

‘It’s that colour like very dark maroon’

(Di Sciullo *et al.* 1986: 9).

Di Sciullo *et al.* reject Pfaff’s structural constraint (and, similarly, Poplack’s equivalence constraint) which would predict that codeswitching would not occur at this site due to a word order clash, due to the none-equivalence of the Spanish and English grammars. The clash is that postposed English adjectives are also preceded by Spanish adverbs. They argue instead that the utterance has a Spanish matrix and that their government model allows such switches. The terms ‘matrix’ and ‘government’ will be defined later.

These examples question the universality of Pfaff's constraints to all bilingual speakers, especially those who speak syntactically and grammatically disparate languages. Pfaff's research, along with other researchers in the 1970s was primarily descriptive and set the stage for theoretical constraints (MacSwan 2004). The research established that codeswitching was well-formed and frequent, and therefore not deviant, but normal bilingual behaviour.

2.2.3 POPLACK'S EQUIVALENCE AND FREE MORPHEME CONSTRAINT

Poplack (1980, 1981), whilst acknowledging the social motivations and contexts of codeswitching, began to search for clear constraints which would provide a framework for the description of intrasentential codeswitching. Intrasentential codeswitching had been previously regarded by many as '...syntactically random rather than rule-governed behavior' (Pfaff 1979: 294). Poplack rejected the assertion that codeswitching was only caused by a deficit of language skills in the speaker. Instead, she emphasised that skilled bilingual speakers could integrate both (all) his/her languages together. Poplack's work attempted to integrate '...functional and linguistic factors into a single model...to account for code-switching behaviour' (1980: 585). This approach attempted to provide a theoretically driven model which could both explain and predict actual codeswitching behaviours. Poplack's constraints were proposed as true linguistic constraints rather than descriptive constraints. Poplack was the first to propose constraints on codeswitching in this sense (MacSwan 2004).

Poplack (1981) reported data from the Puerto Rican community in El Barrio, New York in the USA. This community used monolingual Spanish, monolingual English and codeswitched utterances. A study in 1980 examined 20 adults from this community in natural settings. In a 1981 study, Poplack examined public interactions between people from the same ethnic group (both within and between different social groups) and between members of different ethnic groups. Data were collected by an in-group community member. All data from the 1981 study were from a single speaker, Lola. Lola is described by Poplack as '...highly skilled in two languages, and close to the so-called ideal bilingual...' (Poplack 1981: 173). The subject was part of a social group, a

network of housewives and mothers and a subgroup of single women. Lola lived in El Barrio district of New York.

Poplack reviewed the literature and listed constraints on the production of codeswitched utterances, along with counterexamples. From these early models and her data, Poplack proposed two ‘...linguistic constraints on codeswitching:

The Free Morpheme Constraint

A switch may occur at any point of the discourse at which it is possible to make a surface constituent cut and still retain a free morpheme.....

The Equivalence Constraint

A second syntactic constraint operate simultaneously with the first. It states that codes will tend to be switched at a point where juxtaposition of English and Spanish elements does not violate a syntactic role of either language, i.e. at points where the surface structures of the languages map onto each other’

(Poplack 1981: 175)

The Free Morpheme constraint therefore means that an utterance would be considered ill-formed if bound morphemes from one language were attached to a lexical item unless that lexical item were phonologically integrated into the language of the bound morpheme. For example, in Mirpuri, it would violate the free morpheme principle if the English present progressive were attached to the lexical verb ‘kha’ *to eat* as in *‘mura kela kha-ing pija’ (boy banana eat-ing is).

The Equivalence Constraint means that when two languages have surface structures that converge, it is likely that codeswitching will occur at these points. Again for Mirpuri, an SOV language, under the constraint, codeswitching would be predicted to be most likely at the subject position, or for SV utterances, the subject and verb position. However, codeswitching involving objects would be

unlikely or ill-formed. Poplack (2000: 2) states that 'The boundary between adjacent fragments occurs between two constituents that are ordered in the same way in both languages, ensuring the linear coherence of sentence structure without omitting or duplicating lexical content'.

Poplack concluded that there were constraints on codeswitching, demonstrated by the lack of ungrammatical utterances ('...virtually no ungrammatical combinations of L₁ and L₂ in the 1,835 switches studied. Furthermore, this was true for both balanced and non-fluent bilinguals (1980: 613). The data from Lola's corpus confirmed this finding, with '...only one example of the 400 investigated did not satisfy either English or Spanish surface structure constraints' (Poplack 1981: 183)

Poplack's work signalled a rise in interest in the syntactic-grammatical features of codeswitching and challenged the assumption that codeswitching was merely a symptom of deficit in the majority language. Indeed, most researchers changed from a view of intrasentential codeswitching as unusual behaviour to a '...conviction that it is grammatically constrained' (Poplack 2000). Another shift was the emphasis on data. Data was seen as central evidence for the bilingual norm. Instead of a prescriptive approach, where linguists dismissed intrasentential codeswitching as merely ill formed, or unusual linguistic behaviour by a minority of bilingual speakers, data illustrated that codeswitching behaviours were common and, to an overwhelming degree, codeswitched utterances were well formed and 'grammatical'.

2.2.4 CRITICISMS OF POPLACK'S EQUIVALENCE CONSTRAINT AND FREE MORPHEME CONSTRAINT

The Spanish-English population in the USA were, and remain an important one. Not only has the Hispanic community become the largest minority group (El Nasser 2003) in the USA , there is also an emotionally and politically charged debate on language usage in education and wider society (see Schmidt 2002). However, this meant that the majority of the research into codeswitching in the USA focused on the Spanish-English language pair. Spanish and English are

both Indo-European languages with an SVO (subject + verb + object) word order (Ethnologue 2005b, 2005a). There is little possibility of codeswitching occurring in ways that violate basic syntax (phrase order).

Counter-examples which challenge the equivalence constraint have therefore been those which are predicted to be well-formed utterances by the constraint, but are actually judged to be ill-formed by bilingual speakers. MacSwan highlights the following examples, which have the same word order, but the second is judged ill-formed by bilingual listeners:

The students *habian visto la pelicula italiana*

The students had seen the Italian movie

*The student had *visto la película italiana*

The student had seen the Italian movie

(MacSwan 2004: 285-286)

Other critics have pointed out that the equivalent constraint also assumes that the two languages involved will share roughly the same (word) categories (Di Sciullo *et al.* 1986: 3). Romaine asserts that ‘The assumption of category sharing seems less realistic the more different the languages are typologically’ and quotes Tok Pisin (a language spoken in Papua New Guinea), where it is difficult to assign unique category membership to any item (1995: 128-129).

MacSwan also highlights that the Free Morpheme Constraint has been controversial (MacSwan 2004: 286), with many corpora of data supporting the constraint and others presenting counterexamples. MacSwan reminds us that counterexamples presented by others have often focused on the phonological form of the items, rather than considering that they might be nonce borrowings (non-smooth, temporary single constituent switches).

The Free Morpheme Constraint has been shown to be correct in many codeswitching situations, whereas the equivalence constraint in the same

corpora has been contradicted (Nishimura 1995: 124, Romaine 1995: 232). (Nishimura 1995: 124). Poplack admits that ‘Distinguishing nonce borrowings from single-word CS is conceptually easy, but methodologically difficult, especially when they surface bare, giving no apparent indication of language membership’ (Poplack 2000: 3).

2.2.5 GOVERNMENT CONSTRAINT

This constraint refers to elements which have hierarchical control over other elements, i.e. the governed elements will be in the same language as the head. It was proposed by Di Sciullo *et al.* (1986) and ‘...postulates that switching is possible only between elements not related to government (for example V governs O and P governs the NP in a PP)’ (Clyne 2000: 265). Di Sciullo *et al.* do not claim that the government constraint is the only restriction on codeswitching ‘...but rather that it is the only universally applicable one. In specific cases, there most certainly will be additional language-particular constraints’ (1986: 4). Di Sciullo *et al.* examined intrasentential codeswitching examples and claimed that the government constraint explains examples from Poplack’s Spanish-English corpus, in addition to French-Italian and Hindi-English examples. This is important as Hindi is an SOV language and the combination with SVO English can therefore be used to compare and contrast the equivalence constraint with the government constraint. The corpus was found to contain many more switches than would be indicated by the Sankoff and Poplack constraints. One example given is the use of English verbs in Hindi utterances.

With regard to ‘alien verbs’ Di Sciullo *et al.* comment that ‘Here we often find a verbal complex consisting of a native L_q head, the equivalent of the dummy verb *do*, while the alien verb is either in a nominal or an infinitive form’ (12). They go on to comment that it is unclear if these structures are examples of borrowing or codeswitching. For the Hindi-English example they highlight cases ‘...where the English verb is nativized (though not in the phonological sense) by the addition of an inflected form of the Hindi dummy verb *karna* (‘to do’)’ (1986: 18). Here, viewed from the government constraint, Hindi is the language of the verb

phrase. Therefore the word order (auxiliary second) is derived from Hindi, and not from English (auxiliary pre verbal). This example contradicts the equivalence constraint as the word order of the languages means that Hindi and English do not overlap at the verb phrase and so no site exists for codeswitching. That is, unless the infinitive verb is viewed as a borrowing.

2.2.6 CRITICISMS OF THE GOVERNMENT CONSTRAINT

Romaine (1995: 129-130) points out that syntactic structure may be viewed using phrase structure rules which specify two relationships:

1. Constituency or immediate dominance
2. Precedence (linear order relations)

Romaine goes on to state that X-bar syntax relies on the idea of a syntactic relation ('head of') category, with the verb being the head of the verb phrase and the sentence, the noun being the head of the noun phrase and so on. She also points out that there is disagreement between syntacticians on the proper set of heads, and the status of the verb phrase in non-SVO languages is unclear. This questions the universality of the government constraint model.

Eppler (1999: 287-288) presents counterexamples to the government constraint, drawn from German-English intrasentential codeswitching. Eppler highlights that 'The original inclusion of functional categories in the class of governors ruled out codeswitches which actually are found frequently in the data, e.g. between complementizers and clauses, as in:

to buy yourself in means that +...
 du kannst dich nochmal einkaufen.
 (you can yourself once more buy in)

(Clyne 2000) presents further counterexamples, focusing on the role of prepositional phrases (PPs). Clyne presents English-German examples where the government constraint is contravened and thus claims that only 'triggering' can explain the data:

Sie nehmen Geld für *the missions*.
 'They take money for the missions.'
 (Clyne 2000: 276).

Again, in common with criticism of the equivalence constraint and free morpheme constraint, criticisms of the government constraint are rooted in frequent counterexamples found in different language combination corpuses. These criticisms do not dismiss the constraint models completely however, as debate continues as to whether counterexamples are produced by borrowing or language specific constraints upon general conventions.

2.2.7 MINIMALIST PROGRAM

Both the equivalence constraint and the free morpheme constraint have been described as being concerned with the linear surface layer of codeswitching (Clyne 2000, Myers-Scotton 2002) and, in contrast, by others, as '...intended...as actual linguistic principles which are part of a bilingual's linguistic competence' (MacSwan 2004: 287). Whatever one's view of these constraints, the idea that intrasentential codeswitching is rule governed remains central to the study of codeswitching behaviours. The observation that codeswitching is systematic is generally agreed. The challenge was then to produce a cohesive theory and model which both explained *and* predicted intrasentential codeswitching, across the full spectrum of human languages (without numerous counter-examples). Other authors also pointed out that intrasentential codeswitching was a subset of normal human communication. Codeswitching models should therefore be capable of explaining all human language, including monolingual utterance production or codeswitched utterance production. MacSwan uses this assertion to argue for a minimalist approach to codeswitching (see below), '...principles or "constraints" on codeswitching should not refer to the phenomenon of codeswitching itself, but should rather appeal to independently motivated principles of linguistic theory (MacSwan 2004: 287). Poplack rejects the view that intrasentential codeswitching grammar is the subject of the same processes as monolingual grammar, stating that 'Bilingual communities exhibit widely different patterns of

adapting monolingual resources in their code-mixing strategies, and these are not predictable through purely linguistic considerations (Poplack 2000: 2-3).

Sankoff (1998) points out that, unlike monolingual grammar, the nature of codeswitching remains unpredictable and potential, that is, bilingual speakers have a choice as to when to codeswitch and constraints are not able to predict the switch. (1998: 39). Further, he, like his colleague Poplack, rejects the notion that ‘...bilingual syntax must derive from general principles inferred from the study of monolingual grammar...’ (1998: 49).

The minimalist approach proposes a unifying theory for all languages. Chomsky states that ‘The theory of a particular language is its *grammar*. The theory of languages and the expressions they generate is *Universal Grammar* (UG)’ (Chomsky 1995: 167). The theory is appealing as it claims that UG provides one set of fixed principles and a finite set parameters. Surface patterns and language-specific rules are therefore ‘...collections of phenomena explained through the interaction of the principles of UG, with the values of parameters fixed.’ (Chomsky 1995: 170). One of the goals of the minimalist approach is to ‘...reduce all constraints on representations to...bare output conditions, determined by the properties of the mental systems that LF (Logical Form) and PF (Phonetic Form) must interface with...’ (Lasnik 2002: 433).

Following on from this assertion, MacSwan argues that a minimalist framework for codeswitching would not require any specific rules formulated especially for codeswitching. Instead, just like any other grammar ‘...all the facts of code switching may be explained just in terms of principles and requirements of the specific grammars used in each utterance’ (MacSwan 2004: 298).

A minimalist approach would therefore reject the various constraints proposed by researchers as they are complex and specific to one type of linguistic behaviour, codeswitching. MacSwan argues that as the various models and constraints do not explain all the data, and that the data available may be

explained without reference to special constraints, then logically the constraints do not exist.

Pinker and Jackendoff (2005) highlight the appeal of the Minimalist Program, stating that it ‘...appears to be parsimonious and elegant, eschewing the baroque mechanisms and principles that emerged in previous incarnations of generative grammar...’ (219). However, they also point out that Chomsky himself admits that the observed language phenomena appear to refute the theory. They list eight major areas which refute the Minimalist Program, including derivational morphology, inflectional morphology and phrase and word order and language acquisition phenomena, concluding that ‘...Minimalist syntax is far from minimalist...’ and that ‘the “principles of economy” that regulate these derivations are not particularly economical.’ (221). Even for proponents of the Minimalist Program such as MacSwan, there is much to do before a comprehensive minimalist explanation for all data is available. MacSwan clearly rejects the need for constraints, but concludes that “Rather than continuing to propose broad and sweeping constraints on codeswitching, the field should embark upon a program of research which evaluates precisely formulated proposals and hypotheses in terms of well known categories and independently motivated principles of linguistic theory” (MacSwan 2004: 308)

2.2.8 MATRIX LANGUAGE – EMBEDDED LANGUAGE MODELS

Another criticism of Poplack’s free morpheme and equivalence constraints is that the asymmetry of intrasentential codeswitching is not addressed. Joshi was the first to recognise that speakers and hearers of intrasentential codeswitching generally agree which language the sentence is derived from. Joshi labelled this language the matrix language and the other language the embedded language. Joshi also emphasised the asymmetrical nature of intrasentential utterances and claimed that both languages were active simultaneously (Myers-Scotton 1993). The concept of a ‘matrix language’ consisting of the grammatical frame into which content items from the ‘embedded language’ are inserted has been extensively developed by Myers-Scotton (Myers-Scotton 1993, Myers-Scotton 2002, Myers-Scotton and Jake 2000b, Myers-Scotton and Jake 2000a)

and Azuma (1993). These models do not differentiate between codeswitching and borrowing (Boztepe 2003) and relate intrasentential codeswitching to sentence production regardless of whether it is monolingual or bilingual sentence production (Myers-Scotton 2002). This contrasts with the constraints proposed by Poplack, who claims that monolingual and intrasentential utterances are products of different processes.

2.2.9 AZUMA'S FRAME-CONTENT HYPOTHESIS

Azuma developed Garrett's model of speech production, proposing that both morpheme stranding errors (where content items appear to be correctly selected but inserted into a frame incorrectly) and intrasentential codeswitching (where closed class items cannot be switched) provide evidence for the existence of a frame. This frame is the grammatical framework into which content is inserted. Azuma cites a typical morpheme stranding error:

Fancy getting your *model* renosed
(intended: nose remodelled)
(Azuma 1993: 1072)

and intrasentential codeswitching examples from Japanese/English as well as examples from the literature including Martathi/English, as well as several other language combinations to demonstrate that the frame-content hypothesis holds cross-linguistically. Azuma states that '...code switching occurs at the stage of the content-word insertion' (1993: 1074). This model allows for the insertion of open-class words, including stem verbs. The grammatical suffix is still the language of the frame, as the frame is produced prior to insertion of content. A Spanish/English example is quoted:

Los hombres me *trust*-e—aro-n
the men trusted me.

In the example above, grammatical morphemes are added to the English verb as the verb is a content item inserted into a Spanish frame.

Azuma states that the corpus provides evidence that the formation of the frame and the insertion of the content items are separate processes. Examples such as the insertion of the English verb '*graduate*' into a Japanese frame show that the verb does not change the structure of the Japanese verb phrase:

- a. **Watashi wa Waseda kara graduate shimashita.*
 I topic from did
 'I graduated from Waseda University'
- b. *Watashi wa Waseda (o) graduate shimashita.*
 I topic (acc.) did
 'I graduated from Waseda University'

(Azuma 1993: 1080)

Both the examples a. and b. involve the insertion of the English verb '*graduate*'. If the English verb overrode the Japanese frame, as predicted by the government constraint, then utterance a. would be produced. This utterance has the verb followed by a prepositional phrase (after the English structure) and not the direct object (after the Japanese structure). If the Japanese frame was not affected by the head of the phrase, then the verb would be followed by the direct object. This is utterance b. Utterance a., which follows the predicted English subcategorization, was judged ill-formed by the bilingual informants. This suggests that the monolingual Japanese frame is constructed initially and the verb inserted, rather than the alien English verb exerting any influence on the frame structure. This therefore challenges the government hypothesis and supports the existence of a frame language.

Azuma asserts that intrasentential codeswitching is asymmetrical and that this is caused by the production of a grammatical frame from L₁ and subsequent insertion of content items from L₂. This is supported across many different language combinations, even where the languages do not share a basic word order. The frame-content dichotomy model was also developed by Myers-

Scotton (see below). Muysken comments that 'Though much less elaborate than Myers-Scotton's work, Azuma's model seems to be making roughly the same predictions' (Muysken 2000: 18).

2.2.10 MYERS-SCOTTON: MATRIX LANGUAGE FRAMEWORK 4-MORPHEME MODEL

The *Matrix Language Framework* is the model of codeswitching I will be employing throughout this thesis. It has been noted that certain classes of words and morphemes are more likely than others to be involved in a switch. Closed class items, such as prepositions, are thought to behave in a different manner to open class items, such as nouns. It is this dichotomy that is key to understanding the basic production of utterances. Intrasentential codeswitching is viewed as an insight into utterance production. In monolingual utterance production, it is not possible to observe contrasts in production in the same way as intrasentential codeswitched utterances. Codeswitched utterances give an insight into utterance production as there is the possibility that certain elements can be drawn from the lexicon of L_1 (the frame language) or that of L_2 (the inserted language).

Myers-Scotton has proposed four general principles:

1. The Matrix Language Principle
2. The Uniform Structure Principle
3. The Asymmetry Principle
4. The Morpheme-Sorting Principle

These principles explain not just codeswitching, but '...a wide variety of contact phenomena...' (Myers-Scotton 2002: 10).

1. The Matrix Language Principle

The form of an utterance is derived from an analysable frame. This frame is called the 'Matrix Language'. The matrix language and the embedded language never contribute equally to an utterance.

2. The Uniform Structure Principle

Any given constituent has a uniform structure, which is always well formed.

3. The Asymmetry Principle

There is a drive towards uniformity of the structural frame. This produces asymmetry with the matrix language most likely to be the source of the frame.

4. The Morpheme-Sorting Principle

'All morphemes are not equal'. This means that different morphemes have different possibilities of occurring.

(Myers-Scotton 2002: 8-9)

In more recent work (Myers-Scotton, 2002), the model is modified further by dividing system morphemes into three types. Hence there are four morpheme types in the utterance (4M):

- content morphemes which receive or assign thematic roles, e.g. nouns tend to receive thematic roles (agents, patients and themes) and verbs tend to assign thematic roles.
- three system morphemes
 - early system morphemes which are related to the head of the content morpheme phrase, e.g. determiners and adjectives.
 - late system morphemes
 - bridges which create well-formed utterances, e.g. 'of'
 - outsiders which look outside their immediate environment for their form, e.g. subject-verb agreement.

The model labels morphemes according to their role and position in the formulation of the utterance. Myers-Scotton states that the MLF 4M model differs from the constraint models of intrasentential codeswitching as it offers '...explanations for why its constraints take the form they do'. Additionally, that

the model ‘...indicates that modelling language production is relevant to codeswitching’ (Myers-Scotton 2002: 14).

Myers-Scotton illustrates her model with data, which shows that the morphosyntactic frame is derived from the matrix language and that content may be drawn from the embedded language. This means that word order, function words and inflections are in one language, whilst some of the content words (nouns, adjectives etc) are provided by the other contributing language:

ni **paper** hai mei **finish** a?
 you paper yet not finish PART/AFFIRM
 (Myers-Scotton 2002: 9)

The MLF-4M model appears to explain many (if not all) of the examples given by Poplack to support the equivalence constraint and the free morpheme constraint (Poplack 1981: 176-177). Full sentences (intersentential codeswitching) and interjections (single words or monolingual phrases) only have one language and so require no explanation, as their grammar is independent and belongs to only one language. The focus of this thesis is the use of intrasentential codeswitching and so intersentential codeswitching utterance types are not explored further. Conjoined sentences, e.g. two sentences connected with ‘and’ (or equivalent) are two projections connected by a matrix word, which in the example given is derived from Spanish (the matrix language of the first utterance). The subsequent utterance is in English and can stand alone with its own monolingual matrix language:

Conjoined Sentence:

yo voy por to’ esos sitios y / I was in 7th Avenue and Broadway (I go to all those places and I was in 7th Avenue and Broadway)

The example below is an example of a Spanish sentence matrix language with a content word ‘people’ taken from English (and a preceding prepositional phrase which is not part of the main sentence):

Between Major Noun Phrase and Verb Phrase:

Years ago / **people se iban a trabajar**

(Years ago people would go to work)

The next example is a codeswitch into a noun phrase, i.e. an English sentence with an example of a whole Spanish phrase standing in for a simple noun:

Between Verb Phrase and Object Noun Phrase

What ruined this people is **la vagancia de no ‘cer na’**

(What ruined this people is the laziness of not doing anything).

Similarly, the examples consist of either whole phrases being codeswitched (maintaining the sentence’s word order and grammar within the phrase boundary) or simple content substitution. These examples therefore suggest that the MLF-4M is able to explain earlier data. The data collected and explored in this thesis is almost completely composed of simple sentences. There is therefore no opportunity to comment on this part of the MLF model or compare data for these types of utterances.

Criticisms of the equivalence constraint do not apply to the MLF-4M model as codeswitching *can* occur at places where the syntax does not co-occur, e.g. when a SOV and SVO language are involved in one utterance. As long as the constituents have internal consistency and one language defines the syntax then the requirements are met. MacSwan (2004) highlights that codeswitching examples exist, especially for language pairs with different basic word orders, which would be classified as ill-formed according to the equivalence constraint. Myer-Scotton (1993: 28) cites examples from a corpus of Swahili/English where there is a clash of word order and yet codeswitching is still found, with the matrix language setting the word order, in this case, head-first noun phrase:

Unaweza kumpata amevaa nguo nyingine *bright*...

clothes other bright

‘You can find her wearing other bright clothes...’

The MLF-4M model also allows for violations of the free morpheme principle. Myers-Scotton highlights counter-examples to the free morpheme principle from other researchers, especially those from corpuses of agglutinative languages such as Turkish (Myers-Scotton 1993: 31). Even English/Spanish examples have been noted (the combination from which Poplack formulated the free morpheme principle):

El agua está *boil*-ando

'The water is boiling'

(Myers-Scotton 1993: 34)

The MLF-4M model is not concerned if the morpheme is bound or not, only that the system (grammatical) morphemes are derived from the matrix language (Spanish). Myers-Scotton has attempted to clarify how to identify the matrix language by stating that the CP is the unit of analysis, not the sentence. Confusion as to how to identify the matrix language has been one of the main criticisms of the model (MacSwan 2004). Myers-Scotton makes it clear that "The principle does not state that *all* system morphemes must come from only one participating language (the Matrix Language); it states that only those that 'have grammatical relations external to their head constituent' are the system morphemes that must come from the Matrix Language" (Myers-Scotton 2002: 87). However, in most examples the Matrix Language does supply all the system morphemes (including the above example) and this has led to the confusion.

2.2.11 USING THE MLF-4M MODEL TO PREDICT CODESWITCHING

In this thesis, the MLF and 4-M models are used to make predictions about codeswitching in Pakistani heritage children learning Mirpuri/Punjabi/Urdu along with English. Each principle may be examined in turn to make specific predictions as to how codeswitched utterances should be constructed if young bilingual children conform to these models. I will now examine the principles and specify what the models predict with reference to Mirpuri-English

codeswitched utterances. This language combination is the most common for the data set.

- THE MATRIX LANGUAGE PRINCIPLE

If only two languages are involved in the construction of the bilingual utterance, and classical codeswitching is taking place, then this principle predicts that either Mirpuri or English will form the morphosyntactic frame. Myers-Scotton further clarifies by stating that the frame will be well-formed for the language in question "...concerning word order, morpheme order, and the necessary inflectional morphemes" (Myers-Scotton 2005: 241). Note that the *matrix language principle* makes no claim that either language involved in the bilingual utterance is the default matrix language. Rather, testing the utterance against the two key premises identifies the frame: Firstly that the Matrix language and the Embedded language do not participate equally, and secondly that the specific types of morphemes are taken from each language. Myers-Scotton states that "...both languages are always "on" when a speaker engages in codeswitching, although the Matrix language is always more activated" (2005: 243). Although the model does not predict the Matrix language, for Mirpuri-English speaking children it is highly likely that at the early stages of exposure to English only their Mirpuri will be sufficiently developed to provide grammatically acceptable frames. This is because the children are sequential bilinguals. The situation would be impossible to predict for simultaneous bilingual children. Indeed, for older children who have experienced longer periods of exposure to English, it may be either language, which forms the Matrix language at any one time. In any event, if Mirpuri does provide the Matrix language and English the Embedded language, the model predicts the types of morpheme each language will contribute. Application of specific knowledge of Mirpuri syntax and grammar also allow the prediction of simple sentence types.

As Mirpuri and English syntax contrast, word order (or rather, phrase order) is a good indicator of the Matrix language. For simple intransitive Agent + Action utterances, both languages generally map onto the same surface form of *Subject + Verb*, i.e. Mirpuri and English share the same order. Bilingual

utterances such as ‘the boy is sitting’ / ‘mura behta va’ (boy sitting+male is+male) map onto a noun phrase (agent) followed by a verb phrase (action). It would not, therefore, be possible to identify the matrix language of a codeswitched utterance simply by examining phrase order formed for these utterances, e.g. ‘mura sitting’ / ‘boy behta va’.

However, transitive utterances of the form *Agent + Action + Object* map in different ways for Mirpuri and English. Mirpuri has a surface form *Subject + Object + Verb* whilst English has a surface form of *Subject + Verb + Object*. Utterances in Mirpuri such as ‘*mura chavel khana pija*’ (‘the boy is eating rice’) are formed from a *noun phrase + a noun phrase + a verb phrase* in contrast to the English *noun phrase + verb phrase + noun phrase*. Utterances formed according to Mirpuri word order are highly likely to have a Mirpuri grammatical frame. What implications does this have for the morphology of a bilingual Mirpuri-English utterance?

In order to identify content morphemes (likely to come from the embedded language) an understanding of thematic roles or semantic relations is required. Most significantly for Mirpuri, “all system morphemes which have grammatical relations external to their head constituents...will come from the Matrix Language” (Myers-Scotton 2002: 59). Codeswitching of the verb into an English inflected item, e.g. ‘eating’ would not satisfy the requirements of a Mirpuri morphosyntactic frame (as the verb looks to the agent for its form in terms of male or female gender). Gender agreement would be lost in a codeswitched utterance such as **mura kela eating* – boy banana eating.

- THE ‘DO’ CONSTRUCTION AND THE VERB ‘BE’

Sinka *et al.* (2000) investigated early verb acquisition in two preschool bilingual children acquiring English/Latvian and English/German. The verb ‘be’ was ranked 1 for both children accounting for over half the tokens, and one-third of all tokens respectively. Sinka *et al.* conclude that “...there is clearly special status for the verb *be* within the class of main verbs” (186). The role of the verb *to be* and other auxiliary verbs is important when considering the integration of

verbs from one language code into the matrix of another. The generic nature of these verbs appears to provide a site to allow the integration of alien verbs into the predicate surface structure by facilitating the requirements of the matrix language in terms of being able to carry obligatory grammatical information (in English, tense/aspect). The 'do' construction is well documented in the literature. Myers-Scotton states that "In most cases, the 'do' construction is the only means for introducing an Embedded Language verb into a codeswitching construction" (2002: 135).

Monolingual Mirpuri has the capacity to form compound verbs using a noun plus an operator. The Mirpuri operators are 'kar-na' and 'mar-na'. A new version of this construction has been observed in English-Panjabi bilingual speech where, instead of a noun, a bare-stem verb is incorporated, for example 'appreciate karna' (Romaine 1995: 133). This codeswitching innovation is described by Muysken as "...a quite remarkable observation because in Panjabi monolingual verbal compounds the left-most member cannot be a verb, and must be a noun..." (2000: 210). The MLF model however, *requires* that this type of codeswitching occur if the requirements of the matrix language are to be met. In the event that an English verb is selected as a content morpheme, the Mirpuri frame requires agreement with the gender of the agent. As no native verb is available, and the English present progressive verb morphology can only convey aspect and number (and not gender) the only way to meet the gender agreement requirement is to insert a 'generic' Matrix language verb, which is capable of accommodating the agreement. As the compound construction is already part of the monolingual verb structure, it is not surprising that it is this structure, which is employed in intrasentential codeswitching. The analysis of such a construction under the MLF model would be as follows:

asi Panjabi learn karni e, just like French, German or you know, so they'll learn it, hena.

We want to learn Panjabi,
(Romaine 1986: 43)

In this example, the first clause is bilingual (codeswitched), and the second clause is monolingual English with a Panjabi tag. Myers-Scotton has asserted that ‘...it is only within the clause that the language varieties involved in codeswitching are in contact’ (Myers-Scotton 2005: 241). The adoption of the clause, or more accurately the ‘CP’ (projection of the complementizer) as the unit of analysis instead of the ‘sentence’ was a modification made to the MLF model shortly after the publication of the MLF model in *Duelling Languages* in 1993. This unit of analysis therefore contrasts with the more traditional unit, the sentence (see CP as the unit of analysis, Myers-Scotton 2002: 54-55).

The compound verb ‘learn karni’ contrasts with monolingual Panjabi compounds in that the left-most item is a verb and not a noun. The clause however, conforms to monolingual Panjabi grammar in the following ways. Firstly, the clause is an SOV construction (literally *we Panjabi learn doing+female is/be*). The presence of an English verb does not change the phrase order of the clause into an English SVO construction. Secondly, the verb phrase includes gender agreement, which is reflected in the morphology of the generic verb ‘karni’ (do+female). The clause therefore conforms to the MLF model in terms of the Uniform Structure Principle, in that the clause is well formed and structures of the Matrix language are preferred. In this case, Panjabi is the Matrix language, providing the grammatical frame (Myers-Scotton 2002: 120); (Myers-Scotton 2005: 243). Secondly, the Matrix language (Panjabi) and the Embedded language (English) ‘...do not participate equally in structuring intra-CP codeswitching’ (Myers-Scotton 2002: 59). This is certainly the case for this clause, where only one item, *learn* is taken from the embedded language, English. This analysis strongly suggests that the English bare stem verb is a content morpheme, and that the ‘karni’ is composed of late system morphemes. To verify this, I will refer to the MLF and 4-M models. Myers-Scotton states that ‘**Content morphemes** are those that either assign or receive thematic roles’ (Myers-Scotton 2005: 244). In the above example, ‘learn’ assigns the thematic roles of agent (to *asi* - we) and patient to *Panjabi*. *learn* is therefore a content morpheme.

Myers-Scotton also defines system morphemes as those morphemes which ‘...do not assign or receive thematic roles’ (Myers-Scotton 2005: 245). The *kar* – do morpheme is acting as an auxiliary verb and therefore takes the tense/gender morpheme *-ni*. These morphemes do not assign thematic roles and the word is devoid of semantic information (‘doing’) and appears to be required merely for the incorporation of the alien verb by fulfilling the requirements of the matrix language, Panjabi.

The 4-M model does not alter the MLF model, it merely refines ‘...the divisions between content and system morphemes...’ (Myers-Scotton 2005: 267). The 4-M model classifies morphemes according to how they are accessed in the production process. The early system morphemes are dependant on their heads for information about their form. Early system morphemes therefore contrast with late system outsider morphemes which ‘...depend on information *outside* their immediate maximal projection’ (Myers-Scotton 2002: 75). Myers-Scotton identifies ‘...subject-verb agreement...’ (Myers-Scotton 2002: 76) as an example of an outsider late system morpheme. Therefore, in the above example, ‘*karni*’ would be an example of an outsider late system morpheme. This analysis demonstrates that the MLF and 4-M models satisfactorily account for bilingual compound verb constructions where a bare stem English verb is incorporated into a Panjabi utterance.

In summary, the MLF and 4-M models predict that *where Mirpuri forms the Matrix language and English is the embedded language*:

1. The word/phrase order will be SV or SOV, as in any other Mirpuri utterance
2. English and Mirpuri morphemes will contribute unevenly to the codeswitched clause
3. All late system grammatical morphemes will be drawn from Mirpuri; an example is the preservation of gender agreement in Mirpuri. This is likely to occur in the form of a compound verb for Mirpuri as this construction has been previously observed in adults and the morphology of English

and Mirpuri contrast too greatly to allow direct modification of an incorporated alien English content verb.

Given that the children are likely to be in the earliest stages of L₂ acquisition, English items are likely to occur only as content morphemes, most commonly as nouns.

2.2.12 CRITICISMS OF THE MLF-4M MODEL

Even taking into account the revisions made by Myers-Scotton, MacSwan identifies examples where system morphemes are mixed below the level of the CP. In both instances these utterances should be contrary to the system morpheme hypothesis and therefore ill-formed. However, only the first is judged to be ill-formed, despite identical structure:

*No *nitekititoc*
 no ni-tekiti-toc
 not 1S-work-DUR
 'I'm not working' (Spanish / Nahuatl)

Amo estoy trabajando
 amo estoy trabaja-ndo
 not be/3Ss work-DUR
 'I'm not working' (Nahuatl / Spanish)

(MacSwan 2004: 294)

As well as counterexamples from the corpuses, some authors have challenged the assumption that a bilingual has two linguistic systems. Gardner-Chloros and Edwards (2004) challenge the concept of 'grammar' in relation to codeswitching, citing individual variation, the abstract nature of linguistic analysis and the functional use of utterance revisions and other devices employed by bilingual speakers to '...avoid the straightjacket of grammatical rules' (108).

Despite the criticism of the model, Myers-Scotton's approach has received recognition because it attempts to bring together the variety of perspectives on codeswitching into one framework. As Muysken surmises 'Myers-Scotton has drawn together psycholinguistic, sociolinguistic, and structural perspectives on code-mixing for the first time, and thus brought its study to a deeper explanatory level' (2000: 18).

2.3 CODESWITCHING IN CHILDREN'S LANGUAGE DEVELOPMENT

The majority of research presented above focuses on codeswitching found in adult interactions (Brice and Anderson 1999). The study of codeswitching in children presents the same issues. However, in addition, there is also the question of how children acquire and differentiate the languages they are exposed to.

Early research attempted to discover if children began with a single linguistic system or differentiated the codes from an early age. Codeswitching behaviours were cited as evidence of a single unitary system. However, there is now 'substantial counterevidence' (Paradis *et al.* 2000: 245) to a unitary system. Not least are the cases where some children's frequency of codeswitching has been observed to increase, rather than decrease, with age and competence. However, in contrast to the present study, these studies have examined simultaneous bilingual language acquisition. The present study examines sequential bilingualism and children who are acquiring language from a population where adults use codeswitched utterances.

Some researchers have begun to ask the question 'Does young bilingual children's code-mixing obey the same structural constraints as bilingual adults' code-mixing?' (Paradis *et al.* 2000: 245). With the controversy as to which theory both explains and predicts codeswitching, this may seem a further problem in the debate. However, the assertion that codeswitching is grammatically determined has implications for language development. If it can be shown that young bilingual children use grammatical rules in the same way

as adults, children who have difficulty with such rules may be said to be grammatically impaired. The patterns of intrasentential codeswitching may then be used as a comparator for such impaired children. Some researchers have presented data which they claim supports the assertion that child codeswitching is similar, and developing towards, adult codeswitching. Other researches claim that ‘...Language mixing in bilingual children is quite different from codeswitching of older bilingual children and adults in the size of the mixed item’ (Jisa 2000: 1367).

Paradis *et al.* (2000) examined French-English codeswitching data from 15 children aged 2;0 to 3;6 using the Matrix Language Frame model. They found that ‘...these children demonstrated general adherence to adult-like structural constraints in most of their code-mixing...’ (259).

Paradis *et al.* (2000: 259) also found evidence of language-specific grammatical knowledge (relating to INFL-related grammar involving sentential negation and pronominal subjects) and that as grammatical development increased with age, so did children’s ability to obey certain constraints.

Brice and Anderson (1999: 18) compared the order of code-mixed syntactic elements from various studies, surmising that the following hierarchy of syntactic elements appeared common (most likely elements to the left, least likely to the right). They found some discrepancy between studies possibly due to the differing contexts when language samples were gathered or developmental aspects. The most common hierarchy was:

noun > prepositional phrase > adjective/adverb > verb phrase/verb

Brice and Anderson studied Beatriz, a Spanish-English speaking child aged 6;7 until she was 8;1. Beatriz was found to use intrasentential codeswitching for 10.01% of her utterances and they concluded that ‘...bilingual children use syntactic elements following a code-mixed hierarchy in conversational discourse: nouns in the subject and object positions, verbs, verb phrases,

prepositional phrases, articles and adjectives' (Brice and Anderson 1999: 21). Note this order contrasts with the hierarchy produced from Brice and Anderson's literature review which the authors again attribute to methodological issues.

Jisa (2000) in her study of two French-English bilingual sisters aged 2;3 and 3;6 examines the impact of an abrupt change in language environment. The younger child, having less grammatical ability in French than her older sibling and so was '...somewhat more conservative in establishing English equivalents for grammatical forms and functions' (2000: 1382). Jisa highlights that for these sequential bilinguals, the state of the L₁ grammar has an effect on the ability of the child to produce codeswitched utterances and select the correct code for the speaker. Shin (2002) points out that '...bilingual children's speech productions have often been studied without reference to the sociolinguistic contexts in which they occurred, hence making it impossible to analyze the possible factors underlying any code-switching behavior' (340).

2.3.1 CODESWITCHING VERSUS MIXING IN BILINGUAL CHILDREN'S LANGUAGE DEVELOPMENT

Genesee (2000) defines 'mixing' as the 'interactions between the bilingual child's developing language systems (327)'. In contrast to other researchers, who may only consider multi-word utterances, this definition includes the one-word-stage. The mixed elements may be at any level, 'the phonological, morphological, lexical, syntactic, phrasal or pragmatic' (ibid).

The existence of utterances where elements from two (or more) language are 'mixed' by young children is not in question. Genesee quotes examples of mixing at all the levels stated above. The question debated by researchers is regarding the nature and status of young children's bilingual utterances. Are children's bilingual utterances indicators of confusion, examples of merged or combined bilingual elements which precede the differentiation of the language codes? However, children tend to imitate and reproduce the patterns of speech and language that they are exposed to. Does this mean that language mixing is

a product of hearing a mixed code during language acquisition? Genesee points out that there are considerable differences in the reported frequency of mixing across studies, and condenses these difference into five key factors which makes studies difficult to compare:

1. differential exposure to the languages in question;
2. the possibility of unequal or inequitable sampling of the child's language use in different language contexts and / or with different interlocutors;
3. the lack of an acceptable metric of language development with which to identify children at comparable stages;
4. different operational definitions of mixing; and
5. different language histories

(ibid: 329-330).

In the present study it was not possible to control for parental language exposure (and indeed level of mixing in the parental input). In addition, recordings were made in just one context with one interlocutor (see Chapter Three for methodology and Chapter Ten for criticisms of the data collection). If adults use code-switched utterances frequently, then it seems likely that children will also produce utterances of this nature. The main difference between 'code-mixing', attributed to early bilingual development in children, and 'code-switching', attributed to adults is the rule-bound nature of the latter, and the 'experimental' nature of the former. Code-mixing is thought to be a stage of undifferentiated production, followed by a systematic separation of the language codes. Adult code-switching is employed for a variety of socially-motivated and pragmatic functions, including '...the way speakers perceive their social identities and relationships to one another...' (Winford 2003 : 125). Explanations of code-mixing are controversial; 'Researchers do not fully agree on whether infant bilinguals go through an initial mixed stage that consists of a single language...or whether they are able to keep the two languages separate from the onset of language development' (Grosjean 1982: 182).

2.3.1.1 *THE UNITARY-LANGUAGE SYSTEM EXPLANATION*

The use of language-mixing in early childhood bilingualism has been seen by some researchers as evidence of a single language system. Initially proposed

by Leopold in 1970 and developed by Swain in 1972, the unitary language system hypothesis proposes a development from an undifferentiated single language system at the early stages of simultaneous language development. Leopold studied his daughter Hildegard's simultaneous acquisition of English and German. Leopold stated that '...infants exposed to two languages from the beginning do not learn bilingually at first, but weld the double presentation into one unified speech system' (in Lanza 2004: 19). Leopold concluded that Hildegard selected words for articulatory ease of production, that lexical differentiation preceded syntactic differentiation and that lexical mixing was a regular characteristic of her early utterances. At around her second birthday, Hildegard began to differentiate, the language selected according to her interlocutor (ibid: 21). Swain and Weshe's 1975 study examined simultaneous acquisition in terms of how the two languages interacted. Previously termed 'interference', the researchers avoided this term due to its negative connotations, choosing to use 'linguistic interaction' instead. Swain and Weshe analysed longitudinal data from a three year old boy Michael, a simultaneous French-English bilingual. An analysis of Michael's multiword utterance showed that '...less than 4 per cent contained instances of lexical mixing...' (ibid: 24). Michael's use of English with an English-speaking interlocutor increased over time, reducing his use of mixing. The researchers also stated that French was Michael's dominant language. Lanza criticises the conclusion that this data shows that Michael began with a unified language system. Rather, as his less dominant language developed, Michael became more able to converse in English. Further, the pressure on Michael to mix may have been exerted by the fact that he was acting as an interpreter.

The single language system contrasts with adult code-switching as the mixed code is *not* a product of language sophistication used for socially motivated purposes. Rather, the unitary system is composed of undifferentiated elements from the two languages. The emphasis is often on deficit, i.e. a child at this early stage may lack certain lexical items in one language and therefore use the item from the other language. Therefore, although an early bilingual mixed utterance may be composed of phonological, lexical, morphological and

syntactical elements from two (or more) languages from the adult listener's perspective, the child uses elements out of necessity and is driven by pragmatic forces (the need to compose a message). Mishina-Mori describes the unitary language system hypothesis as a process of development. Simultaneous bilingual children progress from '...one hybrid system and that a gradual separation process into two systems takes place through a three-stage development, starting from the lexicon, progressing to morphology and then to syntax' (2002: 211). This three-stage model was originally proposed by Volterra and Taeschner in 1978 (Grosjean 1982: 183). Genesee rejects the unitary-language system explanation on grounds that the evidence given to support the model is '...not sufficient' to support their interpretations (331).

In the first stage the child is thought to have one lexicon containing words from both languages (ibid). However, the fact that a child uses occasional words from one language whilst speaking another is not evidence for a unitary-language system. This behaviour may simply be borrowing or codeswitching. As Genesee highlights, in order to show that a child does not use his languages with an awareness that they are separate codes '...one would need to establish that, all things being equal, bilingual children use items from both languages indiscriminately in all context of communication' (2000: 331). Most studies do not present data in this manner. Genesee therefore concludes that '...an explanation of bilingual mixing in terms of undifferentiated language systems is open to serious question' (2000: 332).

The unitary-language system has other implications. It may be assumed under the model that bilingual language learners are weaker language learners than their monolingual peers. This is because learning two languages may place '...higher information-processing demands on the language learner than acquiring just one' (Junker and Stockman 2002: 382). In addition, other researchers have proposed that a child may narrow the range of meanings that can be attached to a word. This 'lexical contrast principle' proposed by Clark (1987 in Junker and Stockman 2002: 382), asserts that children are likely to look for a different meaning for each word they hear. This strategy is employed

to reduce cognitive load and therefore predicts that early synonyms would be precluded. This in turn predicts that the simultaneous bilingual child can only develop a unitary system as resources are allocated to acquiring language in an economical way, and acquiring two labels for one concept goes against this economy (ibid). Junker and Stockman collected data from ten normally developing German/English simultaneous bilingual children in the USA and Germany aged twenty four to twenty seven months. A cohort of monolingual children were matched for each language. No significant difference was found between the groups for conceptual vocabulary. For the number of lexical forms, there was no difference between the bilingual and monolingual German. There was a significant difference between the means for the English bilingual and English monolingual lexical items. These findings suggest that ‘...bilinguals as young 2 years old do not avoid translation equivalents’ (ibid 391). Junker and Stockman take this as evidence that refutes the unitary-language system hypothesis.

Young bilingual children use items and combine elements which suggest that the combinations are rule-bound. Lanza states that ‘...children from their very first word combinations rarely make form category errors’ (2004: 120). Genesee highlights the findings of Lindholm and Padilla (1978), that when a Spanish/English child mixed at the phrase level ‘...the structural consistency of the utterances was maintained so that there were no lexical redundancies or syntactic errors’ (328). Paradis *et al.* (2003) state that ‘...there is substantial evidence against the unitary language system hypothesis...’ (115), highlighting that the situation for simultaneous bilingual children is more complex. In some regards, such children are ‘two monolinguals in one’, with evidence of language differentiation in children as early as 18 months old. However, the two languages do not develop at exactly the same rate and in the same way. It is common to find that one language at any particular time is ‘dominant’. This dominance may change over the course of the child’s language acquisition and may be thought of as a measure of relative proficiency of the two languages (ibid). Paradis *et al.* also state that, despite the evidence against the unitary language hypothesis, there is evidence of language interdependence. This

interdependence may be expressed in three different ways: acceleration, deceleration and transfer. Acceleration means that ‘...a grammatical property may emerge earlier in one language than is typical in the monolingual context’. Deceleration is where the burden of acquiring two languages slows down the acquisition process in both languages and transfer is where a linguistic structure is borrowed from one language and temporarily used in the other (ibid). In testing these ideas, Paradis *et al.* examined language learning of simultaneous bilingual children presenting with specific language impairment. Their results on grammatical morphology learning were that ‘...bilingual children with SLI show the same deficit patterns with respect to tense-marking morphology in each language as monolingual children with SLI’ (124). Therefore, the researchers concluded ‘...bilingual language learning might not interfere with the overall course of language acquisition, even under conditions of impairment’ (ibid).

With the majority of researchers rejecting the notion that there is a unitary language system (and the accompanying notions that bilingual children are disadvantaged by simultaneous bilingualism), what other explanations for mixing have been proposed? One of the main theories is that children mix as they lack the appropriate lexical item in one language but have the item in their other language. Evidence for this is that mixing typically declines as children’s language skills develop. As has already been discussed, young children *do* have translation equivalents. Genesee points out that rather than a lexical issue, it is more that children are ‘...developing sociolinguistic competence...’ (2000: 333). That is, using their linguistic knowledge to use the appropriate language for that particular interlocutor.

Some of the phenomena cited as evidence for a unitary language system may simply be recognised monolingual language acquisition phenomena seemingly different through the filter of bilingualism. Underextension and overextension have been observed in monolingual early language acquisition. Mixing may be due to lexical borrowing as a kind of overextension, with the bilingual child extending inter-lingually (ibid).

The role of input appears crucial to the level of mixing a child uses. If the one-parent-one language approach (the 'Grammont' approach) is adopted, then less mixing is observed in the child. However, even in families who claim to adhere strictly to this principle, both parents inevitably use both languages (Goodz 1989, Genesee 2000).

Genesee concludes his review arguing that young simultaneous bilingual children do differentiate their languages and can use their languages in contextually sensitive ways. However, he calls for further research into the area as '...the case for undifferentiated language development in bilingual children is far from established' (2000: 340).

It is important to note that the children in the present study are sequential bilinguals, acquiring one language at home and another at school. They therefore contrast with the studies reviewed in this section. The present study also presents data at one point in time from a very large cohort of children, rather than a single longitudinal case study. The children in the present study are learning a low status (Mirpuri) and a high status language (English). The children in other studies tend to be acquiring two high status languages. Finally, the children in the case studies reviewed were acquiring two European languages whereas those in the present study are acquiring a Pakistani heritage language and English; two languages which contrast phonologically, morphologically and syntactically (and arguably pragmatically, as adult-child interaction is different in the community).

2.4 BILINGUAL LANGUAGE ACQUISITION

Bilingual language acquisition is defined by Meisel as '...growing up with two or more languages from birth or soon afterwards' (2004: 91). de Houwer sets criteria around those defined as experiencing bilingual language acquisition: '...children who are regularly addressed in two spoken languages from before the age of two and who continue to be regularly addressed in those languages...' (1995: 222). The reader is reminded that most, if not all of the

children in the present study would therefore not be regarded as experiencing bilingual language acquisition, but rather sequential bilingualism.

The majority of children become bilingual in a natural way, in that their parents do not 'actively plan their bilingualism' (Grosjean 1982: 70). Social factors such as immigration, inter-marriage, education and so on may lead to children acquiring two (or more) languages in the home. Bilingual language acquisition has been of interest to researchers, in considering both the similarities and differences to monolingual language acquisition. Most language acquisition research has focused on monolingual language acquisition. Bilingual language acquisition has often been viewed from the monolingual perspective, highlighting apparent differences, such as the fact that bilingual children appear to acquire language later and slower than monolingual children. Meisel, in reviewing the body of research on simultaneous bilingual acquisition, states that it may now be considered '...an instance of multiple first language acquisition' (2004: 95).

Many researchers place emphasis on the nature of the language input a child receives and its impact on the path and outcome of the child's language development. This falls broadly into two categories; the frequency of the input and the complexity of that input. Tomasello states that 'Input frequency and structural complexity interact in complex ways in the developmental process' (2003 :175). As discussed above, some parents utilise the 'Grammont' approach in an attempt to segregate the language input a child is exposed to. Other parents will mix their language usage to various degrees on a continuum from a total Grammont approach to a complete lack of separation. The distinction is important as some researchers have promoted the Grammont approach as a way of developing good metalinguistic awareness and avoiding potential negative consequences such as non-fluency (de Houwer 1995). Whilst some researchers have been concerned about 'mixing' in bilingual children's output, and promoted the one-parent-one-language approach to avoid mixing, others such as Goodz have questioned why there should be concern about language mixing if children are exposed to mixed utterances from their parents

and other adults (ibid). De Houwer states that ‘...the relationship between input and mixing cannot be properly addressed at this time, since most descriptions of language input conditions in the literature on bilingual children are insufficiently informative to approach the issue’ (ibid: 226).

Other issues, such as bilingual children speaking later have been dismissed as simple normal variation in young children. Monolingual children commence speaking anywhere from ‘...around 1 year of age’ (Crystal 1997: 238). Dairy studies and researchers tracking the development of single word comprehension and expression have reported large variation between individual children (see Ingram 1989 for a review of monolingual English first language acquisition). Researchers reporting that bilingual children do not speak until 2;0 years are therefore well within the range of monolingual children.

The differentiation of grammars is clearly a contrast between monolingual and bilingual children’s acquisition. Monolingual children have to use their cognitive skills to acquire one system, whereas the bilingual child is faced with two systems. The child must therefore identify which elements belong to each language. This leads to two main questions:

- At what point is the bilingual child able to differentiate?, and
- Prior to this identification, does the child have a single communication system?

As already discussed, children are able to differentiate their languages and hence codeswitch from an early age. Meisel states that ‘...by age 2;0, they choose the language according to the addressee, and soon afterwards they begin to adapt to other sociolinguistic requirements’ (2004 :97). Meisel also argues convincingly that young children ‘...are capable of separating the two grammatical systems without going through a phase of temporary confusion’ (2000: 366). Meisel illustrates this with examples from two French/German children. The children utilise both syntactic and grammatical cues to differentiate their two languages ‘...no later than with the appearance of two – or more word utterances’ (ibid: 367). The very early differentiation is attributed to enhanced metalinguistic skills produced by being exposed to two languages.

This then appears to provide further evidence that the concept of a unitary language system is not required in relation to bilingual language acquisition.

The encouragingly positive research around bilingual language acquisition raises questions pertaining to sequential language acquisition. Does learning a language have a 'critical period' and if so, does acquisition of a language after this period lead to incomplete language learning? Is it indeed possible for the introduction of a second language to impair the complete acquisition of the first?

The latter concept, referred to as 'semilingualism' has received criticism on the grounds that the term may be political rather than linguistic. The real reasons for the person's poor language development being '...economic, political and social conditions' (Baker 2000: 7). The term is often applied negatively by monolinguals who draw negative comparisons with their own language skills.

Meisel distinguishes between three types of bilingual acquisition:

1. simultaneous acquisition of bilingualism (2L1),
2. child second language, and
3. adult L2 acquisition

2L1 is defined as occurring '...if the child begins to acquire two or more languages during the first three or four years of life' (2004: 104-105). This definition would include those children acquiring a home language and then being exposed to a second on entry to nursery and reception classes in the UK (and hence the majority of participants in the current study).

It is unclear if bilingual language acquisition (exposure from birth to two languages) leads to more successful outcomes than early sequential bilingualism (when the child is exposed to a second language before the end of the proposed critical period). Meisel states that '...available empirical evidence is so scarce that it is impossible to draw serious conclusions' (ibid: 105).

2.5 CODESWITCHING SUMMARY

Theories of codeswitching have progressed from generally negative views of codeswitching as random and deviant behaviour to models based on actual data of codeswitching produced by bilingual speakers and concepts of acceptability from the judgement of bilingual listeners. There is a consensus that intrasentential codeswitching is generally well-formed and subject to rules (Nishimura 1995, Poplack 2000). The nature of those rules is still being debated, with some researchers suggesting general constraints (Di Sciullo *et al.* 1986, Pfaff 1979, Poplack 1980); triggering words (Clyne 2000); matrix-embedded oppositions (Myers-Scotton 1993) or minimalist approaches (MacSwan 2000). There is disagreement on whether intrasentential utterances may be explained by the same processes as monolingual production, or if special processes need to be called upon (MacSwan 2004). Further, there is disagreement on whether there can be universal rules or a theoretical model that can be applied to all language combinations (Poplack 2000, Sankoff 1998). It has been recognised that intrasentential codeswitching occurs only if the sociolinguistic circumstances allow (Gardner-Chloros and Edwards 2004). There is debate as to if codeswitching is a single entity or several facets of different language contact phenomena such as convergence or attrition. Muysken (2000) argues that the various models proposed to explain and predict intrasentential codeswitching are not mutually exclusive. Rather, that they each address the processes of intrasentential codeswitching: insertion alternation and congruent lexicalization with different emphasis for each model.

2.6 LANGUAGE SHIFT AND ATTRITION

The present study examines a population where children predominantly learn a first language (a Pakistani heritage language) and then go on to acquire a second language at a later stage (English). The picture is further complicated by the fact that adults also use codeswitching within their first language. However, the manner of bilingual language acquisition and the presence of codeswitched utterances in the adult language model are not the only variables. Children may maintain their L₁ skills and become bilingual, lose their L₁ skills and become monolingual English or retain only receptive L₁ skills. The loss of

L₁ in minority communities has been documented in other communities (Wong Fillmore 1991). There are anecdotal reports of children from the Pakistani heritage community in Rochdale losing their L₁ as they grow into teenagers and young adults, even when the parents do not have sufficient skills in English to converse with their children. Any study examining codeswitching must consider language shift and attrition. If these processes are active then the assumption that L₁ skills will either remain constant or continue to increase may be false.

2.6.1 DEFINITIONS

Language shift is where a speaker uses a second (or additional) language for certain situations. The reasons for the shift are as many as there are bilingual speakers. For children, a child may acquire a new language on school entry which is different to the one they have been acquiring in the home. Lambert (1975) (in Myers-Scotton 2002: 48) describes language shift in terms of 'additive bilingualism' and 'subtractive bilingualism'. Additive bilingualism is where the first language is maintained when an additional language is acquired. Subtractive bilingualism is when the language being acquired replaces the speaker's original language. Language loss is usually measured expressively (Anderson 1999: 4) and little information is available on receptive language skills in language shift and loss situations.

Language shift does not occur just in individuals. The combined loss of language abilities for a community over time may lead to the loss of a language as the number of proficient speakers is gradually eroded. Fishman describes language shift as '...speech communities whose native languages are threatened because their intergenerational continuity is proceeding negatively, with fewer and fewer users...' (Fishman 1997: 1).

Researchers report that language loss is most frequently observed in working class immigrant families, especially the children who are learning English sequentially in preschool and reception (Anderson 1999, Wong Fillmore 1991). These findings may relate to the Pakistani heritage community in Rochdale, as

the population are experiencing very similar social and language learning conditions.

2.6.2 DIFFERENTIATING LANGUAGE SHIFT, LOSS AND OTHER LANGUAGE CONTACT PHENOMENA

Language attrition is “...language change within the speech of one individual” (Myers-Scotton 2005: 271). This change is characterised by the abstract structure of the L_1 being influenced and altered by the abstract pattern of the L_2 . The surface language may remain wholly L_1 , i.e. the morphemes may all be drawn from L_1 , but the abstract structure may be influenced by L_2 . An example of this would be a Pakistani heritage speaker using Mirpuri morphemes but employing an SVO construction (influenced by English) rather than an SOV utterance. Eventually, even surface morphemes may be selected from the more dominant language until the L_1 is completely lost. On a population level the process is referred to as ‘convergence’ and on an individual level as ‘attrition’. Movement towards the L_2 is often referred to as ‘language shift’. Language attrition is a language contact phenomenon. As such, it may be problematic defining and differentiating language attrition from other language contact phenomena. Codeswitching is the domain where both language shift and language attrition are explored.

How can language shift and attrition be identified, particularly in children? Seliger and Vago (1991) state that “Many, though not all, of the linguistic changes attendant to attrition are simplificatory in nature” (6). This contrasts with intrasentential codeswitching which is generally a sign of linguistic sophistication. Seliger and Vago further contrast codeswitching under ‘normal’ circumstances where codeswitching is grammatical and consistent for both languages, and language attrition, where the bilingual employing codeswitching ‘...increasingly loses control of the conditions that constrain mixing’ (Seliger and Vago 1991). It would appear useful, therefore, to employ the codeswitching models described above to assist in comparing and contrasting codeswitching examples which are thought to be caused by ‘normal’ sociolinguistic motivated

factors and codeswitching thought to be motivated by attrition, i.e. loss of skills in the L₁.

Myers-Scotton considers language shift and attrition as outcomes of the same process, convergence. Convergence is defined as ‘...the process that promotes a splitting of abstract lexical structure in one variety, often resulting in a restructuring of grammatical relations and even surface-level grammatical morphemes from the stronger group in the equation..’ (2002: 164).

Research can inform clinical practice. However, there has been a dearth of research into bilingual children with specific language impairment, and none of this research compares linguistic characteristics of bilingual and monolingual children with specific language impairment (Paradis *et al.* 2003). One of the few studies to address this area compared monolingual English-speaking, monolingual French-speaking and bilingual French-English speaking children with specific language impairment (Paradis *et al.* 2003). Paradis *et al.* compared the children’s performance on morphosyntax and concluded that ‘...the bilingual children with SLI displayed difficulties with this aspect of morphosyntax (tense), just like their monolingual peers’ (2003: 123)

2.7 SUMMARY

As described above, there is little agreement as to what constitutes ‘normal’ codeswitching behaviour in adult bilinguals. This is particularly true when considering languages which do not share a basic structure. Codeswitching does appear to give an insight into grammatical sophistication and so it would be a useful indicator of language development for bilingual children. However, the elicitation of codeswitched utterances may be dependent on pragmatic issues, such as the situation where language is elicited. Further, the use of codeswitching will be determined by sociolinguistic factors such as the acceptability within the particular community. If the bilingual community speaks a minority language, as is the most frequent situation, the issues of language shift and attrition must also be considered. It is likely that children growing up bilingually will shift dominance at different periods in their lives.

The strength of the current study is that the data presented were collected from children using codeswitched utterances as part of their natural language use. The data from different aged children allows a view of a population of children. These data will therefore clarify if language shift is occurring in this population.

Language patterns such as simplification, disintegration of grammar and loss of vocabulary may be indicative of language loss rather than specific language impairment. However, if a child is also language impaired, which features would differentiate language contact phenomena from specific language impairment features? It has been shown that specific language impairment features differ for each language. One would also expect that when two or more languages are involved, the features may be different from the monolingual features. However, there will also be common features, especially when examining codeswitching behaviours which, since grammatically controlled may be more susceptible in a child with SLI.

The danger is that such a complex picture may lead to over- or under-diagnosis of specific language impairment. Which linguistic features or patterns emerge from the literature? Firstly, typically developing bilingual children exhibit codeswitching patterns that are essentially the same as adult patterns (Paradis *et al.* 2000). This indicates that models of adult codeswitching may be applied to children's developing language skills and examining children's codeswitching may be a useful way of differentiating typically developing and impaired bilingual language development (Pert *et al.* 2004). Secondly, children with specific language impairment present in the same way as typically developing children in terms of language type, albeit poorer speakers (Leonard 1998). Thirdly, bilingual children with SLI are no more impaired than their monolingual peers and that bilingualism does not impede language acquisition even when the child has a recognised impairment (Paradis *et al.* 2003). Fourthly, typically developing bilingual children may experience language shift both at an individual and community level. Changes in language usually affect the home/community language and losses in the L₁ are accompanied by rapid

development of the L₂. SLI children would exhibit difficulties across all their languages (Royal College of Speech and Language Therapists 2004).

**CHAPTER THREE:
METHODOLOGY AND OUTLINE OF LANGUAGES
UNDER INVESTIGATION**

3.1 METHODOLOGY

This thesis describes the development of bilingual language in typically developing Pakistani heritage children in Rochdale, UK. In addition, findings from the normative data are applied to bilingual children with SLI. Expressive language data were collected using a picture description task and verbal comprehension skills were sampled using real objects, toys and picture based materials. This approach contrasts with naturalistic data collection methods. A formal, controlled data collection method was selected instead of free speech sampling because data were to be collected from a large number of children. The use of formal structured data collection allowed the training of BSLTAs and a consistent method of data recording and analysis to be devised. The data collected were to be analysed in order to provide normative data for the population. The use of set stimulus items also meant that accurate descriptions of language use could be made. For example, codeswitching could be analysed with the knowledge that the target contained an agent and an object. This contrasts to spontaneous data, where the researcher must make an informed decision as to what the child is trying to communicate or exclude ambiguous data. The mapping of examples of codeswitching onto a theoretical model was therefore facilitated by consideration of the materials presented to the child. The development of the data collection tools is described in Chapter Four.

Following the development of the data collection tools and the formulation of research questions, the project was submitted to the local ethics committee for approval.

3.2 CONSENT

An application was made to the Bury and Rochdale Health Authority Local Research Ethics Committee on 21/05/2001 (reference BRLREC 195). The application was approved with two minor alterations on 20/06/2001. The resulting consent forms were used for both the pilot (see Chapter Four) and the main study. Written consent was given by the child's parent(s). Alternatively, verbal consent given in the home language was recorded by the bilingual speech and language therapy assistant. See Appendix One.

3.3 THE COLLECTION OF LANGUAGE DATA FROM BILINGUAL CHILDREN

3.3.1 NUMBERS OF CHILDREN ASSESSED

Data were collected from a total of 214 children. This number is composed of three cohorts of children, all drawn from the Pakistani heritage community in Rochdale, UK. Figures 3.1 to 3.3 illustrate the assessment regime for each cohort.

Cohort 1 is composed of 167 typically developing children aged 2;6 to 7;5 years (see Figure 3.1). Data were collected in the medium of home language at T1 and then home language and English at T2. The final amount of data presented in the thesis was dependent on if the participants responded to the assessment materials. 163 children responded to the verbal comprehension screen (see Chapter 5.2). 88 Mirpuri, 25 Punjabi and 27 children responded to the expressive language assessment (a total of 140; see Chapter 5.3). The codeswitching data focuses on the Mirpuri children (see Chapter 6.3.3).

Cohort 2 is composed of 44 typically developing children aged 3;10 to 6;9 years (see Figure 3.2). The children all attended the same Educational setting, a nursery and primary school in Rochdale. The cohort consisted of all the children whose parents returned a signed consent form. Age band distribution was therefore not even. Data were collected in English only. Children from 27 Mirpuri, two Punjabi and 11 Urdu speaking homes provided expressive language data (a total of 40; see Chapter 8.2).

Cohort 3 is composed of three children with specific language impairment (SLI; see Figure 3.3). These children all attended the same speech and language unit and were the only bilingual children attending the unit at time of data collection. All three children were from a Mirpuri speaking home. The case studies cover the period from referral to speech and language therapy service to the time of writing. SM was aged 4;5 to 7;6 years; AI was aged 3;8 to 5;8 years and MH was aged 3;4 to 5;8 (see Chapter Nine).

Data were analysed in six month age bands. There is not an equal number of participants in each age band. This was due to several reasons which affected data collection. The participants were recruited from early years settings and schools. Attempts were made to recruit participants from younger age bands by asking families if they had other siblings in these age ranges. An attempt to identify children's home language from the consent form proved problematic as the language the children actually spoke often contrasted with the language reported by the parents. This finding is consistent with previous findings (Pert and Letts 2003, Stow 2006). Therefore, although a balanced number of each language spoken across each age band was planned, when the children's language was identified by the bilingual co-worker, the distribution changed. Data were collected from an approximately even number of male and female participants (see Table 5.2).

For Cohort 1, no children aged 0-2;5 years were seen and it proved difficult to recruit children of this age. This may have been because most participants were recruited by bilingual co-workers attending early years settings and giving oral information about the activities involved in the data collection. This was the most effective way of answering parents' questions. Recruitment was also attempted by letter with an information leaflet for younger and older children (see Appendix One). However, many families live in areas of social deprivation (see Chapter 1.6) and it is suspected that literacy rates were lower than the national average. In addition, many parents had English as an additional language and preferred verbal communication. Three children aged 2;6-2;11 were seen. However, only one child cooperated with the comprehension screen and none of the three children in this age band produced an expressive language sample. The age bands 3;0-3;5 years and 6;0-6;5 years in Cohort 1 contained data from between 11 and 43 children (160 or 95.8% of the data sample). Age bands 3;6-3;11 years and 4;0-4;5 years had the most participants (43 and 41 respectively; 84 children or 50.3% of the sample). It is at this age in which children attend playgroups, nursery and reception classes. Parents were recruited as they collected their children, with bilingual co-workers giving written

information accompanied by home language explanations. It is also at this age in which children are exposed to English intensively for the first time. As the children are mainly monolingual in their Pakistani heritage language prior to attending an early years setting, these are the ages at which sequential bilingualism commences for this population. There are only two children in each of the oldest age bands 6;6-6;11 years and 7;0-7;5 years. Fewer parents consented to data collection in these age bands, that is, fewer consent forms were returned for children in these age bands. Parents approached in person by the researcher commented that they were interested in English acquisition and equated this with success in school and consequently were less interested in their child's ability to speak their home language. This coincided with publicity around the then Home Secretary David Blunkett linking educational success and 'community cohesion' with speaking English in the home. Mr Blunkett stated that 'Where English is not spoken at home, generational disadvantage is reinforced, even when the children themselves have acquired the language' (2001).

A similar patterns emerged for Cohort 2. The majority of participants were in age bands 3;6-3;11 years through to 4;6-4;11 years (37 of the 44 participants or 84.1% of the total).

Cohort 3 children were all attending a language unit provision which provides a service up to Year 1 (the year in which children are seven).

3.3.2 DATA COLLECTION AND ANALYSIS

Children were seen individually by the researcher and a bilingual speech and language therapy assistant (BSLTA) who shared the child's language(s). Children who were unhappy about coming into the room were seen with a friend. Children were able to leave at any time during the data collection process and the tasks were halted if the child became distressed.

The BSLTA initiated the session using a brief play activity and / or conversation. This allowed the child time to become comfortable and also allowed the BSLTA

to make a judgement about which Pakistani heritage language the child was using. All the items in the Derbyshire Language Scheme – Rapid Screening Test (Madislover and Knowles 1979, Pert 2000)(DLS-RST) were administered and children were praised for all attempts to respond, regardless of whether the response was correct or incorrect.

Data collected from typically developing Mirpuri children during the standardisation of 'je zindegi', early expressive language assessment (Pert and Stow 2002), were translated by experienced BSLTAs. Any translation ambiguities were discussed between the BSLTAs. These discussions were facilitated by the researcher. The original data with translations were then inputted into a computer using the computerised language analysis program (CLAN, Spektor and Tuthill 2000). The data were checked and coded according to the LIDES manual (LIPPS group (Language Interaction in Plurilingual & Plurilingual Speakers) 2000). The *FREQ* (frequency) and *KWAL* (key word and line search) CLAN programs were employed to sort and search the data. Utterances of interest were identified and analysed either descriptively or subjected to further analysis by importing the files into a Microsoft® Excel spreadsheet for ranking by frequency. Data sets were identified according to language and the age of the child. Patterns could then be described between age groups of children. This method of data collection, organisation and analysis was used throughout the thesis unless otherwise stated.

3.3.3 BILINGUAL SPEECH AND LANGUAGE THERAPY ASSISTANTS

The Rochdale Primary Care Trust, a National Health Service (NHS) organisation is concerned with the delivery of services within the local community. It works closely with the Pennine Acute Trust to fulfil its remit. The Rochdale Speech and Language Therapy Department employs five bilingual speech and language therapy assistants (BSLTAs). The assistants have been employed in the department and have between one and twelve years experience. BSLTAs are employed to provide translation services between adults (parents, carers etc) and speech and language therapists. In addition,

they are required to deliver assessment and therapy in the languages that they speak (i.e. Mirpuri, Punjabi, Urdu or Bangla).

Separate BSLTAs are employed depending on their language skills. For example, two assistants speak Mirpuri and do not provide support to Punjabi or Urdu speaking clients (although they have some knowledge of these languages). One BSLTA speaks Punjabi and Urdu but does not provide support to Mirpuri speaking clients. Only one BSLTA is able to use all three Pakistani heritage languages. This BSLTA's first language is Mirpuri. She went on to learn Punjabi and English as a child and learnt Urdu in a formal educational setting. The BSLTAs are clear that the three Pakistani heritage languages are distinct and separate languages, both in terms of their grammar and their use in social situations.

The information presented here is based on discussions with the four BSLTA who are users of Mirpuri, Punjabi and/or Urdu. Other non-professional adult speakers of the languages were also consulted.

Figure 3.1 Cohort 1 (Home language data collection, reliability and subsequent EAL)

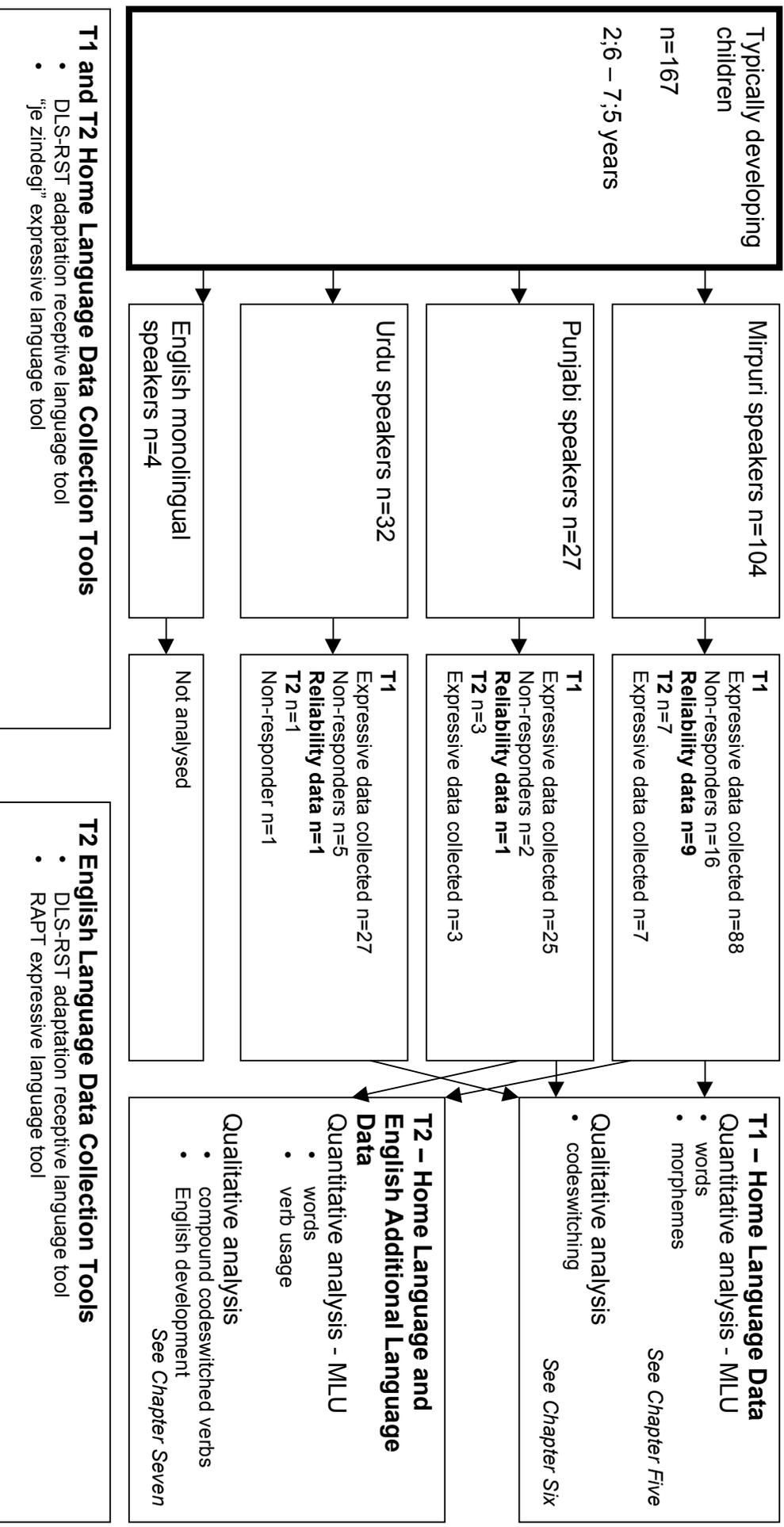
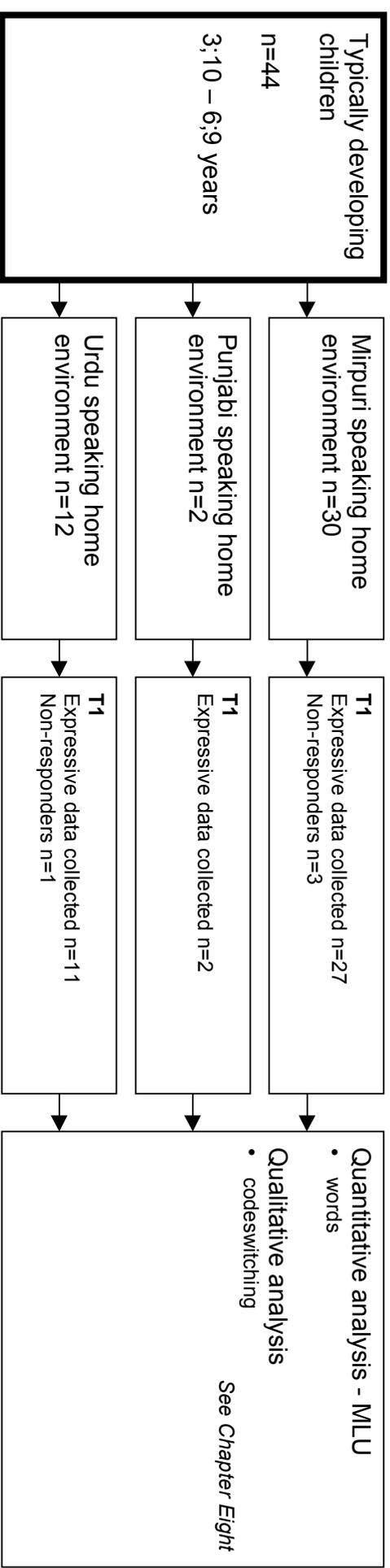


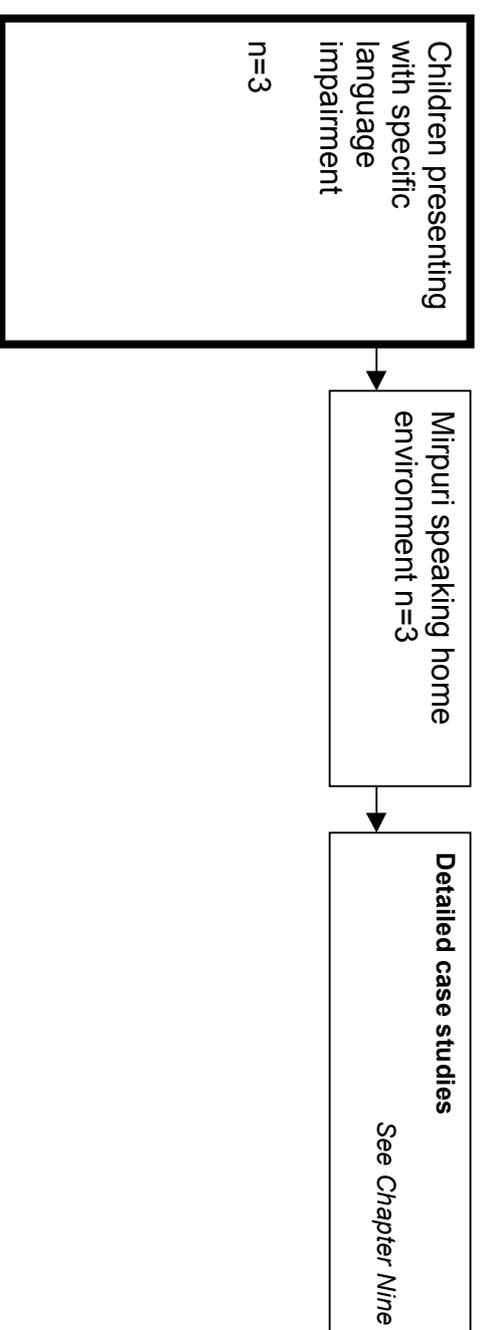
Figure 3.2 Cohort 2 (English data collection)



English Language Data Collection Tools

- DLS-RST adaptation receptive language tool
- “je zindegi” expressive language tool

Figure 3.3 Cohort 3 (Specific Language Impairment data)



3.4 LANGUAGES UNDER INVESTIGATION - PAKISTANI HERITAGE LANGUAGES: MIRPURI, PUNJABI AND URDU

3.4.1 INTRODUCTION

This section describes the Pakistani heritage languages, with a focus on Mirpuri. “Mirpuri” is the label most frequently used by the adult population in Rochdale UK to describe their language. Despite being widely spoken in the UK there is very little information on this language. The project described in this thesis is concerned largely with Mirpuri speakers. It is important that the reader familiarise him/herself with this information.

Published Urdu and Punjabi grammars exist (Bhardwaj 1995, Bhatia and Koul 2000, Matthews and Dalvi 1999, Schmidt 2004). Therefore only Mirpuri will be described, with contrastive examples given in Punjabi and Urdu. The grammar found below is not exhaustive, but addresses structures that are discussed further in other chapters of the thesis.

- **MIRPURI**

Mirpuri refers to the language spoken in the district of Mirpur, the main city being Mirpur. Mirpur is situated in Azad Kashmir and adjoins the Pakistani districts of Jhelum and Gujrat. Mirpur district consists of some 1010 square kilometres and has an estimated population of 404,000 (Kashmir Media Service 2004, Sure Start 2004). There has been migration to the UK from this district, and many of the Pakistani heritage population have origins in this district.

A report by Kirklees Metropolitan Council Education Service and Dewsbury College (2002) details a visit to Azad Kashmir. The report mentions the debate on ‘...the inter-comprehensibility of regional languages from Pakistan’ (13) and labels the language ‘Potohari (Mirpuri)’.

Mirpuri has also been referred to as Mirpuri-Punjabi (Masidlover 2001). Mirpuri is listed as a dialect of Pahari-Potwari (Ethnologue 2004a) and an alternative name for Panjabi (Ethnologue 2004b). Reynolds acknowledged that ‘...the

majority of community members in Sheffield speak the Mirpuri dialect' (Reynolds 2002: 145), when discussing the Pakistani Punjabi community. The British Broadcasting Corporation transmits separate programmes in the Mirpuri language (British Broadcasting Corporation 2004c), the Punjabi language (British Broadcasting Corporation 2004b) and Hindi-Urdu (British Broadcasting Corporation 2004a). Mirpuri is one of the twenty languages available when taking the theory test component of the driving test in the UK (HMSO 2004).

Mirpuri is spoken in the Mirpur region of Pakistan. Mirpuri is generally spoken in more rural areas of Pakistan. Mirpuri is thought to be the third most widely used language in the UK after English and Welsh (Smithers 1999). Precise figures of usage in the UK are not available as Mirpuri speakers often report their language as Punjabi or Urdu. Stubbs (1985: 143) noted that 'large numbers of (adult) respondents used Mirpuri' when he was conducting a language survey, although they '...rarely named it as their first or main language'. Mirpuri is thus often incorporated into groupings such as Punjabi-Urdu, along with other related 'dialects' such as Hindko (Stubbs 1985: 324). Mirpuri currently has no written form and is therefore a pre-literate language. Some activists are reported to be working on a script.

- PUNJABI

Confusingly, both the label 'Punjabi' and 'Panjabi' has been used to refer to this language. This is possibly because the production of the word is typically /pndzabi/ and the vowel is an Anglicisation. Panjabi is spoken in both India and Pakistan. It is important to note that the Punjabi used in the Rochdale area is not the same dialect as that used elsewhere in the U.K. For example, contrasts can be made between with the Panjabi as described in other language assessments such as the Sandwell Bilingual Screening Assessment (Duncan *et al.* 1988). Although grammatically very similar, phonological forms, verb forms and lexical items were found to vary. It may therefore be helpful to use the terminology 'Panjabi' when referring to the Indian origin language and 'Punjabi' when considering the Pakistan origin variants. It is thought that Mirpuri is widely

distributed across the UK. In India and Pakistan Punjabi is written using different scripts, Gurmukhi and Perso-Arabic respectively.

- URDU

Urdu is the official language of Pakistan and one of the eighteen national languages of India. It is the medium through which government and education is conducted in Pakistan. Urdu is written using the Persian script (similar to the Arabic script in which the Quran, the Holy book of the Muslims) (Rahim 2003). Urdu is the language of government and education. The language is regarded as a high status language.

3.4.2 DIALECT OR LANGUAGE?

Mirpuri is frequently referred to as a dialect of Punjabi. This judgement tends to be based on perceptions of prestige. As Mirpuri is spoken in more rural districts of Pakistan it is perceived to be of a lower social status than Punjabi. Similarly, as Urdu is one of the official languages of Pakistan it is held as a high status language. The standard language versus dialect issue is not unique to Pakistani heritage languages. Hidalgo (1998: 555) reports that ‘...Norwegian, Swedish, and Danish are usually referred to as distinct official languages, even though they are mutually intelligible’.

This social hierarchy of Urdu>Punjabi>Mirpuri is very strong. One of the BSLTA assistants reported that it was ‘rude’ not to attempt to answer an Urdu speaker in Urdu; and a Punjabi speaking classroom assistant described Mirpuri as a ‘slang’ that was ‘not proper Punjabi’. This situation can make it very difficult for speech and language therapists, researchers and other professionals to gather accurate information about language usage. The issue is not merely problematic in terms of arranging for the correct interpreter or BSLTA for a client. Speech and Language Therapy assessment may be invalidated and therapy prove to be less effective if delivered in a dialect or language that a client does not share.

3.4.3 GRAMMAR

3.4.3.1 SYNTAX

All three Pakistani heritage languages are Indo-Aryan languages. The basic word order is SUBJECT – PREDICATE, with objects placed between the subject and the predicate (Schmidt 2004: 187). The SUBJECT + OBJECT + VERB construction therefore contrasts with English SUBJECT + VERB + OBJECT word order.

3.4.3.2 NOUN PHRASE

Mirpuri does not have articles, although the influence of English has led to the use of 'lk' *one* in some noun phrases. In common with Punjabi and Urdu, all nouns are assigned to one of two genders, masculine or feminine. Some nouns are easy to classify as they carry the masculine suffix -a or feminine suffix -i,

E.g. Masculine suffix (marked nouns):

- muraa *boy*; dzenaa *man*;

Feminine suffix

- kuri *girl*; dzenani *lady/woman*.

Other nouns do not carry the masculine or feminine suffix, but are still assigned one of the genders. Speakers must learn which gender an item is as the morphology of the lexical item does not make the gender overt, (unmarked nouns),

E.g.

- chumuch *spoon* – feminine
- gend *ball* – masculine

Even items that are borrowed or codeswitched from English are assigned a gender,

E.g.

- fone - masculine
- computer - feminine

Gender agreement exists between some adjectives and nouns (see below). There are two forms of gender agreement with morphological consequences. The first is the noun gender system, which is reflected in the morphology of some adjectives. The second is the gender of the agent, which is reflected in the morphology of the verb phrase. Agent-Verb agreement is described below.

3.4.3.3 COMMON LEXICAL ITEMS - NOUNS

Most nouns are common to all three Pakistani heritage languages. However, there are several nouns that are different, some of them high frequency words,

E.g.

- mura (Mirpuri) / munda (Punjabi) / lerka (Urdu) – *boy*;
- kuri (Mirpuri and Punjabi) / lerki (Urdu) – *girl*;
- gadi (Mirpuri and Punjabi) / gari (Urdu) – *car*;
- kuri (Mirpuri and Punjabi) / nkhuri (Urdu) - *watch*;

3.4.3.4 PLURALS

Plurals are indicated by vowel changes for masculine marked, feminine marked and feminine unmarked nouns in a similar manner across all three Pakistani heritage languages, although individual lexical items may differ. For example, 'boy'.

Language	Singular	Plural
Mirpuri	mura	mure
Punjabi	munda	munde
Urdu	lerka	lerke

Plurality is also used to indicate temporary possession, e.g. ‘the man has a pencil’ → *jene kol pencil eh* (literally ‘men has pencil is’).

Plurality can also indicate an ongoing incomplete action, e.g. ‘the man is carrying the ladder’ → *jene siri chai vi* (literally ‘men ladder carry + female is + female’). The use of the female gender agreement also differs from the majority of verbs and again indicates ongoing incomplete state.

3.4.3.5 FAMILY MEMBERS

Mirpuri employs a more complex system than English to refer to family members. The use of respect, especially for older and male members of the family, has set rules. For example, instead of a single term for ‘brother’ there are two terms. In Mirpuri these are ‘pera’ and ‘papa’ (younger and older brother). The latter term may also be applied to unrelated males to indicate respect. In a similar way, uncles are referred to by different labels depending on if they are younger ‘chacha’ or older ‘taja’ than one’s father. There are analogous terms for the maternal uncles. See Appendix Four for a full list.

3.4.3.6 ADJECTIVES

Adjectives may be categorised according to whether they agree with the gender of the noun. In common with Punjabi, ‘red’ adjectives never change their form whilst ‘black’ adjectives change according to the gender of the noun (see (Bhardwaj 1995: 59). Black adjectives end in -a, whilst red adjectives do not. Therefore the following adjectives are black and have a masculine and feminine form:

- kala / kali *black*;
- nila / nili *blue*;
- bura / buri *big*;
- nika / niki *little*;
- gunda / gundi *dirty*;
- sidza / sidzi *wet*;
- suka / suki *dry*.

E.g.



- agreement with object (feminine)
- agreement with subject (masculine)

mura	bur-i	gudi	nal	khel-na	pij-a
boy (masculine) <i>Subject</i>	big (agreement with noun gender - direct object)	car (feminine) <i>direct object</i>	with	play-ing + <i>agreement with gender of Subject - masculine</i>	is + <i>agreement with gender of Subject - masculine</i>
<i>(the) boy is playing with (a) car</i>					

The following adjectives are red and have only one, unchanging form:

- lal *red*;
- saf *clean*;
- sabz *green*;

mura	saf	kursi	upr	betha	va
boy (masculine) <i>Subject</i>	clean	chair (feminine)	on	sit-ing + <i>agreement with gender of direct object - masculine</i>	is + <i>agreement with gender of direct object - masculine</i>
<i>(the) boy is sitting on (a) clean chair</i>					

3.4.3.7 VERB PHRASE

There are two main verb types, the simple lexical verb and the compound verb. Simple lexical verbs consist of a root to which suffixes are attached.

3.4.3.8 COMMON LEXICAL ITEMS - VERBS

The stems for many (but not all) lexical verbs are the same across all three Pakistani heritage languages (PHL). However, the suffixation is not the same.

Examples of lexical verb roots common to all three PHLs:

- pi *drink*;
- k^ha *eat*;
- bana *make*;
- par *read*;
- peka *cook*

Examples of lexical verbs with contrasting morphology across PHLs:

- kulta (Mirpuri) / kelota (Punjabi) / khera (Urdu) – *stand*
- chei (Mirpuri) / chuki (Punjabi) / uthai (Urdu) - *carry*
- gala (Mirpuri and Punjabi) / bate kar (Urdu) - *talk*

Table 3.4 Simple Lexical Verb Morphology – Present uncompleted					
MIRPURI	mura	sweets	kha -na	pīja	
Mirpuri to English literal translation	boy	sweets	eat -ing + male	is + male	
PUNJABI	munda	sweet	khan -da	je	
Punjabi to English literal translation	boy	sweets	eat -ing + male	is	
URDU	lerka	sweet	kha	raha	hea
Urdu to English literal translation	boy	sweets	eat	doing + male	is

Note that the root *kha* (to eat) is identical for all three PHLs.

For Mirpuri, the suffix is composed of the *-n-* (retroflex nasal) aspect marker, approximated to the English ‘-ing’, indicating an uncompleted or ongoing activity. Note the contrasting markers for past *-i ria* and future intention *si* illustrated in Table 3.5. The *-a-* is the number-gender marker, where *-a-* is singular-male and *-i-* is singular-female.

For Punjabi, the aspect marker is typically *-nd-* (alveolar nasal followed by a dental alveolar voiced plosive) with the same number-gender agreement system as Mirpuri.

Urdu employs two auxiliary verbs; the first *rah-a* carries gender and is accompanied by another auxiliary *hea*, which is unmarked for gender in this singular form.

Table 3.5 Present, past and future intention: Root - kha (eat)				
dzena	kela	kha	-na	pija
man	banana	eat	ing + male	auxiliary + male (is)
(the) man is eating (a) banana				
dzena	kela	khai		-ria
man	banana	eat		auxiliary + past (has)
(the) man has eaten (a) banana				
dzena	kela	kha		si
man	banana	eat		future
(the) man will eat (a) banana				

Note that in the present tense, not only the lexical verb inflection, but also the auxiliary verb is inflected for gender. For intransitive verbs such as *soh* (sleep) and *beth* (sit), the auxiliary *va* (is + male) and *vi* (is + female) are used. Contrast *mura beth-a va* (boy sitting is) and *kuri beth-i vi* (girl sitting is). For transitive verbs, the auxiliary *pija* (is + male) and *pi* (is + female) are used. Contrast *mura kitab par-na pija* (boy book reading is) and *kuri kitab par-ni pi* (girl book reading is).

3.4.3.9 COMPOUND VERBS

Compound verb forms are composed of two parts, a main lexical item and an operator. The operator carries aspect and number-gender marking in the same way as lexical verbs. However, the presence of the main lexical component modifies the meaning. The main operators in Mirpuri are:

- *kar-na / kar-ni do-ing + male / do-ing + female;*
- *mar-na / mar-ni do-ing + contact + male / do-ing + contact + female;*

Note that *mar-na / mar-ni* also operates alone as the lexical verb *to hit*.

kuri	chal	mar-ni	pi
girl	jump	doing + contact + female	is + female
	main element	operator	
kuri	ishara	kar-ni	pi
girl	point	doing + female	is + female
	main element	operator	

Compound verbs are described in Chapter Four where the main element is codeswitched, i.e. an English verb/noun/other element is drawn from English. The status of the main element is not clear, however, it is thought to be a noun. The examples in Table 3.5 above, show that the main elements do not receive Mirpuri, i.e. 'chal' may not be used as such to form *chal-ni, i.e. cannot be inflected like a verb. 'Chal' (jump) is therefore likely to be a noun. The same is true of 'ishara' (point). This is true of English where 'jump' may act as a verb or a noun. This may support the mixed compound form found in bilingual speech. Codeswitched 'mixed' compounds found in the data from Mirpuri English speaking children are discussed in Chapter Six.

It is interesting to note that Mirpuri employs 'mar' to denote contact in the compound verb. In the example the compound 'tari mar-ni' (to clap) is formed using 'mar' and not 'kar'. This is to indicate that there is contact (between the hands). The compound verb is therefore a construction something like 'to do a clap'.

dzanani	tari	mar-ni	pi
lady	clap	doing + female	is + female
	main element	operator	

The main element may be a verb or a noun *doing a clap*.

3.4.3.10 PREPOSITIONS

PHL prepositions occur after the object and indirect object. The locative noun (indirect object) is marked as follows:

-ne (Mirpuri) -de (Punjabi) -ke (Urdu),

i.e.

Table 3.8 Example of a Mirpuri preposition			
Put the spoon in the cup			
chamach	kup- ne	vitch	raq
spoon	cup	in	put

vitch - *in*; upr - *on*; at^h - *under*

Table 3.9 Example of a Punjabi preposition			
Put the spoon in the cup			
chamach	kup- de	vitch	raq
spoon	cup	in	put

vitch - *in*; ute - *on*; t^hale - *under*

Table 3.10 Example of an Urdu preposition			
Put the spoon in the cup			
chamach	kup- ke	undr	reqo
spoon	cup	in	put

undr - *in*; uper - *on*; niche - *under*

3.5 THE USE OF ENGLISH IN PAKISTANI HERITAGE FAMILIES IN ROCHDALE

As previously mentioned, there is no recent reliable information on the minority languages spoken in England. Details on the use of languages in the home environment are often complex. Case history data in the Rochdale speech and language therapy department is held in a section which lists all the family members and the language(s) spoken by that family member. Information from this informal data collection is reflected in other statistics.

Marriage is very popular in the Pakistani heritage community. In the 2001 census, the highest proportions of married couples under pension age, with or without children, were found in Asian households. 51 percent of Pakistani households contained a married couple, compared with 37 percent of those

headed by a White British person (National Statistics 2004). Arranged marriage is common, although no figures are available. In nearby Bradford, it is thought that around 50 percent of marriages in the community involve a partner from Pakistan (Samad and Eade 2002: 48). Arranged marriage should not be confused with forced marriage and it is also important not to simplify and reduce communities to stereotypes. It is, however, useful to establish patterns of family make-up to give an idea of likely language use and / or combinations within the local community.

Pakistani heritage populations in the UK still tend to have different gender roles. National statistics show that few Pakistani women are economically active (op cit). This is reflected in the differing attitudes of the community to men and women, with ‘...young men have usually far greater freedom in the outside world than young women, who are conventionally seen as guardians of the home’ (Samad and Eade 2002: 40). This has an impact on language use. Men tend to be more economically active and therefore more likely to interact in English language environments, whereas young women are more likely to be at home.

Informal discussions with parents and carers in local nurseries and clinics confirmed the themes mentioned above. Men tend to be confident English language users, with women often the source of the home language, most frequently Mirpuri for the Pakistani heritage community. Second generation families are reporting the use of more English as older children acquire the language from school, often altering the language usage in the home from Mirpuri to English, or a combination of both. Anecdotal evidence suggests that some parents have begun to use only English, or are choosing to speak a high status language such as Urdu to their children.

3.6 SUMMARY

The UK has a sizable bilingual population and a monolingual English-speaking majority population. Minority ethnic populations tend to live in areas of socio-economic deprivation, presenting with poorer health and educational outcomes.

The largest and most widely distributed minority ethnic population is the Pakistani heritage population. Since the majority of the community were born in the UK, this former immigrant community has second, third and even fourth generation post immigration members. The population is therefore a British-Asian or British-Pakistani population. A segment of this community resides in Rochdale. The majority of the community speaks Mirpuri, a low status language associated with rural and deprived areas in Azad Kashmir and Pakistan. Mirpuri-English language contact on a community level is thus well established, although at the individual level the range of contact varies from monolingual Mirpuri through to monolingual English.

Language use in schools is predominantly English, with only minimal support in the form of bilingual classroom assistants. The language use situation in the home is less clear, with little data available. Informal discussions with members of the community suggest that there is a range of language use, from monolingual Pakistani heritage use, through combinations of Pakistani heritage languages and English, to English monolingualism.

This chapter has provided information on both the methods used to collect data and an outline of the Pakistani heritage languages spoken by the research population living in Rochdale, UK. Chapter Four examines the development of the data collection tools in detail.

**CHAPTER FOUR:
THE DEVELOPMENT OF
DATA COLLECTION TOOLS**

4.1 INTRODUCTION

This chapter describes the development of tools to gather data in order to describe patterns of language development in Pakistani heritage children acquiring a Pakistani heritage language and English. Section One describes the linguistic and cultural adaptation of an assessment of verbal comprehension, the *Derbyshire Language Scheme* (Madislover and Knowles 1979) *Rapid Screening Test* (DLS-RST). Topics include contrasting and comparing Mirpuri and English, differentiating Pakistani heritage languages and the delivery of instructions. Section Two describes the development of an expressive language assessment. The sourcing of suitable stimulus picture materials, transcription of target utterances and recording children's responses are discussed.

4.1.1 AIMS

In order to describe the typical development of language skills in bilingual children, tools were required which tapped children's core language skills. The design process considered the following aims:

- to allow the bilingual child to demonstrate skills in both / all languages that s/he is exposed to
- to be descriptive of the child's level of comprehension and expression
- to be capable of being delivered in the child's Pakistani heritage language and English if required
- to feature stimulus items that were familiar to children ranging from pre-school to primary school age
- to be rapid and simple to administer, so that a bilingual speech and language therapy assistant could administer them
- to include a range of materials including real objects and pictures
- to be culturally and linguistically appropriate.

4.2 THE CULTURAL AND LINGUSITIC ADAPTATION OF A MEASURE OF COMPREHENSION FOR PAKISTANI HERITAGE CHILDREN

4.2.1 INTRODUCTION

A tool was required for the collection of data on how children understood verbal instructions. The following options were explored:

- the purchase of commercially available language assessments designed for minority ethnic populations
- the use of assessment materials designed for the monolingual English speaking child in order to obtain qualitative information, using his / her knowledge of the linguistic and cultural issues relating to the child
- to adapt assessments taking into account cultural and linguistic differences and re-evaluating the resulting assessment
- to collect and analyse language samples

4.2.2 METHOD

A search of commercially available assessment materials was undertaken. None of the assessments were available in the target languages. The only tests aimed at the assessment of Asian languages for the speech and language therapy professional were the *Sentence Comprehension Test, Revised Edition* (Wheldall *et al.* 1987) and the *Sandwell Bilingual Screening Assessment Scales for Expressive Panjabi and English* (Duncan *et al.* 1988). The purpose of the Sentence Comprehension Test (SCT) is 'To assess children's comprehension of English and / or Panjabi'. Copies of both the assessments were secured. However, they were deemed inappropriate for the target population. The stimulus items in them featured Sikh Panjabi speakers of Indian origin. The language of the assessment was a variety of Panjabi, based on speakers from Birmingham UK, which differs to that spoken in Pakistan by the Muslim population. No other appropriate language comprehension assessments were identified. On the basis of the search undertaken, it was decided that the best option was to adapt the Derbyshire Language Scheme Rapid Screening Test for the Pakistani Heritage community.

4.2.3 DESCRIPTION OF THE DLS RST

The Derbyshire Language Scheme (DLS) Rapid Screening Test (RST) (Knowles and Masidlover 1979) is widely used in the UK for the screening of verbal comprehension skills. The DLS is 'an intervention programme which targets early language skills. It is highly structured, with carefully graded objectives starting from single words and moving to long complex sentences' (Derbyshire Language Scheme 2005). The DLS is frequently used as part of everyday therapy activities for children presenting with language delay and is familiar to most speech and language therapists (Broomfield 2003, Glogowska *et al.* 2000, Law 1999). It is probably the most widely used therapy scheme for the treatment of language delay in special schools in the UK and is used by both speech and language therapists and teachers (Buckley *et al.* 2005).

The purpose of the RST is described in the DLS User Manual.

- '...to obtain an approximate idea of the child's level of comprehension ability.'

The RST uses a range of everyday objects, toys and simple pictures to assess a child's ability to understand spoken instructions. The assessment is not standardised and is descriptive in nature. For this reason, the RST or similar are often used as the basis of informal assessment of verbal comprehension (Wittmann 1998). The DLS uses the concept of 'information carrying words' (ICWs). ICWs have been compared to symbols, in that they 'represent the concepts that carry the meaning' (Makaton Vocabulary Development Project 2005). The ICWs a child can understand are therefore the content-bearing words within an instruction. However, it is not possible to analyse an instruction out of context and derive the number of ICWs found within it. This is because the child's ability to understand an instruction is not only determined by the instruction itself, but also the number of possible responses the child could give. The Derbyshire Language Scheme measures a child's ability to listen to a verbal instruction or description and demonstrate his / her understanding by non-verbal means, i.e. carrying out the instruction or pointing to a picture.

Information-Carrying words are defined as '...the number of words which it appears the child **must** understand in order to respond correctly' (Knowles and Masidlover 1979: 3 Implementation Procedure DLS Manual). This then focuses on those parts of an instruction which carry information, taking into consideration redundancy and situational / non-verbal cues. The number of choices for each content word must be made explicit, as well as any situation cues that may exist. For example, the instruction 'Give me the cup' is potentially an instruction containing no ICWs, one ICW or 2 ICWs. If there is only a cup in front of the child and the adult points (or eye points) to the cup whilst giving an instruction, the non-verbal communication is all that is required for the child to succeed. However, if there is a choice of object (typically 3 objects to reduce success by chance selection), then the instruction becomes a single ICW instruction 'Give me the **cup**'. If there is a choice of person (mum or dad) as well as choice of object (cup, spoon and key) then the instruction becomes a 2 ICW as there are now two choices: 'Give **me** the **cup**'. The situation, and specifically the presence of a choice of response for each content word, determines the number of ICWs (or 'word level') for any instruction.

The RST itself is composed of 5 sub-tests or items. Each item is related to a word level, 'Single word level' up to 'Four word level and above'. The single word level contains an item assessing 1ICW for simple nouns. A set of three everyday objects is presented to the child. The child is then asked to point to / find or give the object, e.g. 'Give me the **brick**'. A further set of three objects is then presented. Item 2 is the only sub-test to use picture materials, two sets of three action pictures (verbs) are employed to assess single word level understanding of verbs, e.g. 'Show me who's **running**'. Item 3 introduces prepositions, but the instructions are considered to contain 2ICWs rather than 3 as the preposition is made redundant by the everyday use of the 'place' objects, e.g. In the instruction: 'Put the **spoon** in the **cup**' the preposition 'in' is redundant as the usual function of a cup is to place liquid and spoons in to it, and it is rare in everyday life to see an adult placing anything *under* or *on* to a cup. It is only in item 4 that the prepositions are considered to be ICWs as for this set of instructions, there is a choice of preposition, i.e. 'Put the **knife under**

the **plate**'. In this instruction, there is a choice of object, a choice of preposition (as the child would need to ignore the commonly observed action of placing a knife *on* a plate) and a choice of location. The 'Four word level and above' subtests begin to introduce more complex grammar, including coordination and so the simple ICW system begins to be less clear, e.g. 'Put the brick under the box and give me the plate'.

It is important to note that the DLS-RST is a screening assessment. It is not a wide-ranging assessment of a child's comprehension skills. A child unfamiliar with prepositions will fail *Item 3* but may have adequate demonstrable understanding of other three information carrying word level instructions, for example 'Put the **big cup** in the **box**'. The purpose of the original DLS-RST is to select a starting point for more in-depth assessment using the *Detailed Test of Comprehension* and / or to access therapy activities.

The Derbyshire Language Scheme is able to arrange the development of comprehension skills into levels according to information carrying word levels and then into types of command. This approach focuses on the content words within an instruction. This makes the tool ideal where basic understanding is being assessed. The DLS therefore focuses on verb arguments conveyed through the concept of information carrying words.

4.2.4 ADAPTATION OF THE DLS RST

The DLS-RST was viewed as a suitable candidate for cultural and linguistic adaptation. The assessment met the project criteria in that it was quick to administer, consisted of real objects, toys and simple pictures that young children could relate to easily and could be administered by the BSLTA or researcher. The DLS scheme regularly runs workshops in the UK where the underlying themes are taught, in addition to practical issues including assessment, recording and teaching. The researcher and one BSLTA have attended a DLS training course. Other BSLTAs were supervised during the administration of the DLS-RST.

Both cultural and linguistic aspects had to be considered. Discussions between the researcher, BSLTAs and parents attending clinic highlighted the need to alter some of the DLS-RST equipment for cultural reasons. The test in its original form contains items that were related to eating habits not recognised by Pakistani heritage families and also unfamiliar toys. It was decided to substitute the brick, doll, knife and fork with a car, teddy bear, comb and watch respectively.

The DLS-RST was translated orally by an experienced bilingual speech and language therapy assistant (BSLTA) who spoke all three Pakistani heritage languages. The researcher transcribed the instructions using the International Phonetic Alphabet (The International Phonetic Association 1996). These instructions were then read to another BSLTA and translated back into English. This highlighted any discrepancies or errors in the translation process. The assessment was then used for a trial period in the specialist bilingual speech and language therapy clinic. Two speech and language therapists with a special interest in bilingualism used the assessment with a BSLTA and commented on any practical or linguistic issues arising. The completed adaptations were sent to the author of the DLS-RST, Mark Masidlover for comment. He gave consent for the adaptations to be used in research activity and discussed translation issues he had encountered during the production of the official DLS Mirpuri-Punjabi version of the RST, a process that was on-going at the time the researcher produced the adaptation being discussed. Masidlover's adaptations were not available for comparison at this time.

4.2.5 DESCRIPTION OF THE DLS RST ADAPTATIONS

Adaptations of the *Derbyshire Language Scheme Rapid Screening Test* in Mirpuri, Punjabi and Urdu were produced (The Mirpuri adaptation forms Appendix Two). Requests are written in English followed by a phonetic transcript of that request in the child's mother tongue (Mirpuri, Punjabi or Urdu). Finally, direct word-by-word translations are shown in English.

Table 4.1 Example of a DLS-RST test item - Nouns		
<i>Show me the key</i>		
miki	das	dzabi
me	show	key

The assessment is divided into five items, with each item consisting of between three and six instructions or requests.

Item 1 assesses single word nouns (see above). Real objects are used with this item. The child must respond appropriately to 5 of the 6 requests in order to be judged to have understanding at this level.

Item 2 assesses single word verbs. Two sets of three line drawings are used with this item. The child must point to four of the six pictures when requested in order to be judged to have understanding at this level. For example:

Table 4.2 Example of a DLS-RST test item - Verbs		
<i>Which one's eating?</i>		
kira	kana	pija
which-one (+ male)	eating (+ male)	is (+ male)

Item 3 assesses the child's understanding of two information carrying words in an instruction. Real objects are used with this item. For example:

Table 4.3 Example of a DLS-RST test item – two information carrying words			
<i>Put the spoon in the cup</i>			
dzumudz	kupe'ne	vitch	raq
spoon	cup	in	put

Where *spoon* and *cup* are the information carrying words.

The locative noun (indirect object) is marked (-ne *Mirpuri*, see Chapter Three for further details on the grammar of the Pakistani heritage languages). The child therefore has two cues, the postposition indicating place and the preposition indicating the exact spatial relationship. The child must respond appropriately to 2 of the 3 instructions in order to be judged to have understanding at this level.

Item 4 assesses the child's understanding of three information carrying words in an instruction. Real objects are used with this item, e.g.

Table 4.4 Example of a DLS-RST test item – three information carrying words			
Put the comb under the plate			
kungi	pleit'ne	atⁿ	raq
comb	plate	under	put

Where *comb*, *plate* and *under* and the information carrying words.

The child must respond appropriately to 2 out of the 3 instructions in order to be judged to have understanding at this level.

Item 5 assesses the child's understanding of a command including 'and'; an instruction including a list of three objects; a command composed of two separate actions and a sequence of two commands. Real objects are used with this item, e.g.

Table 4.5 Example of a DLS-RST test item – command including 'and'							
Put the car under the box and give me the plate							
gudi	debe'ne	at	raq	te	miki	pleit	de
car	box	under	put	and	me	plate	give

The child must pass two of the four instructions in order to be judged to have understanding at this level.

4.2.6 DISCUSSION

One of the main aims was to create an adaptation of the DLS-RST that reflected the principles of the original, producing parallel, but not identical, responses by the children during the assessment process. The following linguistic contrasts with English were considered. Comments are made where this may have an effect on the assessment process:

- Mirpuri, Punjabi and Urdu are all Subject + Object + Verb languages (Campbell 1995). Basic sentence structure therefore contrasts with the

English Subject + Verb + Object form, although word order is more flexible than English. For Item 2, single word verbs, the Pakistani heritage languages are almost identical to the English for ‘Who is *verbing*?’ with the exception that the auxiliary occurs after the lexical verb in the PHLs and not prior to it. All the verbs in Item 2 are lexical verbs and no compound verbs are included. For Items 3, 4 and 5, the verbs are part of simple requests, which place the noun at the beginning of the sentence and the (lexical) verbs ‘give’ or ‘put’ occur at the end of the instruction. For example, ‘give me the spoon’ (English) → ‘spoon me-give’ (Pakistani heritage languages). This may have minor memory primacy effect, especially for longer utterances in Items 4 and 5.

- The Mirpuri, Punjabi and Urdu languages have no articles (Bhardwaj 1995, Bhatia and Koul 2000). Instructions may therefore appear shorter, E.g. ‘give me the cup, the box and the teddy bear’ (English) → ‘me cup box and teddy bear give’ (Pakistani heritage languages). Note that, although the PHL instruction may contain fewer words, there are an identical number of information carrying words (content words) in both the English and Pakistani heritage language instruction which the child must understand to demonstrate verbal comprehension of the instruction.
- There is gender agreement on the bound present progressive morpheme. To ask the question ‘Who’s eating?’ in English does not indicate the gender. However, to ask the same question in Mirpuri, Punjabi or Urdu could potentially indicate to the listener that the person carrying out the action is male or female. All the verb (“action”) pictures in Item 2 were therefore altered to depict people of the same gender. The instructions therefore contained the same (male) gender agreement and thus avoided identifying the subject purely from this potential grammatical cue rather than the lexical content of the verb itself.
- The auxiliary verb ‘to be’, ‘is’ also carries this gender agreement. Therefore the question ‘Who’s eating?’ becomes ‘Kon k^hana pija’ for a male subject and ‘Kon k^hani pi’ for a female subject. Note the /a/ and /i/ ending on the lexical verb ending and the following auxiliary verb (In

Rochdale, the endings are varying realisations of nasal + vowel, the vowel being the contrastive element). Again, the use of the auxiliary would indicate the gender to the listener.

- Prepositions follow nouns. Items to be related are stated first and the preposition after 'put the **spoon in** the **cup**' (English) → '**spoon cup in** put' (Pakistani heritage languages). Again, there may be some minor primacy effect.
- Postposition indicating the locative. The verb *to put* has both a direct object (the item to be moved in space or time) and a mandatory prepositional phrase. Therefore *'Put the car' would be regarded as ungrammatical. In Mirpuri, Punjabi and Urdu the noun in the prepositional phrase is marked by -ne, -de and -ke respectively, e.g.

Table 4.6 Example of a DLS-RST instruction containing a noun marked as a indirect object with a postposition			
Put the spoon under the box			
dzumudz	dube' ne	at	raq
spoon	box	under	put

These postpositions are followed by a preposition. Therefore two cues are given to the child, the locative and the preposition. An awareness of all these issues is necessary to accurately assess a child's responses.

4.2.7 DIFFERENTIATING LANGUAGES

The issues of codeswitching and borrowing were salient not only for describing children's data but also for the construction of assessment materials. BSLTAs with access to more than one language were sometimes unsure as to which lexical item was the most appropriate. Codeswitching between Pakistani heritage languages and between English and Pakistani heritage languages is known to occur. It was decided to discuss the issue amongst the BSLTAs. The BSLTA with a particular language as their first language took the lead for that language. Therefore clear and agreed distinctions could be drawn between Mirpuri, Punjabi and Urdu.

One English lexical item, 'teddy bear' was used instead of the Pakistani heritage word 'guda' (Mirpuri and Punjabi) / 'b^halu' (Urdu). This was following the first trials which showed that most children understood 'teddy bear'. A small number did recognise 'guda'. This led to a change in the way the DLS-RST was carried out. Prior to the assessment, the BSLTA would check the vocabulary to ensure the most familiar words were used within the instructions.

'Plate' and 'cup' were also used as these items are reported to be borrowed words. None of the BSLTAs could provide an alternative in any of the Pakistani heritage languages for these items. The items appear to be fully integrated as they are produced with slight nasalization on the vowel and the items take the postposition '-ne' marking them as indirect objects in instructions. This phonological and morphological integration suggests that the items are indeed now regarded and used as Mirpuri words.

4.2.8 ADVANTAGES OF THE DLS RST ADAPTATION

The researcher working with the BSLTA found that once familiar with the assessment, the BLSTAs could read the DLS-RST instructions directly from the IPA script. This script is easily accessible by all trained speech and language therapists. Urdu and Punjabi both have written forms but these are not routinely used by the Rochdale Pakistani heritage population. However, Mirpuri is a preliterate language and therefore has no written form. Chapter Three details the similarities and differences between the languages under investigation.

4.3 THE DEVELOPMENT OF AN EXPRESSIVE LANGUAGE DATA COLLECTION TOOL FOR PAKISTANI HERITAGE CHILDREN

4.3.1 RATIONALE

As previously stated, no published or unpublished assessment of expressive language development for the Mirpuri language was available. At the same time, no assessments were available for other domains. Since that time a phonology screen (Stow and Pert 2006b) and a comprehension screen

(Masidlover 2001) have been published. Very little was known about the structure of Mirpuri beyond the basic *Subject + Object + Verb* utterance. No published grammar of Mirpuri was available and so the researcher had to rely on adult informants. As Mirpuri has no written form, there were no texts to examine and all information about the language had to be compiled through face-to-face discussion with adult informants. It was not, therefore, possible to construct an assessment that went beyond (what was supposed) the early sentence structures of *Subject + Verb* and *Subject + Object + Verb* utterances. The assessment was limited in scope to early language development as the construction of more complex utterances was not certain. The lack of a written form also meant that there were several varieties (dialects) which, even for basic utterances altered certain lexical items and morphology. For example, people with origins in the Mirpuri area used 'mura' (boy), whereas those originating from the Jelum area used 'jaket' (boy).

4.3.2 METHOD

Having identified the linguistic, cultural and religious profile of the client group a successful approach was made to the Rochdale Healthcare NHS Trust for funding, with the aim of devising culturally and linguistically appropriate language assessment and data collection tool. A formal tool was designed as opposed to a naturalistic language sampling tool as clinical experience showed that children from the community often did not respond. A structured tool allowed trial items to be incorporated. A target list of simple sentences was drawn up and translated. As there was no available information on the development of Mirpuri, the main Pakistani heritage language spoken in the Rochdale area, informal discussions with BSLTAs and parents were used to produce the list. Photographs were commissioned and a first draft of the tool created. Additional photographs were set aside for use in remediation activities.

4.3.3 TARGET LIST

Basic sentence structures 'Subject + Verb' (SV) and 'Subject + Object + Verb' (SOV) were to be targeted as it was supposed, in the absence of any published

developmental data on the Pakistani heritage languages, that these were likely early sentence structures. Everyday activities featuring children and adults were identified and the target utterances assembled. An experienced bilingual speech and language therapy assistant then translated these utterances.

4.3.4 ADAPTATION ISSUES

All three languages, Mirpuri, Punjabi and Urdu have broadly similar grammatical form, with notable contrasts to English in word order and to each other in the form and use of grammatical morphemes (Bhardwaj 1995, Jackson 1987). In addition to the contrast in word order ('Subject + Object + Verb' for monotransitive sentences) there are many transformations that take place upon translation. This makes the process complex. During development of the target list, in addition to general reference to the syntax of the languages, the following specific areas were considered:

- Some lexical verbs on translation did not exist in Mother tongue as verbs but rather as a compound verb 'noun + doing', hence altering the syntactic form of the target utterance. For example, the Mirpuri verb *to jump* is expressed as the compound verb 'chal mar-na/mar-ni', as in:
 - 'the boy is jumping' - 'mura chal mar-na pija'
(boy jump do-ing + male is + male)

and

 - 'the girl is jumping' - 'kuri chal mar-ni pi'
(girl jump do-ing + female is + female)
- Verbs differed in semantic field across languages. For example 'to smile' and 'to laugh' are expressed as one lexical item in Mirpuri ('as-na' / 'as-ni') and Punjabi ('has-da' / 'has-di', as a compound verb in Urdu ('hans raha hea' / 'hans rahi hea' – laugh doing + male is /

laugh doing + female is) and as two lexical items in English ('smile'/ 'laugh').

4.3.5 LEXICAL VERBS

Some items exist in a different form on translation. This affects the syntactic structure of the target utterances. Verbs such as 'clapping' and 'painting' did not fit easily into the grammatical categories of SV and SOV in the languages being targeted. These verbs may be used in English with an optional object, e.g. 'The man is painting (a picture)' 'The man is painting (a wall)'. The words may act as nouns or verbs depending on context: 'give him *a clap*' or 'clapping'; 'give me *the paint*' or 'painting', depending on use. In English analysis, such elliptic phrases are usually judged grammatically incomplete, but acceptable in context (Burton-Roberts 1986). However, Mirpuri, Punjabi and Urdu do not allow for this optional form of the word and so 'clap' and 'paint' are always nouns, literally doing or playing a clap and using or doing the paint. The use of an operator is therefore required in order to carry tense and gender, as no lexical verb is present. These items, which may have the structure SV in English, are always SOV on translation because of the required 'do' in Mother tongue, e.g. 'Man is clapping' becomes 'man clap doing is'.

4.3.6 SEMANTIC FIELDS

A lexical verb such as 'riding' may be used with a variety of different objects in English. Semantic differences on translation to Mirpuri may mean that different objects demand a different lexical verb. It became clear that some items changed form on translation, e.g. 'lady riding horse' / 'girl riding bike' / 'man riding motorbike' - the verb 'riding' translates into Mirpuri as 'driving' for the latter two examples, and has to become the descriptive 'sitting on horse' for the former. This has been noted when other languages have been compared (Palmer 1981). A phrase which means 'to be a passenger', could be used, but this again alters the syntax of the target sentences. The picture was removed from the test battery after children in the initial pilot failed to recognise the activity.

These examples highlight the differences in surface form when the semantic and syntactic transformations involved in translation are carried out, even on 'simple' sentences.

4.3.7 INITIAL GATHERING OF STIMULUS MATERIAL

A photographer was commissioned. The models were asked to wear their everyday attire. This resulted in a mixture of Western and traditional clothing which reflects the local community.

4.3.8 DESCRIPTION OF THE EXPRESSIVE LANGUAGE DATA COLLECTION TOOL

The data collection tool consisted of a manual including recording and scoring sheets and a picture stimulus book with target utterances. Target utterances were transcribed for each language, Mirpuri, Punjabi, Urdu and English. Mirpuri, Punjabi, Urdu are transcribed in the International Phonetic Alphabet (IPA). Interestingly, this model was recommended in the literature as early as 1978 (Miller 1978: 22). It was decided to use IPA transcripts for the target utterances, not to compare phonological accuracy, but to encourage shared communication between the researcher and the BSLTA.

It was intended that the assistant ask the child to describe the stimulus picture. The therapist could then immediately compare the child's response with the IPA script, therefore circumventing the need to wait for a translation of the response. This has the advantage of avoiding English being used in the session which may encourage the child to codeswitch. Detailed comparisons could then be made at the end of the session. The final form of the expressive language data collection tool comprised of four practice items and twenty-one stimulus items. Each item is a picture of a child or adult from the Pakistani heritage community carrying out an everyday action, for example, a lady cooking a meal. Target items are included as a guide for the researcher (see Appendix Three).

As with any expressive language task, several possible responses may be elicited for any one target. Every language has the ability to convey even the

simplest of meanings in a variety of ways. The targets therefore act as a guide for the monolingual English speaking researcher rather than a basis for scoring the child. This assists in an awareness of possible structures and forms a basis for a discussion of the child's actual utterances. During data collection, the child may either be recorded and a transcription made by the researcher, or more often, utterances are transcribed by the BSLTA using Roman letters. The BSLTAs were able to read the IPA targets, but were not able to reliably transcribe using IPA script.

4.3.9 RECORDING A CHILD'S RESPONSES

An immediate issue to be addressed was that of translation. Initial translation issues were addressed during the construction of the data collection tool (see above). Translating children's responses during expressive language tasks raised further issues. In order for the monolingual English speaking researcher to be aware of the detail of stages in language acquisition in the target children, the recording system requires item-by-item as well as free translation styles. This is important as it maintains the linguistic structure of the original utterance. A range of word (or phrase) order differences may be acceptable in the target language and the act of translation may cloud word order. English is generally an SVO (Subject + Verb + Object) language whilst the target Asian languages are SOV languages (Jackson 1987). A two-step translation makes the translation process clear and so makes judgements easier.

An example of a target (see Appendix Three)

Table 4.7 An example of a target item for a simple sentence in Mirpuri, Punjabi and Urdu					
Reference	10. Subject + Object + Verb				
ENGLISH (Free translation)	(the) baby girl is drinking milk				
MIRPURI	kuri / beibi / qaqa	dud	pi-ni	pi	
Mirpuri to English literal translation	girl / baby / baby	milk	drink –ing + female	is + female	
PUNJABI	kuri / beibi / qaqa	dud	pi-ndi	je	
Punjabi to English literal translation	girl / baby / baby	milk	drink – ing + female	is	
URDU	lerki / beibi / qaqa	dud	pi	rahi	hea
Urdu to English literal translation	girl / baby / baby	milk	drink	doing + female	is

This highlights the structures that may not exist in one language but do in the other. It also prevents misunderstanding of the translation process. Elements which do not occur in English, or which may be expressed in different ways can easily be missed or misinterpreted. Examples in Mirpuri include adjectives, which change form according to number and gender and object-gender agreement and subject and verb gender agreement. Elements, which do not occur in Mirpuri include determiners and some pronouns (Mirpuri, in common with other North Indian languages makes use of demonstratives for third person pronouns: see Bhardwaj (1995) for a general grammatical overview but note

there are many differences as well as similarities). For example, the stimulus picture 'The man is standing' in Mirpuri is illustrated below.

MIRPURI	jena	kal-ta	va
Mirpuri to English literal	man	stand – ing + male	is + male

If a child omits the subject (which may or may not be acceptable) the gender (i.e. male) of the subject is still indicated by the verb present progressive form and the auxiliary. The listener cannot be sure if the subject is a man or a boy but the shared context of the picture may suggest to the child that this information is redundant. However, if a free translation style is used by the BSLTA the verb phrase alone may inadvertently be translated into a *Subject + Verb* structure, namely 'he's standing'. Here, the BSLTA has attempted to retain the male agreement on the verb by translating it as the English male pronoun 'he'. In doing so, the researcher may think the child is able to produce these constructions. To avoid such confusion therefore, both styles of translation are required to preserve the client's true output data.

4.3.10 SCORING SYSTEM

It was decided that data would be collected from a larger study and Mean Length of Utterance (Words) and Mean Length of Utterance (Morphemes) measures calculated. In addition, descriptive information based on children's utterances would be collated. In this way, an informed scoring system based on the actual responses of children could be devised at the end of the larger study. Quantative data could be examined along with actual responses for each target item, recognising and valuing codeswitching as well as home language responses.

4.4 PILOT STUDY

As mentioned above, both the *DLS RST Adaptations* (comprehension test) and *Je Zindegi* (expressive language test) were piloted in the central Rochdale speech and language therapy clinic. The tools were intended to be used with the clinical population to identify children with language disorders following the collation of normative data. The clinic situation allowed a practical test of the materials and also gave the opportunity to discuss the materials with parents from a Pakistani heritage background. Only minor revisions were required as the majority of children were able to complete the tasks and the parents commented that the materials were culturally appropriate. A full sample of data collection from typically developing children was therefore planned. This is described in Chapter Five.

**CHAPTER FIVE:
NORMATIVE DATA COLLECTION**

5.1 INTRODUCTION

One of the aims of the current research was to identify the patterns of typical language development in Pakistani heritage children growing up in England. The three languages studied, Mirpuri, Punjabi and Urdu, all exist as monolingual forms in Pakistan. However, little if any data is available on the monolingual acquisition patterns of these languages. In Rochdale, these languages are in contact with English, and often, with each other. The high frequency of codeswitching (or borrowing) found in the data is presented in Chapter Six. It is unlikely, therefore, that monolingual (English or Pakistani heritage) norms would be applicable to this population.

This chapter presents the data from typically developing Pakistani heritage children in Rochdale. This information is compared and contrasted with the comprehension and expression of Pakistani heritage children suspected of having SLI in Chapter Nine. It is important to note that the data presented were obtained using data collection tools, which were designed to examine the early stages of language development and therefore the scope of these tools is limited. Both the comprehension task and expressive language task explore early language development. It was anticipated that performance would plateau for older children who have language skills that are more sophisticated than the level of language the tasks were designed to tap. The tasks represent a narrow sample of language and do not attempt to encompass a comprehensive range of grammatical structures. The data contrasts with other normative data, which is often based on spontaneous language samples. Nevertheless, to the present researcher's knowledge, the data is unique as it is the first data collected on this community with these language combinations.

5.1.1 DATA COLLECTION

Data were collected over a period of 22 months (December 2001 to October 2003). Children were seen in a variety of settings including a play group, a nursery school, three local primary schools, a health centre and one child was seen at home. The data collection method is identical to that described in Chapter Four.

5.1.2 SUBJECTS

5.1.2.1 SUBJECTS BY AGE BAND

One hundred and sixty seven Pakistani heritage children participated. These children constituted Cohort 1 (see Figure 3.1). The breakdown of the number of children in each age band and the gender split are presented in Table 5.1, below. Children were aged between 2;6 and 7;2 (average age 52.57 months, standard deviation 11.45). Note that the main body of children were aged between 3;0 and 6;5. It is during this age range that children are commonly referred to speech and language therapy services and also when they are first intensively exposed to English through school. This age range was therefore thought to be most useful to clinicians. A recent survey of this population showed that bilingual children were likely to be referred at the same age as their monolingual peers, with highest referral rates between the ages of 1;06 and 4;11 (Stow and Dodd 2005: 7).

Age	Age Band	Frequency	Female	Male
0 - 2;05	0	0	0	0
2;06 - 2;11	1	3	1	2
3;00 - 3;05	2	20	9	11
3;06 - 3;11	3	43	23	20
4;00 - 4;05	4	41	20	21
4;06 - 4;11	5	18	7	11
5;00 - 5;05	6	15	9	6
5;06 - 5;11	7	12	6	6
6;00 - 6;05	8	11	6	5
6;06 - 6;11	9	2	2	0
7;00 - 7;05	10	2	0	2
TOTAL		167	83	84

5.1.2.2 SUBJECTS BY PREFERRED LANGUAGE

Children's preferred language was established by informal conversation with an experienced BSLTA before the administration of the tasks. The preferred language of the children is presented in Table 5.2, below.

Table 5.2 Typically developing Pakistani heritage children – language spoken as determined by bilingual speech and language therapy assistant		
Language	Frequency	Percentage of sample
Mirpuri (1)	104	62.3
Punjabi (2)	27	16.2
Urdu (3)	32	19.2
English (4)	4	2.4
Other (5)	-	0.0
Total	167	100.0

5.2 DEVELOPMENT OF COMPREHENSION

Figure 5.1 below shows the percentage of children within the age band that achieved a pass for each part of the Derbyshire Language Scheme – Rapid Screening Test adaptations. At this stage, no differential was made between the languages, i.e. the chart shows comprehension levels by age groups for Pakistani heritage children in Rochdale including Mirpuri (n=104), Punjabi (n=27) Urdu (n=32) and English (n=4). Of the 167 children, only four children (two females and two males) refused to complete the DLS-RST (2.4% of the sample). All four children were in the two youngest age bands and were aged 2;6, 2;11, 3;1 and 3;3. The first two children were Urdu speakers and the latter two Mirpuri speakers. These same children also refused to attempt the expressive language task. All children who commenced the DLS-RST completed the task. The results are presented below for all languages together. The DLS-RST is not a standardised assessment and the broad concept of information carrying words is used. This allows a broad comparison cross linguistically, to gain a picture of the pattern of development.

5.2.1 DEVELOPMENT OF EARLY COMPREHENSION SKILLS IN PAKISTANI HERITAGE CHILDREN - RESULTS

Figure 5.1 presents the percentage of children in each age group able to demonstrate ability for the different sections of the DLS RST. Note that the age bands do not have an equal number of children in each band. However, as would be predicted from a developmental pattern, the scores increase to a plateau with increasing age, with all children aged 6;6 – 6;11 passing all but the last section of the task.

The understanding of nouns is achieved by 80 percent of age band 3;0 – 3;5 and all children aged 4;6 – 4;11 and older pass this level.

60 percent of age band 3;0 – 3;5 passed the level concerned with the understanding of verbs. All children aged 5;0 – 5;5 and older achieve this level.

Understanding two information carrying words starts at the same level as verbs with 60 percent of age band 3;0 – 3;5 passing this level. There is some fluctuation across the age bands for this level, with all children in age bands 4;06-4;11, 5;6-5;11, 6;06-6;11 and 7;00-7;05 achieving the level.

Only 20 percent of children aged 3;0 – 3;5 pass three or four information carrying word level. For both these levels, there is a general increase in the pass rate with age until all children aged 6;6 – 6;11 pass.

The 4+ level is the most complex. None of the youngest children pass this level. Only 50 percent of children aged 6;6 – 6;11 and 7;0 – 7;5 pass this level.

5.2.1.1 STATISTICAL ANALYSIS OF COMPREHENSION SCORES

A one way ANOVA analysis was carried out. As stated above, children who gave non-response were removed (n=4) leaving 163 scores. Age bands 0,1 (0-2;5 and 2;6-2;11 years) and 9 and 10 (6;6-6;11 and 7;0-7;5 years) were omitted from this analysis as the number of participants was very small (0, 1, 2 and 2

respectively). The remaining age bands contained scores from children aged 3;0-6;5 years (n=158).

The analysis showed that there was a significant effect between the age bands for the score on the DLS language tool:

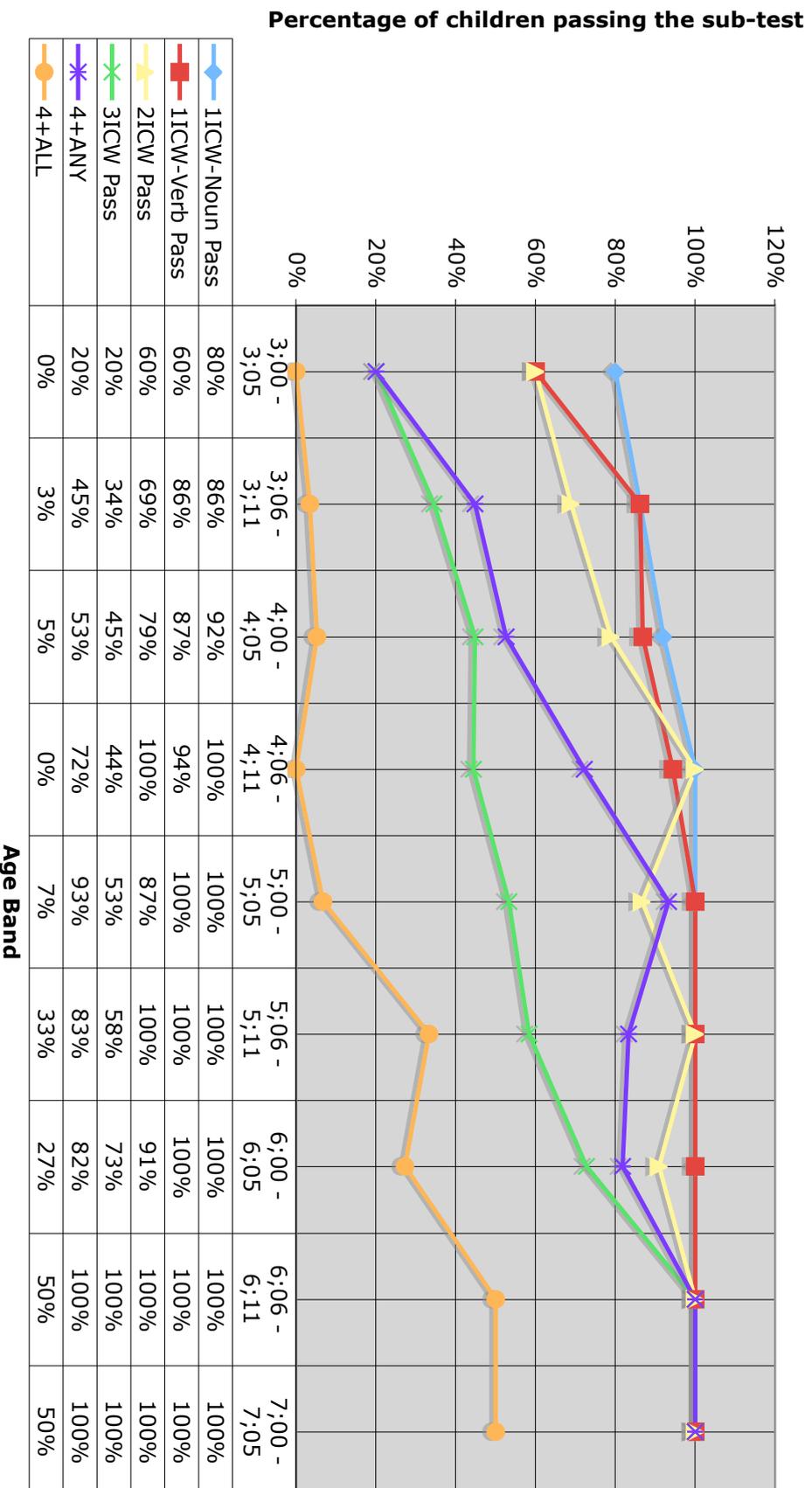
F(6,151) = 4.90 p<0.001

A Gabriel post-hoc test showed the following significant differences between the age bands:

Significant difference were found between the lower age bands and the higher age bands, specifically age band 2 and 7 (0.043) and 8 (0.039); age band 3 and 6 (0.025), 7 (0.007), and 8 (0.006).

The analysis suggests that the DLS-RST adaptation is able to differentiate children at the lower age bands from the upper age bands. The assessment is descriptive in nature and only carried out to check that children did not have gross verbal comprehension difficulties so this finding is not surprising.

Figure 5.1 Comprehension of Pakistani Heritage Languages in Typically Developing Pakistani Heritage Children



5.2.2 DEVELOPMENT OF EARLY COMPREHENSION SKILLS IN PAKISTANI HERITAGE CHILDREN - DISCUSSION

The results show that Pakistani heritage children develop language skills in the same way as English-speaking children. Single word utterances are acquired first, with nouns established before verbs. Understanding of two information-carrying words follows. The graph appears to show that more children passed the four+ (any) level and were less successful at the three information-carrying word level. This may be explained by the fact that the three information-carrying word level requires the child to demonstrate understanding of the preposition 'under'. If the child has not encountered this preposition then it is likely that the item will be failed. There are no normative data for bilingual or monolingual populations published with the DLS-RST and therefore a comparison is not possible.

5.3 DEVELOPMENT OF EXPRESSIVE LANGUAGE SKILLS

The children's expressive language data were gathered using 'je zindegi' as described in Chapter Four.

Twenty three children (13.77%) refused to attempt the task and a further four children (2.40%) provided only English responses (i.e. were Pakistani heritage but had been brought up as monolingual English speakers). These children were all males (aged 4;0, 4;2, 4;6 and 4;8). These data were therefore excluded, leaving data collected from 140 children (83.83% of the original cohort). Refusals are detailed in Table 5.3, below.

Establishing the language actually spoken was not simply a matter of taking the information along with the consent form. Clinical experience indicated that parents frequently reported that their child spoke one language, only to find that the child understood and used another Pakistani heritage language. In adults, codeswitching had been observed to occur not only between English and the first language, but also between the three Asian languages spoken by the community (Pert and Letts 2003). Actual language use by children was therefore based on the

judgement of the bilingual speech and language therapy assistant and the nature of the grammar used by the child in free conversation prior to the task. Inserted code-switched or borrowed words from another Pakistani heritage language or English were ignored for purposes of deciding primary language identity. This approach is supported by the findings of Myer-Scotton, who states that "...almost always, one language supplies the main grammatical frame for a clause containing words from two (or more) languages", even when content words such as nouns or verbs were inserted from another language (Myers-Scotton 2005: 235).

Note that the tables below are, where applicable, calculated using the CLAN computer program (Spektor and Tuthill 2000). This program provides various utilities including two programs termed 'MLU' and 'MLT'. "The MLU program computes the mean length of utterance, which is the ratio of morphemes to utterances" (MacWhinney 2006: 105). *Mean length of utterances – morphemes* (MLUm) were then calculated for each age band using the figure from each child in order to provide an MLUm score with standard deviations for each age band using Microsoft Excel statistical functions. MLT is typically mean length of turn. However, in this case, MLT refers to the total number of words produced by child, divided by the total number of utterances. The CLAN MLT program computes "...the mean number of utterances in a turn, the mean number of words per utterance, and the mean number of words per turn. A turn is defined as a sequence of utterances spoken by a single speaker" (MacWhinney 2006: 102). For the language task employed in the data collection ('je zindegi'), all turns were one utterance long. Therefore MLT corresponded to MLUw. Using the ratio of words per utterance, a *mean length of utterance – words* (MLUw) was calculated for each child. MLUw scores and standard deviations were then calculated for each age band using Microsoft Excel statistical functions. Note that CLAN MLU analysis excludes ambiguous utterances (e.g. abba XXX ladder [dad-unintelligible-ladder]) whereas MLT (henceforth MLUw) includes them.

Since the publication of Brown's 'five stages of grammatical development' (see Ingram 1989: 50 for a description of these stages) MLUm and MLUw have been used as measures employed by both clinicians and researchers; MLUm is recognised as a measure of gross language development (Parker and Brorson 2005: 367). MLU measurements have been used to evaluate the effectiveness of different language interventions (Loeb and Armstrong 2001) and as a gross measure of language development when studying various aspects of typical bilingual language acquisition (Genesee *et al.* 1995, Schelletter and Parke 2004).

The application of MLUm to languages other than English has been debated in the literature. However, Parker and Brorson (*ibid*) reported that for English, MLUm and MLUw correlate almost perfectly. They argue for the use of MLUw as it is easier to calculate (and therefore less prone to error), can be used across languages and is more suitable to measuring highly inflected languages. The researchers highlight other studies where "MLUw has been shown to be strongly correlated with MLUm in several languages other than English, including Dutch and Icelandic" (*ibid*: 372). Parker and Brorson report that "the number of utterances needed to calculate MLUw is somewhat arbitrary" (*ibid*: 370), rejecting the claim that 50-100 utterances are required to calculate MLUw figures. They also point out that there is no significant difference in MLU between language samples elicited by mothers or an unfamiliar adult, or samples collected in the home or clinic setting. This suggests that MLUw are a suitable unit of measurement for a child's performance on the language task 'je zindegi'. Parker and Brorson suggest that beyond 4.0 "it is no longer considered an accurate measure" (*ibid* 367). This figure may therefore be a useful cut-off point to establish a ceiling age for the task, that is, where early language development as measured by MLUw and MLUm.

Other researchers have disputed claims that MLU scores indicate similar levels of language development when comparing children speaking different languages. Thordardottir examined the language development of

37 typically developing children in Quebec, 19 French monolingual speakers and 18 monolingual English speakers. The results showed that “French-speaking children consistently evidenced a higher mean MLU than the English-speaking children” (Thordardottir 2005: 267), although it is important to note that this cross-linguistic difference did not reach a statistically significant level. Thordardottir concludes: “As for linguistic matching variables, it cannot be assumed either without proper investigation that equal MLUs, equal vocabulary sizes or similar levels of inflectional use in two languages represent comparable levels of language development.” (Thordardottir 2005: 245).

Schelleter and Parke (2004) also found that MLU gave surprising results and may mask other important differences when studying the language skills of bilingual children. Schelleter and Parke gathered data from 16 bilingual German-English speaking children aged 7;3 to 10;2 attending a German-medium school in London using the Bus Story (Renfrew 1969). Although no difference between languages was found in terms of MLU, German dominant children displayed a slightly higher MLU in their less dominant language.

The mixed results in the literature suggest that MLU measures are a gross measure of early language development. However, MLU measures for bilingual children provide a broad pointer to the level of a child’s development, but should be accompanied by descriptive information. For the Pakistani heritage children in this study, early language development is characterised by high levels of intrasentential codeswitching. Descriptive information on this is found in Chapter Six.

Age	Age Band	Refusals Female	Refusals Male	Refusals
0 - 2;05	0	0	0	0
2;06 - 2;11	1	1	2	3
3;00 - 3;05	2	2	3	5
3;06 - 3;11	3	4	3	7
4;00 - 4;05	4	3	3	6
4;06 - 4;11	5	0	0	0
5;00 - 5;05	6	1	0	1
5;06 - 5;11	7	1	0	1
6;00 - 6;05	8	0	0	0
6;06 - 6;11	9	0	0	0
7;00 - 7;05	10	0	0	0
TOTAL		12	11	23

5.3.1 EXPRESSIVE LANGUAGE TASK REFUSAL RATE

Twelve females and eleven males refused to provide an expressive language sample. Refusal to co-operate with the expressive language task is evenly distributed across genders. Twenty one of the 23 refusals (91.3 percent of the refusals) are found in the age bands 1 to 4, i.e. 4;5 or under.

Table 5.4 Normative expressive language data for Mirpurri speaking children

Mirpurri							
Age	n	No Response	Remaining n	MLU(m)	MLU(m) SD	MLU(w)	MLU(w) SD
0 - 2;5	0	-	0	No data	No data	No data	No data
2;6 - 2;11	0	-	0	No data	No data	No data	No data
3;00 - 3;5	15	5	10	3.39	0.84	2.67	0.64
3;6 - 3;11	34	6	28	3.57	1.31	2.77	1.03
4;0 - 4;5	32	4	28	3.98	1.18	3.01	0.95
4;6 - 4;11	7	-	7	3.64	1.37	2.84	1.11
5;0 - 5;5	9	1	8	4.00	1.23	3.12	1.08
5;6 - 5;11	1	-	1	4.96	No data	3.82	No data
6;0 - 6;5	4	-	4	3.60	0.92	2.76	0.71
6;6 - 6;11	0	-	0	No data	No data	No data	No data
7;0 - 7;5	2	-	2	6.19	2.87	5.16	2.77
Total	104	16	88				
Percentage	100.00%	15.38%	84.62%				

Table 5.5 Normative expressive language data for Punjabi speaking children

Punjabi							
Age	n	No Response	Remaining n	MLU(m)	MLU(m) SD	MLU(w)	MLU(w) SD
0 - 2;5	0	-	0	No data	No data	No data	No data
2;6 - 2;11	0	-	0	No data	No data	No data	No data
3;00 - 3;5	1	-	1	1.13	No data	1.12	No data
3;6 - 3;11	2	-	2	1.96	0.20	1.52	0.10
4;0 - 4;5	3	1	2	3.85	1.03	3.19	1.44
4;6 - 4;11	6	-	6	3.98	1.36	3.03	1.29
5;0 - 5;5	3	-	3	4.30	1.81	3.68	2.16
5;6 - 5;11	6	1	5	3.93	1.74	3.07	1.42
6;0 - 6;5	5	-	5	4.57	2.01	3.74	1.69
6;6 - 6;11	1	-	1	5.545	No data	4.68	No data
7;0 - 7;5	0	-	0	No data	No data	No data	No data
Total	27	2	25				
Percentage	100.00%	7.41%	92.59%				

Table 5.6 Normative expressive language data for Urdu speaking children

Urdu							
Age	n	No Response	Remaining n	MLU(m)	MLU(m) SD	MLU(w)	MLU(w) SD
0 - 2;5	0	-	0	No data	No data	No data	No data
2;6 - 2;11	3	3	0	No data	No data	No data	No data
3;00 - 3;5	4	-	4	5.12	2.91	4.56	2.64
3;6 - 3;11	7	1	6	3.15	1.68	2.94	1.58
4;0 - 4;5	4	1	3	5.33	1.34	4.95	1.54
4;6 - 4;11	3	-	3	4.76	1.01	4.36	1.10
5;0 - 5;5	3	-	3	4.68	0.43	4.50	0.48
5;6 - 5;11	5	-	5	6.06	1.47	5.85	1.25
6;0 - 6;5	2	-	2	3.88	4.07	3.66	3.76
6;6 - 6;11	1	-	1	6.88	No data	5.48	No data
7;0 - 7;5	0	-	0	No data	No data	No data	No data
Total	32	5	27				
Percentage	100.00%	15.63%	84.38%				

5.3.2 EXPRESSIVE LANGUAGE QUANTITATIVE RESULTS - DISCUSSION

5.3.2.1 PREFERRED LANGUAGE

Mirpuri is the most frequently preferred language, making up approximately two-thirds of the sample (104 of the children in the sample or 62.28%; 88 of children providing an expressive language sample or 62.86%), with Punjabi (27 of the children in the sample or 16.17%; 25 of the children providing an expressive language sample 17.86%) and Urdu (32 of the children in the sample or 19.16% of the sample; 27 of children providing an expressive language sample or 19.29%) making up the other third in approximately equal amounts.

5.3.3 MIRPURI NORMATIVE DATA

As this group contains the largest number of children (88) it should provide useful information. There are no data available for the first two age bands (0 – 2;5 and 2;6 – 2;11) and the penultimate age band (6;6 – 6;11). The age bands 5;6 – 5;11 and above have between zero and four children and therefore the performance of any single child could dramatically influence the results. This leaves the age range 3;0 - 5;5 to consider (five age bands). These five age bands do show an increase in MLUm and MLUw with age. However, there is not an even increase with age. There is a large change in MLU at age band 4;0 – 4;5 from the preceding age band (MLUm=3.57 and 3.98 respectively, a change of +0.41). This suggests that the Mirpuri speaking children have a rapid increase in language development between the ages of 3;6 – 3;11 and 4;0 – 4;5. This increase in language skill coincides with nursery school entry when children have opportunities to socialise with their bilingual peers in a free play environment.

The MLUm is very near to 4.00 at the age band 4;0 – 4;5. As stated above, Parker and Brorson reported that MLUm scores above 4.00 are not considered accurate. Indeed, there is a drop in MLU at next age band 4;6-4;11, before a return to 4.00 for age band 5;0 – 5;5. This suggests that the age bands 3;00 – 4;0 – 4;5 (three 6 month age bands) give accurate results before the MLU reaches the upper limit as a useful measure of syntactic development.

5.3.3.1 STATISTICAL ANALYSIS OF MIRPURI MLUm SCORES

A one way ANOVA analysis was carried out. As in previous analyses, the youngest age bands and oldest age bands were removed as they only contained scores from very small numbers of children. Age bands removed were 0, 1, 7, 8, 9 and 10 (scores from children aged 0-2;5; 2;5-2;11; 5;6-6;11; 6;0-6;5; 6;6-6;11 and 7;0-7;5 years with 0,0,1,4,0 and 2 scores respectively in those bands. Total scores removed n=7). Data were analysed from children aged 3;0-5;5 years (n=81).

The analysis showed that there was no significant differences between the age bands for MLUm.

The result of the analysis confirms that, as suspected, the expressive language data collection tool had a ceiling effect, limiting the measurement of possible MLUm development for the older age bands. As stated above, the MLU means are close to the ceiling of usefulness as a measure of language development (4.0).

5.3.4 PUNJABI NORMATIVE DATA

The distribution of children across the age bands means that the MLUm and MLUw figures are based on the responses of no more than six children (age band 4;6 – 4;11). This means that individual children's responses could dramatically alter these results. There are no data for age bands 0-2;5, 2;6-2;11 and 7;0-7;5.

In the same way as the Mirpuri data, there is a large change in MLUm between age bands 3;6-3;11 and 4;0-4;5 (MLUm =1.96 and 3.85 respectively, a change of +1.89). By age band 4;6-4;11 the MLUm is almost at the 4.00 level (one age band or 6 months later than the Mirpuri data, MLUm=3.98). The age bands above show generally increasing MLUm, with the exception of age band 5;6-5;11.

5.3.5 URDU NORMATIVE DATA

In a similar manner to the Punjabi data, the distribution of children across the age bands means that MLUm and MLUw figures are based on no more than six children (age band 3;6-3;11). There are no data for age bands 0-2;5, 2;6-2;11 and 7;0-7;5.

The first MLUm score is above 4.00 (age band 3;00-3;5 MLUm=5.12). This score above the proposed ceiling and no clear pattern for the subsequent age band scores suggest that the figures are not useful in describing grammatical and syntactic development. The very high MLUm of 5.12, compared with the two other Pakistani heritage languages for the same age band (Mirpuri MLUm=3.39 and Punjabi MLUm=1.13) suggest that Urdu speaking children have more advanced expressive language skills at this age. Alternatively, that the structure of Urdu does not allow easy comparison with Mirpuri and Punjabi, or a combination of these (and perhaps other unknown) factors is at work.

Urdu is "...a status symbol among "educated" classes and those aspiring to upward mobility and is also the official and formal language of the state and of the state education system in Pakistan" (Kirklees Metropolitan Council Education Service and Dewsbury College 2002: 17). Urdu verb structure typically utilises three words where Mirpuri uses two (see Chapter Six for details). Both these factors may explain this result.

As the MLUm and MLUw appear to be most reliable for Mirpuri, these results are discussed in relation to English, below.

5.3.6 HOW DO MIRPURI MLU(M) SCORES COMPARE WITH ENGLISH MONOLINGUAL MLU(M) SCORES?

MLUm scores across languages are not directly comparable but give a gross indication of language development. Table 5.7, below compares the Mirpuri-English bilingual children's MLU scores with English monolingual MLU scores.

Age Band	n	Mirpuri MLUm	Predicted chronological age English monolingual – US norms MLU = Years; Months (Months)	MLUm Predicted Age Range +/-1 SD* (Middle 68%) English monolingual US norms	Overlap in actual age range of Mirpuri children and predicted age range from the MLU
3:00 - 3:05	10	3.39	3.40 = 3;1 (37.9 months)	2;7 to 3;8 (31.1 – 44.7 months)	Yes
3:06 - 3:11	28	3.57	3.60 = 3;3 (39.5 months)	2;7 to 3;11 (31.6 – 47.4 months)	Yes
4:00 - 4:05	28	3.98	4.00 = 3;6 (42.6 months)	3;0 to 4;0 (36.7 – 48.5 months)	Yes
4:06 - 4:11	7	3.64	3.60 = 3;3 (39.5 months)	2;7 to 3;11 (31.6 – 47.4 months)	No
5:00 - 5:05	8	4.00	4.00 = 3;6 (42.6 months)	3;0 to 4;0 (36.7 – 48.5 months)	No
TOTAL	81				

Adapted from Table 2. Predicted chronological ages and age ranges within one standard deviation of the predicted value for each MLU (Chapman 1981: 26)

Table 5.7, above shows the MLUm means for the Mirpuri speaking children aged 3;0 – 5;5 in six month age bands. Each age band mean MLUm is then quoted. The nearest MLUm score was selected from a table of English monolingual MLU values in order to look up the English predicted chronological age in months. The range of age in months for +/- one standard deviation was also looked up.

The figures show that for the first three age bands (3;0-3;5, 3;6-3;11 and 4;0-4;5) there is overlap between the actual age band of the Mirpuri children and the predicted chronological age. The age bands 4;6-4;11 and 5;0-5;5 do not show overlap with predicted chronological age for English. It is unsurprising that there is not a perfect MLU match. The English MLU values are from ‘...a reasonably small sample of middle-class children’ American-English (Chapman 1981) and in contrast the Mirpuri-English children are from a low social economic status population in the UK. The expressive language task (‘je zindegi’) also inhibits the production of more than one utterance by limiting the topic to describing a single action in a picture. However, the broad agreement supports the view that, prior to MLUm=4.00, MLUm scores are a useful measure for this population below MLU=4.00. In addition, the close parallels for the early acquisition of monolingual English and English-Mirpuri (presumably before individual situational and linguistic differences start to take effect) show that these bilingual children are capable of similar linguistic performance to their English peers at age bands 3;0 to 4;5.

5.3.7 RELIABILITY

5.3.7.1 *METHOD*

The expressive language task ‘je zindegi’ was administered to a set of bilingual Pakistani heritage children at a local primary school as part of the normative data collection. Eleven children were seen again between 32 and 38 days later (average 37 days). The researcher and a BSLTA carried out the data collection, and the same personnel carried out a further collection using the same tasks approximately one month later. MLUw scores for the children’s expressive language responses (including practice items) on ‘je zindegi’ were compared at time one and time two.

5.3.7.2 SUBJECTS

At time one (T1) the eleven children were aged between 60 and 86 months of age (average 68.8 months). At time two (T2) the children were aged between 61 and 87 months of age (average 69.9 months). Two females and nine males were seen. Nine children spoke Mirpuri, one Punjabi and one Urdu.

5.3.7.3 RESULTS

Two of the eleven children provided no expressive language sample on the second occasion. This is interesting as it was thought that the presence of a professional from the monolingual English (white) community might deter children using their home language(s). As the same team collected data on both occasions, a white monolingual researcher and BSLTAs, the presence of a non-community member does not appear to be a deterring factor for these children. It appears that, just like any other cohort of young children, Pakistani heritage children sometimes choose not to cooperate in expressive language tasks.

Age on Test Years (Months)	Age on Re-Test Years (Months)	Language	Gender	T1 MLUw	T2 MLUw
5;2 (62)	5;3 (63)	Urdu	Male	3.857	4.52
5;3 (63)	5;4 (64)	Mirpuri	Male	3.708	3.762
7;0 (84)	7;1 (85)	Mirpuri	Male	7.111	4.44
6;0 (72)	6;2 (74)	Mirpuri	Male	2.292	3.12
6;1 (73)	6;2 (74)	Mirpuri	Male	3.792	3.36
7;2 (86)	7;3 (87)	Mirpuri	Male	3.2	3.8
5;0 (60)	5;1 (61)	Mirpuri	Male	4.72	4.96
5;0 (60)	5;1 (61)	<i>Mirpuri</i>	<i>Female</i>	2.696	0
5;4 (64)	5;5 (65)	Mirpuri	Male	4.28	3.24
5;2 (62)	5;3 (63)	Mirpuri	Male	1.308	1.739
5;11 (71)	6;0 (72)	<i>Punjabi</i>	<i>Female</i>	5.28	0

If the two girls are removed from the analysis (due to refusal to participate at T2) then the T1-T2 correlation is 0.739 ($p=0.011$, one tailed) and the difference between the mean MLU is only 0.15. The results show that 'je zindegi' is reliable and differences in results are produced by chance.

5.3.8 EXPRESSIVE LANGUAGE QUALITATIVE RESULTS – CODESWITCHING

The most striking quality of the expressive language samples is the use of lexical items from English within the context of a Pakistani heritage utterance. This presents both practical and theoretical issues. It is important to establish if Pakistani heritage children's language acquisition contrasts with monolingual development. The lack of data from Pakistan makes this difficult. However, personal communications from bilingual speech and language therapy assistants indicate that the use of English items is rare in the expressive language of both adults and children in Pakistan.

One of the key theoretical questions is this: Is the presence of English lexical items evidence of intrasentential codeswitching or lexical borrowing? To answer this question both quantitative data and qualitative data are required. Chapter Six explores some of these issues in depth, including the structure and use of the compound verb structure. This section examines the data in order to select a theoretical model which best explains the data. Data presented below explores the question 'Is codeswitching / borrowing a normal part of bilingual language acquisition for Pakistani heritage children in Rochdale?' A sub-set of the data, examining Mirpuri-English in Chapter Six explores the question 'Does Pakistani heritage children's codeswitching conform to a theoretical model of codeswitching?'

5.3.9 THE FREQUENCY OF CODESWITCHING / BORROWING

Recall that of the 167 children participating, 27 children refused to give an expressive language sample or produced all responses in English. The remaining 140 expressive language scripts were examined. All practice items and prompted responses were excluded. Items which were almost universally used by adults as an English structure were also excluded, i.e. "brush karni" (doing brush) and "cut-eni" (cutting). English lexical verbs were noted where a Pakistani heritage language alternative was possible.

Table 5.9 Frequency and distribution of codeswitching in Pakistani heritage children in Rochdale			
		Percentage of children providing multiword utterances	Percentage of total sample
Total sample	167		
No expressive language sample or language sample all English data	27		
Total number of children providing home language expressive language data	140		
Number of children whose expressive data is composed only of single word utterances	6		
Number of children providing multiword home language utterances	134	100%	95.71%
Number of children whose data shows no English origin items used in the context of an utterance	7	5.22%	4.19%
Number of children whose data shows the use of one or more English origin items used in the context of an utterance	128	95.52%	76.65%
Number of children who inserted English nouns	127	94.78%	76.05%
Number of children who inserted English verbs	62	46.26%	37.13%

Age	Age Band Code	CS present	CS absent /no sample / English	Total	Percentage of children using CS at least once
0 - 2;05	0	0	0	0	-
2;06 - 2;11	1	0	3	3	0.00%
3;00 - 3;05	2	12	8	20	60.00%
3;06 - 3;11	3	30	13	43	69.77%
4;00 - 4;05	4	33	8	41	80.49%
4;06 - 4;11	5	15	3	18	83.33%
5;00 - 5;05	6	14	1	15	93.33%
5;06 - 5;11	7	10	2	12	83.33%
6;00 - 6;05	8	10	1	11	90.91%
6;06 - 6;11	9	2	0	2	100.00%
7;00 - 7;05	10	2	0	2	100.00%
TOTAL	-	128	39	167	

Note that the percentage CS refers to the percentage of *children* in the group who use English items in the context of a home language utterance at least one, not the percentage of codeswitched utterances.

5.3.10 THE USE OF CODESWITCHING – DISCUSSION

For the whole sample, the use of English items in the context of a Pakistani heritage language is very high (76.65%). This supports informal observations that codeswitching is a normal behaviour and part of these children's language acquisition patterns.

The differentiation between nouns and verbs is not the same as in English, mainly due to the compound verb structure (see Chapter Six). However, discussion with the team of bilingual speech and language therapy assistants assisted in this task. Table 5.9, above shows that children are most likely to use noun incorporated into the Pakistani heritage language, followed by verbs. This is consistent with other research on codeswitching in children (Brice and Anderson 1999) and findings that children codeswitch to much the same extent as adults (Reynolds 2002).

It is unclear if the incorporation of English origin items can be called intrasentential codeswitching or is in fact borrowing (Boztepe 2003) unless frequency data establishes that the home language item has been completely

replaced and is therefore unavailable or much less likely to be selected. This issue is explored in Chapter Six.

The figures presented in Table 5.9 and Table 5.10 above do not show percentage of use, rather, categorically if English origin items are used or not. Percentage of use figures are shown and discussed in Chapter Six. Despite the small number of children in age bands 2;06 - 2;11, 6;06 - 6;11 and 7;00 - 7;05, the overall pattern does support the development of intrasentential codeswitching with age. The youngest children do not incorporate English origin items at all, but after school age (age band 4;00 - 4;05), over 80% of children use English origin items. This level is consistent up to the oldest age band.

5.4 SUMMARY

The data show that bilingual Pakistani heritage children in Rochdale develop language in a similar way to their monolingual English peers in terms of MLU measurements. On entry to nursery school there is a plateau which appears to coincide with the silent period and the beginning of the children's use of English utterances. Codeswitching (or lexical borrowing) is common and a normal part of these children's language acquisition. Codeswitching is less frequently observed in children under the age of 4;0, but in children above this age, almost all children utilise codeswitching. This supports the view that codeswitching is a complex linguistic behaviour and a sign of sophistication.

Practical implications include the importance of including codeswitching into the description of normal bilingual language acquisition for this population and describing the use of codeswitching in order to identify those patterns which are considered typical. In this way, children who do not readily incorporate L₂ lexical items into their L₁ utterances following sufficient exposure may be candidates for further investigation by a speech and language therapist, as such children diverge from the typical pattern of language acquisition.

**CHAPTER SIX:
CODESWITCHING IN MIRPURI CHILDREN**

6.1 INTRODUCTION

This chapter describes intrasentential codeswitching found in the utterances of Mirpuri speaking children during the data collection using the expressive language tool 'je zindegi'. The chapter is composed of two sections. The first section presents the frequency of codeswitching in Mirpuri speaking children. The second section examines the codeswitching observed in terms of the Matrix Language Frame (MLF) and 4 Morpheme type (4M) models. Utterances are evaluated in terms of their compliance with the MLF and 4M models. Special attention is given to the incorporation of English verbs into Mirpuri utterances, and the incorporation of nouns to produce novel verbs. Resultant bilingual utterances that still meet the syntactic and grammatical requirements of the Mirpuri morphosyntactic frame are discussed. Intrasentential utterances that contain English plurals, English verbs and nouns are examined. Utterances that appear to deviate from the MLF 4M predictions for classical codeswitching are highlighted, and possible interpretations of their construction given.

6.2 QUANTITATIVE INTRASENTENTIAL CODESWITCHING ANALYSIS

6.2.1 METHOD

The data collected were elicited using photographs of everyday actions (see Chapter Four). Most children therefore produced one or two utterances in response to the picture stimuli. In contrast to spontaneous data, there are fewer opportunities to demonstrate intersentential codeswitching, as the focus of the activity is single utterance production and not interpersonal conversation. The children were only in one pragmatic situation – a test situation. The children were also only able to produce utterances about the pre-determined topic, the stimulus pictures. This means that the data cannot be compared to spontaneous language samples, where the interactions between the child and another interlocutor may be analysed. The data therefore examines codeswitching in a limited context.

The presence of large amounts of intrasentential codeswitching in the data however, could not be ignored. As can be seen from the Table 6.1, below, codeswitching is clearly a normal and high frequency phenomenon in this

population. The advantage of test-elicited data is that common patterns in the data may be detected. The use of the same stimuli also makes comparisons between children possible. For these reasons, no analysis of intersentential codeswitching was attempted. An analysis of intrasentential codeswitching was undertaken. The analysis was undertaken on the Mirpuri data as this group was the largest language group in the Pakistani heritage cohort studied (see Table 5.2). Data is presented from 88 Mirpuri speaking children aged between 3;0 and 7;5. However, there were no Mirpuri speaking children seen who were aged between 6;6 and 6;11 years of age.

As the Mirpuri language and the status of borrowed lexical items have not been previously studied, no attempt was made to differentiate codeswitched and borrowed lexical items. Each data script was analysed. Practice items (coded P1 to P4) where assistance and prompts were given to the child were not included in the analysis. A word count and total number of utterances count were undertaken. The following categories of utterance were counted for each child's data sample:

- The total number of utterances composed of lexical items exclusively from Mirpuri (L1 only)
- The total number of utterances composed of lexical items exclusively from English (English only)
- The total number of utterances composed of lexical items from both Mirpuri and English (Codeswitched utterances)

As intrasentential codeswitching is only possible within utterances containing two or more words, the total number of multi-word utterances was also calculated. A number of calculations were carried out on all multi-word utterances, i.e. L1 only / English only / codeswitched utterances.

Utterances with any English item in combination with Mirpuri items were coded as codeswitched utterances. The only lexical item that was ambiguous was 'cut' (Target response for the test item 15 was '*dzenani cake cuteni pi*' – 'the lady is

cutting the cake’). This item was considered to be a Mirpuri item by the bilingual speech and language therapy assistants. No Mirpuri alternative could be suggested for this verb. The word is completely integrated into Mirpuri, with both adults and children using the verb as a stand-alone verb (in contrast to a compound verb) with a present tense morpheme directly attached to the stem, i.e. *cut-ani* (Another variant on this verb was *kap-ni* which was also translated as ‘cutting + female’). This is the only item that appeared to have some English origins but utterances containing only Mirpuri items and occurrences of this verb were not counted as evidence of intrasentential codeswitching.

In the development of test items, it was not always possible to select nouns that were not derived from English as well as producing stimulus pictures that Mirpuri-English children would recognise. In considering the following results, two items may have influenced the presence of intrasentential codeswitching. These are:

- Target 9
‘*mura sweet khana pija*’ (The boy is eating sweets)
- Target 15
‘*dzenani cake cuteni pi*’ (The lady is cutting the cake)

A child producing 100% Mirpuri utterances may therefore be expected to use English-origin items ‘cake’ and ‘sweet’ due to the picture stimuli. This could account for two of twenty one utterances if the child produced one utterance per stimulus picture (or 9.52%). As can be seen from the results, the percentage of intrasentential codeswitching starts at 32.89% of multi-word utterances for age band 3;0-3;5 (Table 6.2) and does not fall below this level for any age band as a *group*. However, *individual* children’s percentage of codeswitching are below or close to the 9.52% level within age bands 3;0-3;6 and 3;6-3;11 (Table 6.3).

Table 6.1 Words and Utterances by Age Band (All Utterances) - Mirpuri Speaking Children

Age Band	n	Mean Number of Words	Mean Number of utterances	Percentage L1 only utterances	Percentage English only utterances	Percentage Codeswitched Utterances	Percentage of Single Word Utterances	Percentage of multi-word utterances
3;0-3;5	10	52.60	21.10	68.72%	8.53%	23.22%	29.38%	70.62%
3;6-3;11	28	51.36	18.61	61.80%	8.83%	29.37%	26.68%	73.32%
4;0-4;5	28	61.11	22.96	60.34%	6.69%	32.97%	22.24%	77.76%
4;6-4;11	7	49.29	16.14	55.75%	5.31%	38.94%	13.27%	86.73%
5;0-5;5	8	63.25	20.38	46.63%	11.66%	41.72%	17.79%	82.21%
5;6-5;11	1	76.00	22.00	13.64%	22.73%	63.64%	22.73%	77.27%
6;0-6;5	4	54.75	19.50	56.41%	8.97%	34.62%	19.23%	80.77%
6;6-6;11	0	-	-	-	-	-	-	-
7;0-7;5	2	48.50	14.00	39.29%	3.57%	57.14%	7.14%	92.86%

Percentages are calculated from the total number of utterances (single word and multi-word utterances)

Shading denotes age bands with restricted data due to the small number of children seen

Table 6.2 Multi-Word Utterances, English Noun and Verb Frequency in Codeswitched Utterances - Mirpuri Speaking Children

Age Band	n	Percentage multi-word L1 utterances	Percentage Codeswitched Utterances	Percentage English multi-word utterances	Mean Number of English Nouns in CS Multitword Utterances (Tokens)	Mean Number of English Verbs in Multitword Utterances (Tokens)	Total number of English Words (Tokens)
3;0-3;5	10	66.44%	32.89%	0.67%	4.80	0.30	9.70%
3;6-3;11	28	57.07%	40.05%	2.88%	5.32	0.57	11.47%
4;0-4;5	28	55.60%	42.40%	2.00%	7.46	0.86	13.62%
4;6-4;11	7	53.06%	44.90%	2.04%	7.43	2.29	19.71%
5;0-5;5	8	44.78%	50.75%	4.48%	8.38	1.50	15.61%
5;6-5;11	1	5.88%	82.35%	11.76%	9.00	10.00	25.00%
6;0-6;5	4	55.56%	42.86%	1.59%	5.50	2.25	14.16%
6;6-6;11	0						
7;0-7;5	2	38.46%	61.54%	0.00%	5.50	2.50	16.49%

Percentages are calculated from the total number of multi-word utterance

Table 6.3 Range of Codeswitching in Multiword Utterances

Age Band	n	Number of children producing no multiword utterances	Number of children producing no Mirpuri multiword utterances	Number of children producing no codeswitched utterances	Range of Mirpuri multiword utterances/multiword utterances (Percentage)*	Range of codeswitched multiword utterances/multiword utterances (Percentage)*	Range of English multiword utterances/multiword utterances (Percentage)*
3;0-3;5	10	0	1	0	47.37 – 90.00%	10.00 – 52.63%	0.00 – 50.00%
3;6-3;11	28	1	2	2	8.33 – 100.00%	7.69 – 100.00%	0.00 – 66.67%
4;0-4;5	28	0	0	0	5.88 – 81.82%	18.18 – 88.24%	0.00 – 38.10%
4;6-4;11	7	0	2	0	12.50 – 77.78	16.67 – 100.00%	0.00 – 5.56%
5;0-5;5	8	0	0	0	14.29 – 88.89%	11.11 – 85.71%	0.00 – 50.00%
5;6-5;11	1	0	X	0	X	X	X
6;0-6;5	4	0	0	0	16.67 – 77.27%	22.73 – 83.33%	0.00 – 7.14%
6;6-6;11	0	-	-	-	-	-	-
7;0-7;5	2	0	0	0	36.84 – 42.86%	57.14 – 63.16%	0.00

* Range of percentage after '0.00%' score removed.

X n=1 therefore no ranges available.

The age bands 3;0-3;5 to 5;0-5;5 contain the majority of the children (81 of the 88 or 92.05%). These five age bands therefore provide the most informative information when examining patterns of change with increasing age. Table 6.1 shows that the number of words and utterances remains relatively stable. This is due to the restricted nature of the stimuli, where a response is required for each picture. However, the table also illustrates that the number of single word utterances decline whilst the number of multi-word utterances increases, suggesting increasing grammatical sophistication.

Table 6.2 shows that with increasing age the percentage of utterances composed of lexical items exclusively from Mirpuri declines, while the number of codeswitched utterances increases. However, this increase is modest and codeswitched utterances appear to become stable at around 40-50% of the utterances produced. More data in the older age bands would have been useful. This would have clarified whether the percentage of codeswitching continued to rise, or remained at a stable level. English nouns are the most frequent codeswitched item, again with a generally increasing frequency with age. English verbs follow the same pattern but with a much lower frequency.

6.2.2 STATISTICAL ANALYSIS OF CODESWITCHING

A one way ANOVA analysis was carried out. As in previous analyses, the youngest age bands and oldest age bands were removed as they only contained scores from very small numbers of children. Age bands removed were 0, 1, 7, 8, 9 and 10 (scores from children aged 0-2;5; 2;5-2;11; 5;6-6;11; 6;0-6;5; 6;6-6;11 and 7;0-7;5 years with 0,0,1,4,0 and 2 scores respectively in those bands. Total scores removed n=7). Data were analysed from children aged 3;0-5;5 years (n=81).

The analysis showed that there was no significant difference between the age bands for the raw codeswitching scores (the number of multiword utterances containing codeswitching). A further ANOVA analysis was carried out on the proportion of multiword utterances containing codeswitching. This also showed no significant difference between the age bands for codeswitching. As stated

above, more data (especially from older children) is required in order to discover if codeswitching is increasing significantly with age or remaining at a relatively stable level.

6.3 THE FORM OF CODESWITCHING IN MIRPURI SPEAKING CHILDREN

The tables illustrate that codeswitching is a high frequency phenomenon in the expressive language of Mirpuri speaking children. However, the descriptive data does not give insight into the syntax and grammar of that codeswitching. The following analysis examines the codeswitching in relation to the Matrix Language Frame model (Myers-Scotton 1993, Myers-Scotton 2002, Myers-Scotton 2005, Myers-Scotton and Jake 2000). This model was introduced in Chapter Two.

6.3.1 CODESWITCHING – INSERTION OR CONSTRAINTS?

It has been observed that noun insertions were the most common feature of mixed utterances for children (Redlinger and Park 1980 in Lanza 1997: 181). Several studies have also found that nouns are the most frequently switched items in adult codeswitching (Azuma 1993: 1077, Romaine 1995: 124). Other authors highlight alien content words as being inserted into a frame as the most common form of mixing or codeswitching (Genesee *et al.* 2004: 109).

For Mirpuri speaking children living in the UK, theoretically, the Matrix Language could be any language they are exposed to, including Mirpuri or English. However, as Myer-Scotton highlights, issues of competence in a language (and by extension, exposure to a language in order to acquire that competence) is an important factor. A speaker must be "...proficient enough in the language structuring the clause so that they can follow the well-formedness constraints of that language in providing the morphosyntactic frame for the bilingual clause" (Myers-Scotton 2005: 242). If this is not the case, then 'Classical codeswitching' cannot occur. The other situations where a high level of competence is not achieved would, according to Myer-Scotton, lead to 'Composite codeswitching (although a speaker may employ composite code switching for social or psychological reasons)'. This is where the structure is

“less “neat” (the MLF model was not designed to explain it)” (ibid). Composite codeswitching is “...bilingual speech in which even though most of the morphosyntactic structure comes from one of the participating languages, the other language contributes some of the abstract structure underlying surface forms in the clause”. The phenomenon is a combination of codeswitching and convergence (ibid).

For the data collected from the Mirpuri speaking children, a key consideration is whether their expressive language data conforms to the classical codeswitching type, where the codeswitched utterances clearly conform to the MLF and 4M models, or whether they diverge from this form. As the children have been exposed to Mirpuri and to a much lesser degree, English, it can be hypothesised that the morphosyntactic frame would be derived from Mirpuri, with English content morphemes forming the embedded language component. However, exceptions where the morphosyntactic frame is less “neat”, may indicate that the children have not acquired sufficient proficiency in Mirpuri in order to produce a satisfactory morphosyntactic frame. Alternatively, it may indicate that convergence is taking place, where one language is becoming more like the other. Differentiating composite code driven by convergence and composite code driven by incomplete acquisition of the matrix language may be difficult or even impossible. However, if composite utterances tend to be found in younger children then this would suggest that a lack of grammatical competence has led to the production of a frame that does not conform to a monolingual pattern. If composite utterances are found in older children’s utterances then it is more likely that the influence of the embedded language is beginning to affect the abstract frame (convergence).

6.3.2 PREDICTIONS ON HOW UTTERANCES SHOULD CONFORM TO THE CLASSICAL CODESWITCHING TYPE

For intrasentential codeswitched utterances found in the data to conform to the MLF model, the following conditions would apply:

- The Matrix Frame Language will be derived from a monolingual frame (more frequently Mirpuri as this is the children's most developed code)
 - The syntactic frame will be in the Mirpuri form
Subject + Object + Verb

OR

- The syntactic frame will be in the English form
Subject + Verb + Object

AND

- The syntactic frame will not be a composite form
- The *embedded language* will be English and English will not contribute to the morphosyntactic frame

OR

- The *embedded language* will be Mirpuri and Mirpuri will not contribute to the morphosyntactic frame

The 4-M model clarifies the MLF model further, classifying the morphemes into 4 types:

1. **Content morphemes** which receive or assign thematic roles, e.g. nouns tend to receive thematic roles (agents, patients and themes), and verbs tend to assign thematic roles. It is predicted that nouns from the Embedded Language are likely to be substituted for Matrix Language nouns and similarly with verbs.

- **Three types of system morphemes**

2. **Early system morphemes** which are related to the head of the content morpheme phrase, e.g. determiners and plurals.

Mirpuri has no determiners. It is predicted that plural markers will be derived from the same language as their head noun. As nouns are content morphemes, the result may be:

- a Mirpuri noun with a Mirpuri plural marker in a Mirpuri matrix frame utterance (i.e. a completely monolingual utterance)
- a Mirpuri noun with a Mirpuri plural marker in an English matrix frame utterance
- an English noun with an English plural marker in an English matrix frame utterance (i.e. a completely monolingual utterance)
- an English noun with an English plural marker in a Mirpuri matrix frame utterance.

Late system morphemes

3. **Bridges** which create well-formed utterances, e.g. 'of', as in 'piece of cake'.

Late system morphemes are produced in the Matrix language.

Therefore, if they occur in the data, it is predicted that bridges will be in Mirpuri for a Mirpuri Matrix frame utterance and in English for an English Matrix frame utterance.

4. **Outsiders** which look outside their immediate environment for their form, e.g. subject-verb agreement, gender agreement on adjectives.

It is predicted that for a Mirpuri Matrix frame utterance that the subject-verb agreement morpheme will be in Mirpuri, even if the Subject and/or verb is English. As this morpheme is a bound morpheme, it may either attach directly to the verb or require a matrix frame language operator or

helper verb. The latter is likely as this has been observed in adult codeswitching data.

The Mirpuri language has no determiners and the nature of the materials employed means that the use of bridges are not elicited in the language sample. However, there are two types of gender agreement typically found in simple sentences in Mirpuri. The first is similar to that found in European languages such as French or German where nouns have a grammatical gender. This function does not affect determiners, as Mirpuri does not employ these. However, adjective morphology is affected for a group of adjectives. This may or may not be biological gender. For example *mutcha* 'moustache' is feminine. The second type of gender agreement is where the present tense verb morphology is determined by the biological gender of the agent (see Chapter Three for more information). These morphemes would be described as late system outsider morphemes, as they look outside the verb phrase for their form.

Key identifiers of classical codeswitching in Mirpuri will therefore be:

- English nouns and verbs inserted into Mirpuri frames, with these items not contributing to the morphosyntactic frame. In particular, the insertion of an English verb should not disrupt the Mirpuri verb phrase formation or the Mirpuri SOV phrase order.
- Late system morphemes, such as the present tense marker should be derived from the matrix frame language, Mirpuri.

6.3.2.1 CONTENT MORPHEMES

Content morphemes assign or receive thematic roles. Content words including subjects, objects and verbs may therefore be incorporated into a bilingual utterance without affecting the syntax of the utterance. This is a key consideration, as the MLF 4M predicts that the insertion of an 'alien' verb into a clause will not change the syntax (word order). That is, the matrix frame language and not the lexical verb set the phrase order. In a typical utterance in

this data, it is predicted that when Mirpuri is the matrix language, English content words may be inserted and will not disrupt the SOV frame.

6.3.2.2 *PRESENT TENSE INFLECTIONS IN MIRPURI AND ENGLISH*

Languages are not directly comparable. Grammatical agreement, tense and aspect cannot be assumed to operate in the same way across two languages such as Mirpuri and English. As Mirpuri has not been described and mapped by a linguist, comparisons are made even more challenging by the lack of a corpus of data which contrasts syntactically and grammatically. English has an auxiliary system:

(modal) (have) (be) main verb

(Black and Chiat 2003: 215)

Black and Chiat describe the auxiliary system of English as “...an unusually elaborate auxiliary system” compared to other languages (2003: 216). The auxiliary system is of interest in analysing young children’s language as the auxiliary system presents challenges to young children and those with communication impairments. This is true of English and other languages (Black and Chiat 2003: 208-209).

Verb tense is obligatory in English and this appears to be the same for Mirpuri (although, as previously stated, the full system has not been described). A comparison of ‘do’ and the nearest equivalents in Mirpuri may be an indicator of language development.

The operator ‘do’ is of particular interest for two reasons:

1. ‘Do’ is a grammatical item without content and therefore a system morpheme. The auxiliary is likely to be produced in the matrix language.
2. Previous research indicates that ‘do’ constructions are common sites for the incorporation of alien verbs.

6.3.2.3 A COMPARISON OF ENGLISH 'DO' AND MIRPURI 'KAR' AND 'MAR'

In English 'do' is "...known as the empty or dummy auxiliary, because it has no specific meaning...its function is purely to 'stand in' as an auxiliary when the construction needs one, and other verbs would be inappropriate" (Crystal 1988: 61). Mirpuri has two forms that approximate to the English 'do'. These are 'kar' and 'mar'. These lexical items are not the exact equivalent of English 'do' as they are able to carry gender agreement as well as tense whereas English has person agreement but does not have a gender agreement system.

'Kar' does not function in Mirpuri as a lexical verb, only as the right-most element in a compound verb. Such compound verbs as *'ishara kar-na'* (point + do-ing + male) are found in monolingual Mirpuri (see Chapter Three for further details). In these utterances, the left-most element *'ishara'* is a noun, in contrast with the English analogue *'to point'* where a lexical verb is employed. 'Kar' is therefore an essential component of the verb phrase conveying *activity*. Its function also includes the carrying of gender agreement for which it looks to the subject noun phrase. As detailed below, the present tense inflection *'-na'* or *'ni'*, which 'kar' is employed to carry are outsider late system morphemes.

What is the status of the Mirpuri monolingual 'helper' verb element 'kar' within the 4M model? 'Kar' appears to be a system morpheme called into use by the existence of the content morpheme preceding it, that is, to assist in using a noun as a verb. In the same way, English speakers may use 'doing' in utterances such as 'the girl is doing a hop' to express 'the girl is hopping'.

'Mar' is the lexical verb *'to hit'* but is also used to produce a much narrower range of compound verbs in Mirpuri. As 'mar' contains the concept of contact with an object to cause motion or action, Mirpuri employs a compound for verbs such as 'clapping' – *'tari mar-ni'* (clap hit-do-ing + female). In the same way as 'kar', the left-most item is a noun, in this case 'a clap', giving a translation of 'doing a clap'. In this sense, 'mar' does convey some content (the concept of contact) which restricts its semantic potential to a small number of compound verbs. Both 'kar' and 'mar' are typical late system morphemes as they '...meet

well-formedness conditions' and 'indicate relationships within the clause' (Myers-Scotton 2005: 269) as it would be impossible to add the agreement inflection to the noun.

Bilingual utterances reported by other researchers indicate that inflections may be added directly to alien verbs for some languages whilst other language combinations employ complex verbs (See Muysken 2000: 184-220). Previous research on codeswitching in the speech of adult Panjabi-English speakers (a language related to, but distinct from, Mirpuri) found that new compound verbs were formed from an English bare stem verb and the operator 'karna' (Romaine 1995: 131). This further supports the hypothesis that 'kar' is a late system morpheme employed to provide a structure capable of inserting content (a Mirpuri noun or an English bare stem verb) and yet retain the morphosyntactic structure of the Mirpuri frame. The question as to why English verbs are not directly inflected may be one of language difference. Muysken suggests that '...the 'helping verb' serves to carry the agreement and tense markers, which cannot be attached to the alien verb stem, presumably for morpho-phonological reasons' (Muysken 2000). It is therefore likely that the compound verb structure will be employed in the formation of novel mixed compound verbs for Mirpuri-English utterances. The use of the 'operator' ensuring that any English verbs do not disrupt the morphosyntactic Mirpuri frame whilst providing a site for gender tense agreement is a format already found in monolingual grammar. This mechanism would therefore support the MLF 4M models. The use of inflected English verbs would contradict the MLF 4M models, as this would disrupt the monolingual Mirpuri frame. Note that in the literature, the term 'operator' (Romaine 1986), 'helping verb' (Muysken 2000) and 'light verb' (Wichmann and Wohlgemuth 2005) are all terms used for verbs such as 'do' which are employed to produce a compound verb structure.

A complicating factor when considering embedded items such as 'writing' or 'painting' is that such lexical items may be used as either a noun or verb in English. Consider typical utterances such as 'I am doing some difficult **writing**' and 'I did a **painting** with some new paints'. It is often difficult to establish which

category an item belongs to. In the data analysis below, such items are discussed in relation to the MLF and 4M models. However, it is possible that many or all such items could be considered to be inserted nouns rather than inserted verbs.

6.3.2.4 GENDER AGREEMENT IN THE PRESENT TENSE IN MIRPURI

‘-na’ and ‘-ni’ are late system morphemes in that they do not assign or receive thematic roles. They occur in utterances such as ‘pee-na’ (drink + gender agreement, for a male subject such as a man or boy) and ‘pee-ni’ (drink + gender agreement, for a female subject such as a woman or girl). In addition, they are prototypical system morphemes in that they are affixes (bound morphemes) (Myers-Scotton 2005: 245). ‘-na’ and ‘-ni’ are both late system morphemes. This is because they both look for their form outside the verb phrase to the subject (or agent) of the utterance. In Mirpuri, the gender of the subject directs the form of the morpheme to either a male (‘-na’) or female (‘-ni’) form.

English present tense does not include gender agreement. Present tense markers in English include:

- Habitual present (he drinkss a lot)
 - Instantaneous present (he drinkss the juice)
 - present tense using the verb *to be* ‘-ing’ (he is drinking)
- (Crystal 1988: 77-78)

In the above examples, the habitual present and the instantaneous present look to the subject for their form. For example, ‘they drink-∅ a lot’ has a zero marker to agree with the plural subject. “The suffix –s only occurs when there is a third person singular content element in the present tense to call the suffix” (Myers-Scotton 2005: 269). However, the present tense of the verb *to be* ‘-ing’ morpheme simply carries tense, i.e. ‘I am drinking’ / ‘s/he is drinking’ / ‘they are drinking’ / ‘we are drinking’. In these present tense examples, the verb *to be* indicates person while the ‘-ing’ morpheme simply reflects tense. The ‘be’

element is therefore a late system morpheme as it derives its form from outside its immediate constituent (it looks to the subject). In contrast, the '-ing' morpheme is an early system morpheme as it derives its form from the head verb (ibid).

6.3.3 MIRPURI-ENGLISH INTRASSENTENTIAL CODESWITCHING

6.3.3.1 CODESWITCHING IN AGE BAND 3;0-3;5

Data were collected from ten participants. A total of 211 utterances were produced of which 149 were multiword utterances (70.62%). All children produced multiword utterances. Every child's data contained intrasentential codeswitching, with between 10.00% and 52.63% of multiword utterances containing codeswitching (mean 32.89%).

A total of 49 intrasentential codeswitched utterances were produced. Forty eight of these had a Mirpuri morphosyntactic frame and one had an English morphosyntactic frame. Only three (unambiguous) English verbs were incorporated into bilingual utterances, 'kick', 'sleep' and 'standing'. The compound verb construction was not employed for any of these verbs. However, it is found in the data with English nouns 'paint' and 'brush', and as a monolingual Mirpuri construction (see below).

All utterances conformed to the predictions made by the MLF 4M models. For some lexical items, it is difficult to be certain if the lexical item is a noun or a verb. Items such as 'brush' and 'paint' may function as both in English. However, in this analysis such items were considered nouns as they functioned this way within the frame.

For example:

Child's utterance:	<u>brush</u> mar-ni ja
Literal translation:	brush (do+contact)-ing + female is
Translation:	(she) is doing (a) brush
Target item 11:	(the) lady is brushing
Mirpuri target:	jenani <u>charu</u> mar-ni pi lady brush do-ing + female is + female

In this example the English word 'brush' is inserted in the same position as the Mirpuri equivalent 'charu' (besom). It is highly likely that this is therefore the English noun 'brush' rather than the verb 'to brush'.

Utterances such as this example were typical where one English item (embedded language) was inserted directly into the slot of a Mirpuri (matrix frame language) utterance:

Child's utterance:	ye <u>paper</u> par-ni
Literal translation:	this paper read-ing + female
Translation:	(she) reading (a) paper
Target item 11:	(the) lady is reading (a) newspaper
Mirpuri target:	jenani <u>axbar</u> par-ni pi

Note that the word order is Mirpuri SOV and that the content morpheme 'paper' is inserted into a Mirpuri grammatical frame. The noun 'paper' occupies the slot where the Mirpuri word 'axbar' (newspaper) would be found in a Mirpuri utterance. The female gender agreement on the lexical verb agrees with the (elliptical) subject, in this case a woman. Apart from the insertion of an English noun, this is a typical Mirpuri utterance.

Verb insertions are rare in this age group, with only three examples.

Child's utterance:	<u>sleep</u> o-na pija
Literal translation:	sleep go-ing+male is+male
Translation:	(he) is going (to) sleep
Target item 8.	(the) man is sleeping
Mirpuri target:	jena <u>su</u> -ta va man sleep-ing + male is + male)

The content morpheme 'sleep' is inserted in the slot which the Mirpuri verb 'su-ti' would occupy. The verb is not inflected, but is accompanied by the auxiliary verb 'to be' which agrees with the (elliptical) subject (in this case a man). This utterance then also conforms to the MLF and 4M predictions. The insertion of an English verb does not disrupt the Mirpuri word order and the verb phrase is inflected in the same way as a Mirpuri utterance (late system outsider morpheme is produced in the matrix language).

The other English verbs used by this age group included 'kick' and 'paint'. 'Kick' was not a target item and was produced in response to the picture of a boy walking (item 3).

Child's utterance:	<u>football</u> ki <u>kick</u> mar-na
Literal translation:	football it kick do-ing+male
Translation:	(he) kicking (a) football
Target item 3.	(the) boy is walking
Mirpuri target:	mura tur-na pija boy walk-ing + male is + male

'Kick' is ambiguous as the Mirpuri bilingual speech and language therapy assistant could not find a Mirpuri alternative to 'kick marna', suggesting that this compound verb construction has been incorporated into the language completely. In any case, the example conforms to the MLF 4M model. The insertion of the English noun 'football' and English verb 'kick' does not affect the

word order and the Mirpuri frame is retained, i.e. *Object + Verb* rather than the English *Verb + Object*. As the stimulus picture shows a boy, the child has produced a male form of the present tense morpheme. However, this is added to the 'helping verb' *mar* (do + contact) which denotes contact of the person with the object (note that *mar* may be used as a lexical verb (to hit) or as a form to carry gender, typically expressing contact with the object). The English verb stem is therefore incorporated into a Mirpuri verb phrase, with the gender agreement morphology retained.

'Paint' may be a noun or a verb. In this example, it is incorporated as a noun element of a compound verb.

Child's utterance:	<i>itha ho-na kudz paint kar-na</i>
Literal translation:	here happen-ing something paint do-ing+male
Translation:	here (he) painting something
Target item 17.	(the) man is carrying (a) ladder
Mirpuri target:	jene siri chei* vi (men ladder carry + female* is + female*)

*Irregular verb agrees with the gender of the object rather than the subject, in this case 'siri' (ladder) is feminine.

Note that, again, the Mirpuri word order and verb phrase have not been affected by the insertion and that the morphosyntactic frame is derived solely from Mirpuri.

It is not immediately clear if a Mirpuri or English morphosyntactic frame is operating when a two-word utterance is encountered:

Child's utterance:	<i>baby</i> <i>to-na</i>
Literal translation:	baby wash-ing+male
Translation:	washing (the) baby
Target item 16.	(the) boy is washing (the) dolly
Mirpuri target:	mura <i>gudi</i> <i>qi to-na pija</i> (boy dolly to wash-ing + male is + male)

This utterance was produced when describing a picture of a boy washing a doll. The utterance is therefore an *Object + Verb* utterance (baby wash) with the subject (boy) omitted. The utterance is a Mirpuri utterance with an English noun inserted where the Mirpuri '*qaqa*' would be in a monolingual Mirpuri utterance.

6.3.3.1.1 Novel Verb Formation with an English Content Morpheme

Monolingual Mirpuri uses a Mirpuri noun with an 'operator' or 'helper' verb 'kar' or 'mar' to form a compound verb (see above). The MLF and 4M model predicts that such content morphemes as the noun in a compound verb may be replaced with a content morpheme from the embedded language. The examples below are examples of such constructions.

Child's utterance:	<i>itha ho-na kudz</i> <i>paint</i> <i>kar-na</i>
Literal translation:	here happen-ing something paint do-ing + male
Translation:	here (he) painting something
Target item 17.	(the) man is carrying (a) ladder
Mirpuri target:	<i>jene siri chei vi</i> (men ladder carry is + female)

Child's utterance:	aye <i>brush</i> <i>kar-ni ja</i>
Literal translation:	this brush do-ing + female is
Translation:	(she) is brushing
Target item 14.	(the) lady is brushing (the) floor
Mirpuri target:	<i>jenani charu nitche mar-ni pi</i> (lady besum [do + contact]-ing + female is + female)

Note that '*brush kar-ni*' appears to be a novel verb as the Mirpuri monolingual model is '*charu mar-ni*' or, for some adults, '*brush mar-ni*'. The use of '*kar*' omits the semantic element denoting contact between the brush and floor.

6.3.3.2 CODESWITCHING IN AGE BAND 3;6-3;11

Data were collected from 28 participants. A total of 521 utterances were produced, of which 382 were multiword utterances (73.32%). All children, except one, produced multiword utterances. Two children's data did not contain intrasentential codeswitching. Of the remaining 26 children, between 7.69% and 100% of multiword utterances contained codeswitching (mean 40.05%).

A total of 153 intrasentential codeswitched utterances were produced. All utterances had a Mirpuri morphosyntactic frame. Of the 15 English verbs found in the data, eleven were incorporated as mixed compound verbs, three were produced as inflected present tense '-ing' and one as part of a simple past tense verb phrase. Again, all of these utterances conform to the predictions made by the MLF 4M models. In contrast to the 3;0-3;5 age band children, the children in this group produced more full utterances including subjects such as the example below.

Child's utterance:	<i>daddy chair</i> <i>uper beh-ta va</i>
Literal translation:	daddy chair on sit-ing+male is+male
Translation:	daddy (he) is sitting on (a) chair
Target item 8.	(the) man is sleeping (on a chair)
Mirpuri target:	<i>jena su-ta va</i> (man sleep-ing + male is + male)

In this example, both the subject (daddy) and location (chair) are drawn from English. These items are clearly content morphemes and they are inserted directly into the places where their Mirpuri equivalents ‘*aba*’ (dad) and ‘*kursi*’ (chair) would be found. The utterance frame is a monolingual Mirpuri frame with the preposition ‘*uper*’ (on) and Mirpuri verb phrase unchanged by the codeswitching. Note that the use of the English subject does not affect the formation of the verb inflection or the auxiliary verb, both of which are in the male form. This form is taken from the gender of the subject (daddy). These are late outsider morphemes as they look outside the verb phrase for their morphological form. It is predicted that such morphemes would be derived from the frame language (in this case Mirpuri) and this is indeed the case.

A larger range of English verbs are found in this age group (15) than in the previous group (3). These were typically incorporated as uninflected bare stem verbs into a compound verb.

Childs’ utterance:	<u>daddy</u> <i>tolija naal ath <u>wash</u> kar-na pija</i>
Literal translation:	daddy towel with hand wash do-ing+male is+male
Translation:	daddy is washing (his) hand with (a) towel
Target item 13.	(the) man is drying (his) hands
Mirpuri target:	<u>jena</u> <i>ath suka-na pija</i> (man hands dry-ing + male is + male)

In this example the English noun ‘daddy’ is inserted into the subject slot where the Mirpuri ‘*aba*’ (dad) would appear in the analogous Mirpuri utterance. The utterance conforms to the Mirpuri phrase order, and the insertion of the English verb does not disrupt this or the verb phrase construction. The verb phrase is a compound verb where the English ‘wash’ occupies the slot typically taken by a noun in monolingual Mirpuri compounds. The gender agreement morpheme ‘-na’ and auxiliary ‘*pija*’ indicate the gender agreement with the male subject. Again, the presence of an English male subject rather than a Mirpuri subject does not affect the formation of these late outsider morphemes. This is evidence that the English noun and verb are content morphemes that do not

contribute to the frame construction. The only exception to this is rather than direct attachment of the present tense morpheme ‘-na’ onto the English stem, an additional verb *do* (*kar*) is employed. The only role of ‘*kar*’ is to accommodate the late outsider morpheme.

The incorporation of an uninflected English verb stem in a compound Mirpuri verb is the mechanism employed to produce eleven mixed compound verbs: ‘*clap kar-ni*’, ‘*climb kar-na*’, ‘*colour kar-na*’, ‘*laugh kar-na*’, ‘*mix kar-ni*’, ‘*push kar-ni*’, ‘*smell kar-na*’, ‘*tidy kar-ni*’, ‘*walk kar-na*’, ‘*wash kar-na*’ and ‘*write kar-na*’. That is, the mixed compound verb phrase is the most common mechanism for inserting an English verb stem (content morpheme) into a Mirpuri grammatical frame to form a well-formed codeswitched utterance.

Other examples of mixed compound verbs employing the compound verb structure, where the left-most item may be interpreted as either an English noun or verb, are shown below.

Child’s utterance:	<i>ball header</i> <i>kar-na</i>
Literal translation:	ball header do-ing + male
Translation:	heading (a) ball
Target item 20.	(the) man is throwing (the) ball
Mirpuri target:	jena <i>gend</i> sete-na pija (man ball throw-ing + male is + male)

In the same pattern as other codeswitched utterances the insertion of the English content items has not affected the Mirpuri *Object + Verb* phrase order. The use of ‘*header*’ suggests that this is an English noun, i.e. ‘doing a header’.

In a similar manner, ‘hoover’ has been used as a noun and a verb in English, e.g. ‘Mum is hoovering the carpet’. The mixed compound is produced with the stem as a bare verb (or noun?) and as an inflected verb.

Child's utterance: *janani hoover mar-ni*
 Literal translation: lady Hoover (do + contact)-ing + female
 Translation: lady Hoovering
 Target item 12. (the) lady is pushing (a) trolley.

Child's utterance: *hoover-ing kar-ni*
 Literal translation: Hoovering do-ing + female
 Literal translation: (she) doing Hoovering
 Target item 12. (the) lady is pushing (a) trolley
 Mirpuri target: *janani reri chela-ni pi*
 (lady trolley push-ing + female is + female)

The use of an English verb complete with the present tense morpheme in addition to the Mirpuri compound construction is rare in the data (two examples from 153 codeswitched utterances). The only other example is 'colouring *kar-na*'. Recall that the alternative analysis is that these are simply examples of English nouns inserted into the slot where a Mirpuri noun would be found in the monolingual Mirpuri compound verb construction.

Child's utterance: *colour-ing kar-na*
 Literal translation: colour-ing do-ing + male
 Translation: (he) colouring
 Target item 7. (the) boy is drawing (a) picture
 Mirpuri target: *mura tasvir bana-na pija*
 (boy picture make-ing + male is + male)

It may be that these examples are merely errors or that they are considered nouns. Their low frequency in the data supports this, as does the hesitancy with which it is used in '*hoovering karni*'. This issue is discussed, below.

There are two examples of an English verb that does not occur as a bare stem component of a mixed compound verb,

Child's utterance:	<u>point-ing</u> oh ja
Literal translation:	point-ing that is
Translation:	that is pointing
Target item 4.	(the) girl is pointing
Mirpuri target:	kuri <u>ishara</u> kar-ni pi (girl point do-ing + female is + female)

This is an example of a single word utterance, '*pointing*' followed by a new Mirpuri clause.

Child's utterance:	ath <u>wash</u> kitas
Literal translation:	hands wash has
Translation:	has washed hands
Target item 13.	(the) man is drying (his) hands.
Mirpuri target:	(jena ath <u>suka</u> -na pija)

This utterance has a Mirpuri frame (OV). However, instead of the compound verb, the past tense auxiliary is used. This is an example of the insertion of a content morpheme (English verb) without the need for the gender agreement as the verb is in the past verb tense. It is thought that there is no gender agreement in past tense in Mirpuri, although more information is required on verb forms in this language.

6.3.3.2.1 Novel Verb Formation with an English Noun

Eight examples of novel compound verbs formed from an English noun element and an operator/helper verb were found in the data. These were: '*machine kar-ni*', '*brush kar-ni*', '*paint kar-na*', '*lips kar-na*' (eating sweets), '*flower kar-na*', '*bath kar-na*' (washing), '*ball header kar-na*', '*pencil kar-na*' (writing).

6.3.3.3 CODESWITCHING IN AGE BAND 4;0-4;5

Data were collected from 28 participants. A total of 643 utterances were produced, of which 500 were multiword utterances (77.76%). All children

produced multiword utterances. Every child's data contained intrasentential codeswitching, with between 18.18% and 88.24% of multiword utterances containing codeswitching (mean 42.40%).

A total of 212 intrasentential codeswitched utterances were produced. All utterances except two had a Mirpuri morphosyntactic frame. Two utterances had an English morphosyntactic frame. Eighteen English verbs were used in codeswitched utterances, 15 in a mixed compound verb as bare stems, two as present progressive inflected verbs and one in an English matrix frame utterance with a Mirpuri noun. Utterances were longer (see MLU(w) Chapter 5) suggesting increasing grammatical sophistication. A greater range of codeswitching behaviour was also observed in this data set. All utterances conformed to the MLF and 4M models.

As in previous age bands, English nouns and verbs were inserted as content morphemes, with direct insertion for nouns and mixed compound verb structures to incorporate English bare stem verbs, as in the example below.

Child's utterance: *jena **ladder climb** kar-na*
 Literal translation: man ladder climb do-ing+male
 Translation: (the) man climbing (the) ladder
 Target item 19. (the) man is climbing (the) ladder
 Mirpuri Target: *jena **siri cher-na** pija*
 (man ladder climb-ing + male is + male)

Of the 17 English verbs used in codeswitched utterances with a Mirpuri frame, 15 English verbs were incorporated into Mirpuri verb phrases as bare stem verbs using a mixed compound verb. They included: 'chuck kar-da', 'climb kar-na', 'colour kar-na', 'cook kar-ni', 'cut kar-ni', 'eat kar-ni', 'make kar-ni', 'mix kar-nay', 'smell kar-na', 'smile kar-na', 'stand kar-na', 'throw kar-na', 'wait kar-nay', 'walk kar-na', 'wash kar-ni'.

The examples below, where both a noun and a verb are inserted demonstrate the Mirpuri monolingual frame, despite a majority of English lexical items, i.e. an *Object + Verb* phrase order, despite an English verb and gender agreement carried on the ‘helper’ ‘kar’ (do) verb.

Child’s utterance: ***dinner eat*** *kar-ni* # ***bread eat*** *kar-ni*
 Literal translation: dinner eat do-ing+female # bread eat do-ing+ female
 Translation: (she) eating dinner # (she) eating bread
 Target item 15. (the) lady is cutting (the) cake
 Mirpuri target: *janani cake cut-eni pi*
 (lady cake cut-ing + female is + female)

Child’s utterance: ***dad stand*** *kar-na*
 Literal translation: dad stand do-ing + male
 Translation: dad (he) standing
 Target item 2. (the) man is standing
 Mirpuri target: ***jena kult-ta*** *va*
 (man stand-ing + male is + male)

A further example illustrates that both subject and object can be codeswitched and the phrase order and frame is still derived from one language, in this case, Mirpuri.

Child’s utterance: ***mummy hand*** *itha rak-ni*
 Literal translation: mummy hand here put-ing + female
 Translation: mummy is putting (her) hand here
 Target item 5. (the) lady is clapping
 Mirpuri target: ***janani*** *tari mar-ni pi*
 (lady clap [do+contact]-ing + female is + female)

This example shows an English subject and adjective phrase but a Mirpuri morphosyntactic structure is shown, below.

Child's utterance:	<u>daddy funny way</u> <i>kar-na</i>
Literal translation:	daddy funny way do-ing + male
Translation:	daddy (he) doing (a) funny way
Target item 6.	(the) man is laughing
Mirpuri target:	<i>jena as-na pija</i> (man laugh-ing + male is + male)

The SOV Mirpuri frame is confirmed by the appropriate, but novel, compound verb '*funny way kar-na*'. Nouns, verbs and adjectives are all content morphemes and their insertion is therefore allowed under the MLF 4M models, as long as the word order remains a Mirpuri monolingual frame. In Mirpuri, adjectives are placed prior to the noun and so the word order of the adjective phrase '*funny way*' is the same for both English and Mirpuri.

Another novel verb found in this data set is shown, below. The celebration of birthdays is a new concept to the Pakistani heritage community, and so no Mirpuri noun or verb exists for this concept. It is unclear if the child understood the word 'birthday' to be a noun or a verb. However, as the compound verb structure allows either, it does not cause any difficulties in the construction of the utterance.

Child's utterance:	<u>birthday</u> <i>kar-ni pi</i>
Literal translation:	birthday do-ing + female is + female
Translation:	(she) is doing birthday
Target item 15.	(the) lady is cutting (the) cake
Mirpuri target:	<i>janani cake cut-eni pi</i> (lady cake cut-ing + female is + female)

There were only two examples of English verbs incorporated into Mirpuri frame utterances outside the compound verb structure which were produced along with an inflection. Again, it is unclear if the inserted items are nouns or verbs.

Child's utterance:	<u>writing</u> kar-na pija
Literal translation:	writing do-ing+male is+male
Translation:	(he) is writing.
Target item 7.	(the) boy is drawing (a) picture.
Mirpuri target:	mura tasvir bana-na pija (boy picture make-ing + male is + male)

The second example was:

Child's utterance:	<u>cook-ing</u> bana-nay <u>cook-ing</u>
Literal translation:	cooking make-ing+male+respect cooking
Translation:	cooking (he) cooking cooking
Target item 7.	Target item 21. (the) lady is cooking (the) rice
Mirpuri target:	janani chavel peka-ni pi (lady rice cook-ing + female is + female)

6.3.3.3.1 Doubling of Present Tense Morphemes

The 'doubling' of the present tense, in that the English '-ing' morpheme and the Mirpuri '-na' morpheme are both included in an utterance may appear to challenge the Matrix Language Frame model. In the above examples, the presence of the present tense morpheme in English does not challenge the MLF 4M model. This is because the English '-ing' is an early system morpheme, selected at the first stages of utterance production and looking to the head noun for form. In contrast, the Mirpuri '-na' present tense morpheme carries both tense and gender agreement. For the latter the morpheme looks to the subject's biological gender for its form (either '-na' – male form or '-ni – female form). This is therefore a late system morpheme. Alternatively, these utterances may simply be errors or the lexical item may have been considered a single content morpheme by the child, i.e., the child was unaware of the stem morpheme 'write' from which 'writing' is derived. Note that the assertion that system morphemes must come from the matrix language applies to *classical codeswitching*, that where the speaker has a high degree of proficiency in both

languages. The young children in this study were still in the process of developing their language skills (especially English). Alternatively, the examples do conform to the model, as the examples are nouns.

For the first time a clear example of a codeswitched utterance where English forms the frame appears. In this example the frame language is English, with a *Subject + Verb + Object* phrase order. The Mirpuri noun 'dud' (milk) is inserted as a content noun in the same slot as the English noun 'milk' would appear.

Child's utterance: *girl is drinking **dud***
 Literal translation: girl is drink-ing milk
 Translation: girl is drinking **milk**
 Target item 10. (the) baby girl is drinking milk
 Mirpuri target: qaqa dud pi-ni pi
 (baby milk drink-ing + female is + female)

A further example of an English frame utterance:

Child's utterance: ***mummy brush** isra **on the carpet***
 Literal translation: mummy brush like-this on the carpet
 Translation: mummy is brushing the carpet like this
 Target item 14. (the) lady is brushing (the) floor
 Mirpuri target: **janani charu** nitches mar-ni pi
 (lady brush floor [do+contact]-ing + female is + female)

'*mummy brush / like this / on the carpet*' is an English utterance with a single insertion of a Mirpuri item 'isra', an adverbial. As the adverbial phrase is separate from the preceding SV and subsequent prepositional phrase, the MLF model is not contradicted.

6.3.3.3.2 Novel Verb Formation with an English Noun

Novel verbs formed from an English noun with 'kar' (do) included 'hand kar-di'* (clapping), 'bath kar-na', 'ball kar-na' (throwing), 'paper news kar-ni' (reading a newspaper), 'pencil kar-ni' (writing), 'brush kar-ni', 'birthday kar-ni', and 'baby bubble bath kara-na' (having a bubble bath).

*Note that '-di' is the Punjabi equivalent of the Mirpuri present tense morpheme '- ni' (female agreement), i.e. the child has codeswitched drawing morphemes from Mirpuri, Punjabi and English.

6.3.3.4 CODESWITCHING IN AGE BAND 4;6-4;11

Data were collected from seven participants. A total of 113 utterances were produced, of which 98 were multiword utterances (86.73%). All children produced multiword utterances. Every child's data contained intrasentential codeswitching, with between 16.67% and 100% of multiword utterances containing codeswitching (mean 44.90%).

A total of 44 intrasentential codeswitched utterances were produced. All utterances had a Mirpuri morphosyntactic frame. Fifteen English verbs were found in the data. All 15 English verbs were incorporated into mixed compound verb phrases, including 'clap kar-ni', 'climb kar-na', 'colour kar-na', 'cut kar-ni', 'hold kar-na', 'look kar-na', 'make kar-ni', 'point kar-ni', 'read kar-na', 'smell kar-na', 'smile kar-na', 'stand kar-na', 'throw kar-ni' and 'wash kar-na'.

6.3.3.4.1 English Plurals in a Mirpuri Matrix Language Utterance

English plural morphemes were noted in this data set.

Child's utterance:	<u>boy flower-s smell</u> kar-na pija
Literal translation:	boy flowers smell do-ing+male is+male
Translation:	(the) boy (he) is smelling (the) flowers
Target item 18.	(the) boy is smelling (the) flowers
Mirpuri target:	<u>mura phul sung</u> -ena pija
	(boy flowers smell-ing + male is + male)

Child's utterance:	<u>man ladder-s climb</u> kar-na pija
Literal translation:	man ladders climb do-ing + male is + male
Translation:	(the) man is climbing (the) ladders
Target item 19.	(the) man is climbing (the) ladder
Mirpuri target:	<u>jena siri cher</u> -na pija (man ladder climb-ing + male is + male)

The examples above are both Mirpuri frame utterances, with a Mirpuri phrase order (SOV). In both examples the object is plural, and an English morpheme rather than a Mirpuri morpheme is employed. Plural markers are an example of an early system morpheme (Myers-Scotton 2005: 268). These morphemes look to their head noun for their form and therefore are formed prior to the formation of the late system morphemes (which are always derived from the matrix language in classical codeswitching). This explains why the plural markers, although system morphemes, do not contribute to the overall morphosyntactic frame.

6.3.3.4.2 Novel Verb Formation with an English Noun

Only one novel verb formed from an English noun with 'kar' (do) was found in the data: '*bath kar-na*'.

6.3.3.5 CODESWITCHING IN AGE BAND 5;0-5;5

Data were collected from eight participants. A total of 163 utterances were produced, of which 134 were multiword utterances (82.21%). All children produced multiword utterances. Every child's data contained intrasentential codeswitching, with between 11.11% and 85.71% of multiword utterances containing codeswitching (mean 50.75%).

A total of 68 intrasentential codeswitched utterances were produced. All utterances except three had a Mirpuri morphosyntactic frame. One utterance had an English morphosyntactic frame and two utterances had a composite frame. All the codeswitched utterances conformed to the MLF 4M model for classical codeswitching except for the two composite frame utterances.

Nine English verbs were found in the data. With the exception of one occurrence of 'colouring kar-na', all nine English verbs in Mirpuri frame utterances occurred as a bare stem in a mixed compound verb. These included 'chuck kar-na', 'climb kar-na', 'colour kar-na', 'laugh kar-na', 'point kar-ni', 'smell kar-na', 'stand kar-na', 'walk kar-na', 'wash kar-na'. One verb, 'climbing' also occurred in an English frame utterance, and in a composite frame utterance (see example below). Recall that a composite frame is when both languages contribute to the abstract morphosyntactic frame rather than only one language.

6.3.3.5.1 *'Cut': An English Verb As a Borrowing and an Alien Verb in Mirpuri*

Interestingly, although, 'cut-ani' as a lexical verb was more frequent in the data, 'cut kar-ni' was also found in the data (and also in Age Bands 4;0-4;5). This suggests that, as both versions exist, the children do consider the lexical verb 'cut-ani' to be a Mirpuri item.

In the mixed compound verb form the English verb 'cut' appears as a bare stem and the late system morphemes are attached to the 'helper' verb 'kar' as in all other mixed compound constructions. This contrasts with the Mirpuri lexical verb 'cut' which takes gender directly as an inflection. Myer-Scotton states that '...most borrowed forms are entirely - or almost entirely-morphosyntactically integrated into the recipient language' (Myers-Scotton 2002: 42). This finding supports the view that 'cut-ani' is an integrated item, or borrowing. The production of the alternative mixed compound version signals that the children are actively experimenting with the mixed compound verb as a means of creating new verbs, even in competition to English verbs that have long been integrated into the Mirpuri lexicon.

6.3.3.5.2 *English Matrix Language Utterance with a Mirpuri Content Morpheme*

Only one English matrix frame utterance occurred in this age band:

Child's utterance:	<i>climb-ing up the <u>siri</u></i>
Literal translation:	climbing up the ladder.
Translation:	climbing up the ladder.
Target item 19.	(the) man is climbing (the) ladder
Mirpuri target:	jena <u>siri</u> cher-na pija (man ladder climb-ing + male is + male)

The utterance has an English frame (VO construction as opposed to a Mirpuri OV construction). The Mirpuri word 'siri' (ladder) has been inserted as a content morpheme directly in the position where the English item would occur. The noun phrase also contains the definite article 'the' an early system morpheme from the Matrix language, English.

6.3.3.5.3 *Examples of Composite Frames - Convergence Of Mirpuri and English*

'Climb' also occurred in the following utterance. The utterance is of interest, as it does not conform to either a Mirpuri or English morphosyntactic frame.

Child's utterance:	<i>eh aba <u>climb ladder</u> kar-na</i>
Literal translation:	this dad climb ladder do-ing + male
Translation:	this dad climbing (a) ladder
Target item 19.	(the) man is climbing (the) ladder
Mirpuri target:	jena <u>siri cher-na</u> pija (man ladder climb-ing + male is + male)

In classical codeswitching, the MLF 4M models predict that only one language contributed to the morphosyntactic frame. In this instance, the phrase order is *Subject + Verb + Object + Generic Verb*. This construction may be interpreted in several ways. Firstly, it may be that the child has learnt 'climb ladder' as a single unit, and then inserted the unit into the mixed compound verb

construction as previously described. This is unsatisfactory, as it is unlikely that the child has heard ‘*climb ladder*’ as a unit. Rather, ‘*ladder climb kar-na*’ is more likely according to the MLF 4M model, as this conforms to the Mirpuri syntax and grammar. Secondly, the utterance may be an example of a composite frame. This occurs when two languages begin to converge. Convergence is when ‘Bilinguals substitute the word order of the language that is dominant in the community for word order in their L1’ (Myers-Scotton 2005: 273). In particular, early system morphemes are much more susceptible to convergence than late system morphemes (Myers-Scotton 2005: 274-275). Word order “...can be considered an early system morpheme at the abstract level” (Myers-Scotton 2005: 274). This means that word order is set at the start of the process of sentence production. Note that, in the example above, the generation of the gender agreement with the subject and the production of the ‘helper’ verb to carry the agreement morphemes are unaffected. Only the word order is affected. The fact that such utterances have not been encountered in earlier age groups suggests that it may be the increasing influence of English on the Mirpuri frame that has led to the production of this composite form.

Further evidence of convergence is found in this utterance:

Child’s utterance:	<i>eh mura <u>smell</u> kar-na <u>flower</u></i>
Literal translation:	this boy smell do-ing+male flower
Translation:	this boy smelling (a) flower
Target item 18.	(the) boy is smelling (the) flowers
Mirpuri target:	mura <u>phul</u> <u>sung</u> -ena pija (boy flower smell-ing + male is + male)

In this example, the child has produced a full utterance. As predicted, the incorporation of the English verb is via the mixed compound verb. However, the phrase order is English, i.e. *Subject + Compound Verb + Object*. This suggests that the utterance is beginning to be influenced by English. This is confirmed by the subject noun phrase. Mirpuri does not have determiners, however, this child has added ‘*eh*’ (this) to produce an English-like noun phrase.

6.3.3.5.4 Novel Verb Formation with an English Noun

Novel verbs formed from an English noun with 'kar' (do) included 'bath kar-na', 'hand kar-ni' (clapping), 'magic kar-na' '(doing magic)', 'brush kar-ni'.

6.3.3.6 CODESWITCHING IN AGE BAND 5;6-5;11

Data were collected from one participant. A total of 22 utterances were produced, of which 17 were multiword utterances (77.27%). A total of 14 intrasentential codeswitched utterances were produced (82.35%). Of the 14 codeswitched utterances, 12 were composed using a Mirpuri morphosyntactic frame. Two utterances were produced with an English morphosyntactic frame. All utterances conformed to the MLF 4M model.

A total of eight different English verbs were recorded in the data. Three English verbs were incorporated into Mirpuri matrix utterances as bare stems in the mixed compound verb construction. These were 'hold kar-ni', 'make kar-ni', and 'smell kar-ni'. Three English verbs were incorporated into the mixed compound verb construction as a fully inflected present progressive. These were 'brush-ing kar-ni', 'colour-ing kar-na' and 'eat-ing kar-ni'. In addition, two English verbs were produced in English matrix frame utterances, 'jena sitt-ing down' (man sitting down) and 'kuri point-ing' (girl pointing). Although these utterances could be interpreted as English or Mirpuri utterances (as they are both *Subject + Verb* and both languages have this word order), the lack of opportunity for gender agreement suggests that they are English morphosyntactic frames. The consistent use of gender agreement in Mirpuri morphosyntactic frame codeswitched utterances supports this assertion. The utterance below is of particular note, as the typical mixed compound verb construction contains a Mirpuri preposition between the English stem verb and the 'helper' verb 'kar'.

Child's utterance:	<i>jena ladder climb uper kar-ni kar-na yeh</i>
Literal translation:	man ladder climb up do-ing+female do-ing+male is
Translation:	(the) man (she, he) is climbing up (the) ladder
Target item 19.	(the) man is climbing (the) ladder
Mirpuri target:	<i>jena siri cher-na pija</i> (man ladder climb-ing + male is + male)

6.3.3.6.1 Novel Verb Formation

Novel verbs formed from an English noun with 'kar' (do) included 'hoover kar-ni' (vacuum cleaning), 'football kar-na' (throwing a ball).

6.3.3.7 CODESWITCHING IN AGE BAND 6;0-6;5

Data were collected from four participants. A total of 78 utterances were produced, of which 63 were multiword utterances (80.77%). All children produced multiword utterances. Every child's data contained intrasentential codeswitching, with between 22.73% and 83.33% of multiword utterances containing codeswitching (mean 42.86%).

A total of 27 intrasentential codeswitched utterances were produced. All codeswitched utterances had a Mirpuri morphosyntactic frame. Eight English verbs were found in the data. Five of these were incorporated into Mirpuri matrix frame utterances as bare stems using the mixed compound verb construction. These were 'wash kar-na', 'carry kar-di*', 'clap kar-ni', 'cut kar-ni' and 'smell kar-ni'. A further three were also incorporated using the mixed compound verb construction. However, these examples were also inflected; 'brush-ing kar-na', 'colour-ing kar-na', 'draw-ing kar-na'. No examples of composite Mirpuri-English frame utterances were found in this data set.

* '-di' is the present progressive morpheme with female gender agreement for Pakistani heritage Punjabi which functions in exactly the same way as '-na' in Mirpuri.

6.3.3.7.1 *Novel Verb Formation with an English Noun*

Novel verbs formed from an English noun with 'kar' (do) included 'ladder kar-na' (carrying a ladder), 'flower kar-na' (smelling a flower), 'hoover kar-ni', 'brush kar-ni'.

6.3.3.8 *CODESWITCHING IN AGE BAND 7;0-7;5*

Data were collected from two participants. A total of 28 utterances were produced, of which 26 were multiword utterances (92.86%). Both children produced multiword utterances. Both children's data contained intrasentential codeswitching, with 57.14% and 63.16% of multiword utterances containing codeswitching respectively (mean 61.54%).

A total of 16 intrasentential codeswitched utterances were produced. All utterances had a Mirpuri morphosyntactic frame except one utterance, which was found to have a composite frame. Four English verbs were found in the data. All four were incorporated into utterances as bare stem verbs using the mixed compound verb construction. These were 'clap kar-ni', 'point kar-ni', 'push kar-ni' and 'wash kar-na'. However, one of these examples did not follow a Mirpuri morphosyntactic frame.

Child's utterance:	janani push kar-ni trolley
Literal translation:	lady push do-ing+female trolley
Translation:	(the) lady pushing (a) trolley
Target item 12.	(the) lady is pushing (a) trolley
Mirpuri target:	jenani reri chel -ani pi (lady trolley push-ing + female is + female)

Note that the child's *Subject + Mixed Compound Verb + Object* utterance contrasts with the Mirpuri SOV phrase order. In fact, the word order would be an English word order if the 'helper' verb 'kar-ni' had not been added. The utterance therefore contains Mirpuri late system morphemes (the tense and gender agreement morphemes on 'kar'). A combination of both Mirpuri and

English system morphology therefore exists. This then appears to be a further example of a composite frame, i.e. a convergent codeswitched utterance.

6.3.3.8.1 *Novel Verb Formation with an English Noun*

None found in the data.

6.3.3.9 *'MAR' IN MIXED COMPOUND VERB CONSTRUCTIONS – ALL AGE BANDS*

'Mar' was used consistently with a small number of English nouns to produce a verb. 'Mar' was never used with an English verb stem to produce a mixed compound verb. The resultant verb phrases always involved the notion of contact, pushing or action upon another object. The verbs included:

hoover *mar-ni* (to Hoover or vacuum, Hoovering)

This was a common response to target Item 12 which depicted a lady pushing a trolley. This was found in the data on nine occasions.

machine *mar-ni* (to do a machine, machining)

This was another response to Item 12, the 'machine' presumably referring to the trolley or trolley perceived as a vacuum cleaner. This was found in the data on 25 occasions.

brush *mar-ni* (to brush, brushing)

Although 'charu mar-ni (to do a besom – a broom made of twigs tied around a stick, brushing) is the Mirpuri target, no child in the study used the word 'charu' (besom). The phrase '*brush mar-ni*' may therefore have become perceived as a fully Mirpuri phrase. The relative high frequency of 64 supports this view.

kick *mar-ni* (to kick, kicking)

Although practice Item 4 depicts a lady kicking a ball, the data from these responses was not included in this analysis as assistance and model utterances were given for the practice items prior to the 21 test items.

Only one child used this response to describe Target 3, ‘the boy is walking’.

Another response, ‘**ball** *mar-nay*’ (do a ball + respect) was produced for test Item 20, which depicts a man throwing a ball. This is the only example in the data.

‘**pen** *mar-na eh pen mar-na*’ (do a pen, writing)

This example, the only one of this type in the data appears to be a novel verb created to fill a vocabulary gap of ‘*likh-na*’ (to write) or even ‘*write kar-na*’. The contact of the pen with the paper is reflected in the use of ‘*mar*’ rather than ‘*kar*’.

‘*churi mar-ni*’ (do a knife, cutting). Although not an example of codeswitching, this Mirpuri compound illustrates the creative ability of the compound verb to form a verb from a noun.

Child’s utterance: ‘*churi mar-ni **bread** vich*’

Literal translation: knife [do+contact]-ing + female bread with

Translation: doing the bread with (the) knife

Mirpuri target: *janani cake cut-eni pi*

(lady cake cut-ing + female is + female)

As predicted, the ‘*mar*’ ‘helper’ verb is more restricted than ‘*kar*’ due to the semantic content, i.e. that of contact or action upon an object. Hence, only nouns which involve contact or pushing can form the left-most part of a compound verb construction. This contrast with the highly productive ‘*kar*’ helper verb and supports the hypothesis that ‘*kar*’ is a low-specified content morpheme carrying the concept of ‘activity’. The tense markers ‘-na’/’-ni’ are late system morphemes. The semantic content of ‘*mar*’ appears to prevent it functioning as a late system morpheme.

6.3.4 CONVERGENCE AND ATTRITION

Myers-Scotton defines convergence as “...speech by bilinguals that has all the surface level forms from one language, but with **part of the abstract lexical structure** that underlies the surface-level patterns **coming from another language...**” (2005: 271). Attrition involves the same outcome in the speech of an individual rather than a community (ibid).

Examples are found in the Mirpuri data. In addition to the examples already listed, there is evidence of phrase-order change from the Mirpuri SOV to the English SVO pattern for utterances composed purely of Mirpuri morphemes. Age Band 4;0-4;5 contained the following example:

Child’s utterance:	munda to-na baby ki
Literal translation:	boy wash- ing+male baby
Translation:	boy washing baby
Target item 16.	(the) boy is washing (the) dolly
Mirpuri target:	mura gudi ki to-na pija (boy doll to wash-ing + male is + male)

Note the English SVO order of the utterance and the subsequent standing of the infinitive particle. This is the only example in the whole data set.

Table 6.4 Number of Utterances – Mirpuri Only, Codeswitched and English						
Age Band	Participants n	Total number of utterances	Total number of multi-word utterances	Total number of Mirpuri multi- word utterances	Total number of Codeswitched utterances	Total number of English multi- word utterances
3;0-3;5	10	211	149	99	49	1
3;6-3;11	28	521	382	218	153	11
4;0-4;5	28	643	500	278	212	10
4;6-4;11	7	113	98	52	44	2
5;0-5;5	8	163	134	60	68	6
5;6-5;11	1	22	17	1	14	2
6;0-6;5	4	78	63	35	27	1
6;6-6;11	0	0	0	0	0	0
7;0-7;5	2	28	26	10	16	0
TOTALS	88	1779	1369 (100%)	753 (55.00%)	583 (42.59%)	33 (2.41%)

Shading denotes age bands with restricted data due to the small number of children seen

Table 6.5 The Incorporation of English Verbs into Mirpurri Frame Utterances

Age Band	Participants n	Number of English Verbs (Types)	Number in a mixed compound verb phrase (CVP), <i>English Verb Stem + kar-ni/- na</i>	Percentage of English verbs in a CVP	Number in a CVP with -ing morpheme attached <i>English Verb- ing + kar-ni/-na</i>	Number inserted in Mirpurri structures	Number of Codeswitched utterances with composite frame	Number of English frame Codeswitched utterances
3;0-3;5	10	3	0	0.00%	0	2	0	1
3;6-3;11	28	15	11	73.33%	2	2	0	0
4;0-4;5	28	18	15	83.33%	1	1	0	1
4;6-4;11	7	14	14	100%	0	0	0	0
5;0-5;5	8	9	9	100%	1	0	2	1
5;6-5;11	1	8	3	37.5%	3	0	0	2
6;0-6;5	4	8	5	62.5%	3	0	0	0
6;6-6;11	0	0	0	-	0	0	0	0
7;0-7;5	2	4	4	100%	0	0	1	0
TOTALS	88	79	61 (77.22%)		10	5	3	5

Shading denotes age bands with restricted data due to the small number of children seen

Table 6.6 English Verbs In Codeswitched Utterances

Age Band	Participants	Number of English Verbs (Types)	Number in a mixed compound verb phrase (CVP), English Verb Stem + kar-ni/-na	Verbs not in CVP	Verbs in a Mixed Compound Verb Phrase
3;0-3;5	10	3	0	'football ki kick mar-na', 'aba stand-ing', 'sleep o-na pija'	-
3;6-3;11	28	15	11	'hoover-ing hoover-ing kar-ni', colour-ing kar-na', point-ing oh ja, 'ath wash kitas'	'clap kar-ni', 'climb kar-na', 'colour kar-na', 'laugh kar-na', 'mix kar-ni', 'push kar-ni', 'smell kar-na', 'tidy kar-ni', 'walk kar-na', 'wash kar-na' and 'write kar-na'.
4;0-4;5	28	18	15	'writing kar-na pija', 'cook-ing bana-nay cook-ing' 'girl is drinking dud'	'chuck kar-da', 'climb kar-na', 'colour kar-na', 'cook kar-ni', 'cut kar-ni', 'eat kar-ni', 'make kar-ni', 'mix kar-nay', 'smell kar-na', 'smile kar-na', 'stand kar-na', 'throw kar-na', 'wait kar-nay', 'walk kar-na', 'wash kar-ni'.
4;6-4;11	7	14	14	-	'clap kar-ni', 'climb kar-na', 'colour kar-na', 'cut kar-ni', 'hold kar-na', 'look kar-na', 'make kar-ni', 'point kar-ni', 'read kar-na', 'smell kar-na', 'smile kar-na', 'stand kar-na', 'throw kar-ni', 'wash kar-na'.
5;0-5;5	8	9	9	'colour-ing kar-na'	'chuck kar-na', 'climb kar-na', 'colour kar-na', 'laugh kar-na',

Table 6.6 English Verbs In Codeswitched Utterances

Age Band	Participants	Number of English Verbs (Types)	Number in a mixed compound verb phrase (CVP), English Verb Stem + kar-ni/-na	Verbs not in CVP	Verbs in a Mixed Compound Verb Phrase
					'point kar-ni', 'smell kar-na', 'stand kar-na', 'walk kar-na', 'wash kar-na'
					'hold kar-ni', 'make kar-ni', 'smell kar-ni'
5;6-5;11	1	8	3	'brush-ing kar-ni', 'colour-ing kar-na', 'eat-ing kar-ni' 'yena sit-ing down' 'kuri point-ing'	'wash kar-na', 'carry kar-di', 'clap kar-ni', 'cut kar-ni', 'smell kar-ni'
6;0-6;5	4	8	5	'brush-ing kar-na', 'colour-ing kar-na', 'draw-ing kar-na'	ni'
6;6-6;11	0	-	-	-	-
7;0-7;5	2	4	4	-	'clap kar-ni', 'point kar-ni', 'push kar-ni', 'wash kar-na'
TOTALS				19 Verbs in other constructions	26 Novel English Stem + 'Helper' Verb constructions.

Items in **bold** signal the first occurrence of the item. Underlined items indicate an English matrix utterance. * '-di' is the present progressive morpheme with female gender agreement for Pakistani heritage Punjabi which functions in exactly the same way as '-na' in Mirpuri.

Age Band	Participants n	Number of verbs	Novel Verb
3;0-3;5	10	2	<i>'paint kar-na', 'brush kar-ni'</i>
3;6-3;11	28	8	<i>'machine kar-ni', 'brush kar-ni', 'lips kar-na' (eating sweets), 'flower kar-na', 'paint kar-na', 'bath kar-na' (washing), 'ball header kar-na', 'pencil kar-na' (writing).</i>
4;0-4;5	28	8	<i>'hand kar-di' (clapping), 'bath kar-na', 'ball kar-na' (throwing), 'paper news kar-ni' (reading a newspaper), 'pencil kar-ni' (writing), 'brush kar-ni', 'birthday kar-ni', and 'baby bubble bath kara-na' (having a bubble bath).</i>
4;6-4;11	7	1	<i>'bath kar-na'</i>
5;0-5;5	8	4	<i>'bath kar-na', 'hand kar-ni' (clapping), 'magic kar-na' (doing magic), 'brush kar-ni'</i>
5;6-5;11	1	2	<i>'hoover kar-ni' (vacuum cleaning), 'football kar-na' (throwing a ball).</i>
6;0-6;5	4	4	<i>'ladder kar-na', 'flower kar-na', 'brush kar-ni', 'hoover kar-na'</i>
6;6-6;11	0	0	NO DATA
7;0-7;5	2	0	NO EXAMPLES
TOTALS		29	19

Items in **bold** signal the first occurrence of the item.

6.4 SUMMARY

The vast majority of utterances containing intrasentential codeswitching conformed to the Matrix Language Frame and 4M models for classical codeswitching. Only three utterances diverged from a monolingual morphosyntactic frame from a total of 583 codeswitched utterances (0.52%) to produce a composite morphosyntactic frame. Five utterances had a monolingual morphosyntactic frame where English formed the Matrix Language and Mirpuri functioned as the embedded language (0.86%).

Twenty six different uninflected English verb stems were incorporated into mixed compound verb phrases with the Mirpuri ‘helper’ or ‘operator’ verb element ‘*kar*’. This was the most frequent method of incorporating an English verb into a Mirpuri morphosyntactic frame. It is debateable whether the compound verb structure is present in the youngest age band data. If all examples (nouns and verbs) are included, then this age band did employ the structure. If a stricter criterion of ‘English verb stem + *kar*’ is used, then the status of the left-most item must be considered. As analysed in this chapter, the mixed compound verb phrase structure was not observed in the youngest age band (3;0-3;5 years of age). It became more frequent, becoming the only way English verbs were inserted by 4;6-4;11. This trend, continuing into the oldest age band for which there is sufficient participant data (5;0-5;11) suggests that the formation of mixed compound verbs is a skill that develops with age and is a sign of grammatical sophistication.

The insertion of an English verb did not disrupt the Mirpuri morphosyntactic frame. This further supports the hypothesis that verbs, like nouns, are content morphemes and that only one language may form the syntactic frame of the clause.

Nineteen different English nouns were combined with ‘*kar*’ to produce a novel Mirpuri verb. It is notable that this was less frequent than the insertion of English verbs in the same structure. The monolingual Mirpuri compound verb is a *Mirpuri noun + ‘helper’ verb*. Verbs do not normally occupy this slot and it was

predicted that the insertion of nouns would be more frequent as the structure was already present in the monolingual grammar. This phenomenon has been highlighted by others (see below).

The MLF 4M models do not distinguish between nouns and verbs, regarding both as content morphemes. The above distinction regarding noun/verbs is therefore less important than the fact that the Mirpuri monolingual compound verb structure is CONTENT MORPHEME + OPERATOR, where the content morpheme is a noun in Mirpuri but may be either a noun or verb if the content morpheme is drawn from the English lexicon.

'*Mar*', the other verb which can operate in Mirpuri as a 'helper' or 'operator' to produce a verb from a noun was rarely used as a method for producing novel verbs from English nouns in the context of a Mirpuri morphosyntactic frame. Only seven English nouns were inserted to form novel verbs using '*mar*'. The semantic content of the verb meant that its use was restricted to nouns where contact, pushing or movement were salient to the verb.

These results demonstrate that Mirpuri / English speaking children produce intrasentential codeswitched utterances that generally conform to the pattern predicted for classical codeswitching. This is the pattern that adults with high levels of proficiency in both English and Mirpuri would be expected to produce.

6.5 DISCUSSION

Mirpuri is a language that has not been previously described in detail. This is not unusual. De Houwer states '...for many languages there are still only few data available on monolingual acquisition' (1995: 241). In addition to this, the nature of adult English / Mirpuri is unknown. It is therefore not possible to state if the children in this study are producing utterances commonly found in adult speech, or if they are creating their own unique codeswitched utterances.

Data has been reported for adult Panjabi/English adult speakers (Romaine 1986, Romaine 1995) and for Panjabi/English children (Martin *et al.* 2003).

Romaine first identified the compound verb structure for the English / Asian language contact situation in Birmingham, UK (Romaine 1986). The data from the Romaine study are not directly comparable with that collected during this study as participants clearly have different linguistic proficiency levels. However, Martin *et al.* 2003, in common with the current study, used a standard assessment procedure in addition to story (re) telling and semiformal interviews to elicit expressive language data. Martin *et al.* collected data from 50 Panjabi/English speaking children aged 6-7 years old. The participants contrast with those in the current study (Pakistani heritage Muslim Mirpuri speakers) as they were Sikh Panjabi speakers, an Indian heritage community (Martin *et al.* 2004).

Interestingly, Martin *et al.* also discovered '*verb compounds*' in the expressive language data of the Panjabi speaking children. These, in common with the data in the current study contained English nouns or verbs with '*...an auxiliary verb, such as kar (do)...*' (Martin *et al.* 2003: 256). Examples included '*comb kar-dii*' (combing), '*brush teeth kar-daa*' (brushing teeth), '*walk kar-dii*' (walking) as well as similar structures for '*start, change, read, learn*' and '*balloon*' (ibid). The mixed compound verb is explored further, below.

Other findings from Martin *et al.* contrast with the current study. Martin *et al.* (2003) reported English word order was found in approximately 5% of utterances that required a Panjabi word order (ibid). Although examples of this were found in the Mirpuri data reported here, only three codeswitched utterances were produced with a composite frame and one Mirpuri utterance with an SVO word order (four of the total multi-word utterances (0.29%) or 0.69% of the total number of codeswitched utterances). The codeswitched SVO example given by Martin *et al.* is identical to the Mirpuri example (except for the form of the Panjabi present tense morpheme), i.e. an *Subject + Mixed Compound Verb + Object* order.

Panjabi Composite Frame Utterance

mundaa kick kar-daa ball	SVO
boy kick do-HE-3PS	SVO
the boy kicks the ball/the boy is kicking the ball	SOV

(Martin *et al.* 2003: 257)

Mirpuri Composite Frame Utterance (Current study)

eh mura <u>smell</u> kar-na <u>flower</u>	SVO
this boy smell do-ing+male flower / (the) boy is smelling (the) flowers	SVO
mura <u>phul sung</u> -ena pija (boy flower smell-ing + male is + male)	SOV

This suggests that as a population, the Pakistani heritage children have not experienced as much convergence as the Indian heritage children reported by Martin *et al.* (ibid). Martin comments “The languages of other linguistic minority communities in the UK are also likely to be changing...More research is needed on other minority languages to explore these trajectories of language variation” (Martin *et al.* 2003). The data from the Pakistani heritage population shows that, using the MLF model (as Martin *et al.* did), these two communities differ. The Pakistani heritage children are predominantly using a Mirpuri monolingual morphosyntactic frame, typical of classical codeswitching, with only a very small number of utterances not conforming to the MLF 4M model. In contrast, data reported by Martin *et al.* shows a significant number of codeswitched utterances where English has contributed to the morphosyntactic frame. This codeswitching and convergence indicates a higher rate or progress of language attrition.

6.5.1 COMPOUND VERBS AS A COMMON SITE FOR CODESWITCHING

1. NOUN INSERTION + BE

This structure has been reported for several language combinations:

- English Inuktitut
 “monkey-uqquungimmat” (to be a monkey)
 (Genesee *et al.* 2004: 110)

- English/Panjabi (West Midlands, UK)
 “balloon kar-dii/-daa**” (*not stated, to do a balloon)
 (Martin *et al.* 2003: 256)

2. ‘DO’ CONSTRUCTION: BARE STEM VERB + DO

Myers-Scotton defines these utterances as follows: ‘This construction includes an Embedded Language verb...the construction also includes the Matrix Language verb for ‘do’ and it is this verb that carries the inflections that the Matrix Language requires for well-formedness from a tensed verb construction’ (Myers-Scotton 2002: 134). Examples from the literature include:

- **Turkish / Dutch**
 ‘**ja, maar toch**, millet **kijk-en** yap-iyor’
 (yeah, but still, everybody watch-INF do-PROG/3S)
 (Myers-Scotton 2002: 134)

- **Turkish / Norwegian**
 ‘Adam-lar yer-i **vask-e** yap-iyor’
 (man-PL floor-ACC wash-INF do-PROG/3S)
 (Myers-Scotton 2002: 134)

- **English / Japanese**
 ‘*graduate shimashita*’ (graduate did)
 The insertion of the English verb ‘graduate’ into a Japanese frame in this case was as a (past tense) compound
 (Azuma 1993: 1080)
- **English / Panjabi (Birmingham, UK)**
 ‘*mix hona/kerna*’ (mixing)
 (Romaine 1986: 38)
- **English / Panjabi**
 ‘*walk kar-dii aa wall te*’
 (walk do-SHE 3PS wall on)
 (Martin *et al.* 2003: 256)
- **English / Hindi**
 “To ap practice kar sakte hai” (So you can practice)
 (Grosjean 1982: 322)

Romaine identified two ‘operators’ in the compound verbs identified in data from adult Panjabi / English speakers, ‘*hona*’ (to be, to become) and ‘*ker-na*’ (to do). Of these, an English verb + ‘*kar-na*’ was the most frequent, and the English noun + ‘*kerna*’ type was not found in the data (Romaine 1986: 38). The high frequency of the English verb + operator is also found in the Mirpuri data from the current study.

What is it that determines if an alien verb can receive morphemes directly attached to the stem, or if a ‘helper’ or ‘operator’ verb is required? It may be that the *combination* of languages is a factor in the production of either directly inflected verbs or the production of a complex bilingual verb phrase. Muysken states that ‘Complex bilingual verbs have been noticed in a great many language contact situations, involving matrix languages from Turkish and Greek

to Hindi and Navaho' (Muysken 2000: 193-194). The compound verb therefore appears to be widespread in many language contact situations, especially when the two languages involved are phonologically and morphologically disparate. However, Wichmann and Wohlgemuth reject the hypothesis that the pattern of verb integration can be predicted from the structural properties of the two languages in contact, citing examples of language contact situations where more than one strategy is employed (2005: 12).

6.5.2 LANGUAGE MIXING AND CODESWITCHING

In contrast to the majority of the adult data on verb codeswitching listed above, Lanza (1997) reports numerous examples of English / Norwegian codeswitching in a two-year old using English verbs directly inflected with Norwegian morphemes:

- Norwegian / English
 - 'eate again' (eat again?)
 - 'Daddy gete' (Daddy get it)
 - 'buye buuter' (buy butter!)

The data reported in this chapter are from a population whose members are mainly sequential bilinguals in contrast to Lanza's data from simultaneous bilinguals. The participants are also at least a year older than Lanza's participants. Lanza's review of infant bilingualism concludes that "...children acquiring two languages simultaneously initially process their two languages as one, and only gradually differentiate between them" (Lanza 1997: 49). Meisel states that "...if children mix languages at a point of development when they have not yet acquired this kind of knowledge and skills (grammatical and social skills), their early mixes might not yet be instances of code switching" (Meisel 2004: 97 current author's brackets). Early 'language mixing' therefore decreases over time as the child becomes more metalinguistically aware. Codeswitching 'proper' may then re-emerge as true adult-like codeswitching as grammatical competence is achieved. Note that the amount of actual observed codeswitching may not alter, but the codeswitching will become more

grammatically sophisticated and resemble that employed by adults in the population.

The child *Siri* studied by Lanza (1997: 139) shows a (type not token) increase in the number of English verbs with a Norwegian suffix from three tokens in sample one to 55 in Sample 3, dropping to only three tokens by Sample 6 (but see text for full context). The child was aged 1;11 when Sample 1 was recorded, 2;2 when Sample 3 was recorded and 2;5 when Sample 6 was recorded.

6.5.3 MODEL OF THE TRANSITION FROM LANGUAGE MIXING TO ADULT CODESWITCHING

Data from the current study were collected from children aged 3:0 onwards. The youngest age band show the lowest percentage of codeswitched multi-word utterances and the fewest English verb types. The next age band shows a large increase to 15 English verb types and a large amount of adult-like codeswitched English verb insertion. This contrasts with the pattern of falling direct suffixation of a Norwegian morpheme with age. This is because data from younger children may show language mixing as opposed to adult like codeswitching. In addition, acquisition patterns for simultaneous and sequential bilinguals may differ.

Figure 6.1 Model of the transition from language mixing to adult codeswitching

Linguistic behaviour	Language Mixing	→	Differentiation of languages	→	Adult codeswitching
Language level	Single language system		Established grammar		Grammatical sophistication
Pragmatic level	Context / Interlocutor		Meta-linguistic awareness		Sociolinguistic factors
Age	0-2 years		3-4		4+

Based on Meisel (Meisel 2004: 97)

The short time that the Pakistani heritage children have been exposed to English suggests that the presence of an established grammar (in this case Mirpuri), rather than the exposure to the second language, is necessary to

develop insertional codeswitching (as demonstrated by the majority of utterances produced with a monolingual Mirpuri frame). To confirm this hypothesis, further study is indicated on the early language development of the Pakistani heritage population, for children aged 0-2 years to contrast with studies such as those conducted by Lanza (1997).

6.5.4 VERB INSERTIONS AS NOUNS IN A BILINGUAL CONTEXT

Wichmann and Wohlgemuth (2005) provide an overview of loan verbs, citing examples collated from many different language combinations. They use the term 'light verb' to refer to the 'operator' or 'helper' found in a mixed compound verb construction, stating that 'cross linguistically, a common form of a light verb is 'to do'...' (ibid 2005: 2). Wichmann and Wohlgemuth refer to earlier work by Moravcsik (1975), highlighting that Moravcsik's paper suggests that 'if a verb is transferred from one language to another it will in the first instance be borrowed and treated as a noun, and will require some sort of verbalization in order to be treated as a verb in the target language.' (ibid Wichmann and Wohlgemuth 2005: 1). This is highly relevant to the Mirpuri data in the current study and criticisms of the MLF 4M models using the mixed compound verb as counterexamples to the models.

As previously stated, the monolingual Mirpuri compound verbs are composed of a noun plus an operator. The creation of new bilingual verbs using alien verb stems have been highlighted as theoretically relevant as the template for this construction does not exist in the monolingual grammar (Gardner-Chloros and Edwards 2002, Muysken 2000). If alien verbs are considered nouns then the construction is identical to monolingual Mirpuri construction of *a Noun + operator verb*.

Wichmann and Wohlgemuth go on to propose that it is the contact situation and degree of bilingualism that predicts the mechanism for integrating alien verbs. A hierarchy is proposed, whereby increasing integration allows for more direct insertion of the alien verb.

LOAN VERB INTEGRATION HIERARCHY

light verb strategy < indirect insertion < direct insertion < paradigm transfer

Therefore, they state that ‘lowest degree of integration is associated with the light verb strategy, which involves a whole extra constituent for the integration’ (2005: 12). If bilingualism is at an early stage then it is predicted that “...sudden and intense contact may lead to relatively unintegrated borrowings of the type represented by the light verb strategy” (Wichmann and Wohlgemuth 2005: 13). This is because the limited knowledge of the embedded language means that the verb is ‘underspecified’ and treated as a noun rather than as a full verb. The Mirpuri data in the current study support this hypothesis. The children acquiring Mirpuri hear some limited English until the age of nursery and school entry. Prior to this age (i.e. the age band 3;0-3;5) there are no examples of the mixed compound verb. On entry to nursery and school, the structure quickly becomes the dominant mechanism for incorporating English verbs, at a time when the children are suddenly subject to an intense exposure of English. The examples of inflected verbs being placed into the left-most element of the compound verb also appear to be predicted, in that children with limited exposure to English will treat such items as a single noun, unaware of the morphological boundaries. Alternatively, lexical items such as ‘writing’ may be nouns as discussed previously.

The data presented in this chapter supports the MLF 4M models. Children consistently employ a monolingual morphosyntactic frame (the Matrix Language) and the codeswitching found is of an insertional nature, with nouns and stem verbs inserted (as the Embedded Language) without altering the phrase order of the monolingual utterance. The majority of utterances have a monolingual Mirpuri morphosyntactic structure. Utterances with an English morphosyntactic structure are also found, but less frequently. Composite frame utterances are rare. The use of the mixed compound verb, either with an English noun or verb stem is the most frequent method of incorporating English verbs into Mirpuri frame utterances. Some researchers believe that such utterances challenge the MLF 4M models as the verb + operator structure does not occur in the monolingual Mirpuri grammar. The existence of many examples

of such a construction appear to imply that a bilingual grammar has been formed from English and Mirpuri. However, the work of Wichmann and Wohlgemuth (2005) suggest that the use of the construction is linked to both bilingual competence and the language contact situation. The integration of English verbs is therefore much closer to the monolingual Mirpuri grammar than the surface structure suggests. In addition, the contrast in the data between compounds employing 'mar' (low frequency) and 'kar' (high frequency) as the operator demonstrate that the semantically 'light' operator 'kar' may be used for the sole purpose of carrying late system outsider morphemes and is therefore less restricted by the left-most element it combines with to form a bilingual verb. This further supports the hypothesis that the more developed semantic knowledge of Mirpuri limits the nouns with which 'mar' can combine, whilst the operator 'kar' is solely a system morpheme. Increased use of the mixed compound verb coincides with an intense exposure to English.

There is very limited evidence of convergence (or attrition on an individual level) – only four utterances from the whole sample of 1369 multiword utterances. This contrasts with findings by Martin *et al.* (Martin *et al.* 2003) from another UK bilingual child population where convergence effects are seen in phrase order usage.

The Mirpuri speaking children are able to produce codeswitched utterances from an early age which conform to Mirpuri monolingual grammar. Codeswitching is a normal feature of this population's typical language acquisition. However, it is not possible to state if the codeswitching behaviour is stable or will lead to language attrition. Longitudinal studies are indicated to follow the language trajectory of this population. In addition, studies of the language input the children receive would reveal if the children are acquiring codeswitching as a language model directly from their parents, or if the codeswitching is a result of language contact alone.

**CHAPTER SEVEN:
BILINGUAL LANGUAGE ACQUISITION OVER A
12 MONTH PERIOD**

7.1 INTRODUCTION

Bilingual children growing up in Rochdale are often reported to acquire English skills rapidly. Teachers and parents reported that some children maintain home language skills, whilst others lose some or all of their expressive home language skills. Language shift and attrition are language contact phenomena and have been previously discussed in Chapter Two. This population and the trajectory of their language development have not been previously described. A small sample was therefore taken to examine if these children did rapidly acquire English language skills and to establish if children at the same time lost L1 skills.

A sample of children who contributed data in their home language as part of the data collection (see Chapter Five) were followed up twelve months later to record their language skills, both in their home language and in English. Results are reported for both verbal comprehension and expressive language. For expressive language, quantitative results, mean length of utterance – words (MLUw), are given along with qualitative results. Qualitative results are of particular interest. That is, the nature of utterances as signs of English affecting the structure of Mirpuri are possible signs of language attrition. Clyne states that “Often it is transference from L2 that is seen to indicate attrition” (2003: 6). For this reason, mixed compound verbs are examined as these have been identified as possible sites for language attrition, and also, because the use of this structure has been debated as it represents a common integration device (Clyne 2003: 150) or viewed as evidence for a bilingual (intermediate) grammar (Muysken 2000: 197-211)

7.2 METHOD

Seven nursery aged children and four Year 1 primary school aged children were seen at their schools. The participants were not systematically selected. Rather, children who were traceable from the original study were contacted and further consent to gather data was obtained from the parent(s). Numbers were also restricted by the time available at this stage of the research.

Each child's language skills were measured in their home language using the data collection tools. These tools are described in Chapter Four. This data collection point was taken as time one (T1).

Approximately 12 months later an identical data collection session was carried out, again at the children's schools. This data point was taken as time two (T2). In addition to the home language data, a sample of the child's comprehension and expression skills was taken in English at T2. The comprehension tool was the Derbyshire Language Scheme (DLS) Rapid Screening Test (RST) culturally modified for working with Pakistani heritage children but delivered in English. The DLS-RST is essentially identical to the standard published English DLS-RST (Madislover and Knowles 1979); however, objects not recognised by the children were replaced with more culturally appropriate items. The DLS-RST home language versions and the English DLS-RST Pakistani heritage versions therefore contain the same instructions and employ the same test objects and stimulus picture materials.

The English expressive language data collection tool employed was the Action Picture Test (Renfrew 1997). This consists of ten simple colour line drawings. The researcher asks a set question and records the child's response. The responses are then scored according to a marking scheme, where information and grammar scores are available for monolingual English children. In this study, the normative data were not used. Instead, MLUw scores and descriptive analysis were carried out. The Action Picture Test was selected for the sampling of English language skills as it has been shown to be informative in other studies with bilingual children (Kotler *et al.* 2001). A BSLTA was present throughout the entire data collection session. The BSLTA administered the home language data collection tools and the researcher administered the English data collection tools. In this way the child was encouraged to use the home language with the interlocutor from his/her community and English with a monolingual English speaker. This was carried out in order to enhance the pragmatic use of L1 followed by L2. At the same time, if the child chose to codeswitch, there was always someone who could understand both languages.

Expressive language samples were written down during the session. Home language was written using Roman characters (as there is no written form for Mirpuri or Pakistani heritage Punjabi). Audio recordings were made and these were used to clarify and check scripts after the sessions. The BSLTA translated the written scripts into English with the researcher. Expressive language was then entered into a computer using a text editor. CLAN programs were then used to analyse the data.

7.3 PARTICIPANTS

All the children were Pakistani heritage children living in the central Rochdale area. Seven children all attended the same nursery in central Rochdale. At T1, the four primary school children attended the same primary school in central Rochdale. At T2, all the children attended one of three central Rochdale primary schools. Eleven children, originally seen for the initial data collection (T1) were sampled at a second point (T2). None of the children had been referred for speech and language therapy in the intervening time and all children were considered to have typical speech and language development by their parents and teachers. The time between sessions was between eleven months and 30 days and 14 months and 19 days (mean 393 days).

The group consisted of four males and seven females. Seven spoke Mirpuri, three Punjabi and one Urdu (n=11). At T1 the children were aged between 3;9 and 5;7 years (mean 4;7) and at T2 the children were aged between 4;10 and 6;11 years (mean 5;8).

At T1, the seven nursery school aged children had between two and six months exposure to English (average 3.4 months). This was calculated from the months they had attended Nursery and was verified by confirming with the parent(s) that only Pakistani heritage languages were used in the home. At T1, the primary school aged children (Year 1) had all received approximately 26 months exposure to English.

At T2, the children initially seen in nursery were now all attending primary school. This group of seven children had received between 14 and 18 months exposure to English (average 16 months). At T2, the four children initially seen in primary school were now Year 2 children and had received approximately 38 months exposure to English. See Table 7.1 for details of the participants.

7.4 RESULTS – VERBAL COMPREHENSION

7.4.1 DEVELOPMENT OF COMPREHENSION - HOME LANGUAGE T1 TO T2

Recall that the DLS-RST is arranged into sections with between one and six instructions given to the child. The child is marked as correct if s/he is able to select an object or picture from an array or carry out an instruction relating to toys and everyday objects. Instructions are arranged into 'items', each item containing instructions of the same complexity. Complexity is defined in terms of 'information carrying words'. An information carrying word is the number of words that a child *must* understand to be able to carry out the instruction (see Chapter Four, the DLS-RST and DLS Manual for further details (Knowles and Masidlover 1979, Madislover and Knowles 1979). Children must demonstrate understanding of between one (pass mark for item 5(a) - command including 'and') and five instructions (pass mark for item 1 – real objects). The DLS-RST therefore gives a 'pass' or 'fail' for an item. The researcher has reported both the information carrying word level, i.e. item passed (which may contain several instructions) and the total number of individual instructions passed. See Table 7.2 for the score (number of correct individual instructions); percentage of the total (maximum 22 instructions in the whole assessment) and level (items passed, containing several instructions at a particular word level). See Appendix Two.

As can be seen from Table 7.2 below, at T1 children scored between eight and 19 correct responses on the DLS-RST (mean 13.91 or 63.22%). These scores represented a wide range of ability. One child (Child 9) only demonstrated understanding of three instructions for each of the first two items (single word

level nouns and single word level verbs). As these scores did not meet the criteria for passing the item, the child is denoted as having no demonstrable consistent comprehension and therefore a 'level' of '0'. Such a child may have situational understanding or limited vocabulary. The maximum DLS level (four word level and above) was achieved by five of the eleven children and no child was able to respond correctly to all instructions.

At T2, scores ranged from 17 to 22 (ceiling) with a mean score of 19. All the children except one achieved a higher score than at T1. These ten children all passed at least one part of the 'four word level and above' (4+) item. One child (Child 3) was the only participant to score fewer items and fall in level on the DLS-RST. Child 3's score fell from 19 to 10 and accordingly from a '4+ level' to only demonstrating understanding of instructions containing one information carrying word, either a noun or a verb.

7.4.2 DEVELOPMENT OF COMPREHENSION – ENGLISH LANGUAGE T1 TO T2

From negligible comprehension at T1 (none of the children were able to cooperate with a DLS-RST presented in English) the children had rapidly acquired English comprehension skills. Scores ranged from 16 to 22 with a mean of 20 (90.91%). Ten of the eleven children achieved a score of between 19 and 22 (ceiling) and an accompanying information carrying word level of "4+". One child (child 9) only scored 16 and demonstrated understanding of instructions containing two information carrying words.

7.4.3 DISCUSSION – VERBAL COMPREHENSION

Between T1 and T2 all the children continued to develop their understanding of their home language from an early to a basic level, with one exception. This shows that, for receptive language skills at least, the group continued to develop their home language skills as they acquired English as an additional language. The child which lost home language skills was not language delayed as the same child performed well on the English DLS-RST. This suggests that

the child has switched dominance, developing English comprehension skills whilst home language skills are lost.

All 11 children acquired English skills, ten of the eleven achieving basic skills (up to, or near to the ceiling of the DLS-RST assessment). This demonstrates that children from this population can acquire English as an addition language receptive skills in approximately one year and that this, in the main, is accompanied by a continuation of development of their home language receptive skills, not a loss.

Table 7.1 Participants - Gender, Language and Age at T1 and T2

Child	Gender	Language	Age T1	Age T2	Time interval between T1 and T2 (Months.Days)
1	Female	Mirpuri	3;11	4;11	12.13
2	Female	Mirpuri	5;5	6;5	11.30
3	Female	Urdu	5;5	6;5	11.30
4	Male	Punjabi	5;7	6;7	11.30
5	Female	Mirpuri	3;10	4;10	12.23
6	Female	Mirpuri	4;0	5;1	12.23
7	Male	Mirpuri	4;1	5;4	14.19
8	Male	Mirpuri	4;2	5;4	14.19
9	Male	Mirpuri	3;9	4;10	12.27
10	Female	Punjabi	5;9	6;11	14.1
11	Female	Punjabi	4;5	5;5	12.5
n=11	7 females 4 males	7 Mirpuri 3 Punjabi 1 Urdu	Mean = 4;7	Mean = 5;8	Mean = 393 Days

Table 7.2 Results – L1 Mirpurii/Punjabi/Urdu Comprehension at T1 and T2 Using the DLS-RST

		Comprehension T1				Comprehension T2			
Child	Age T1	Age T2	Score (Maximum 22)	Percentage	DLS Level (1-4+)	Score (Maximum 22)	Percentage	DLS Level (1-4+)	
1	3;11	4;11	15	68.18	1 Nouns and Verbs	19	95.45	4+	
2	5;5	6;5	16	72.73	4+	20	86.36	4+	
3	5;5	6;5	19	86.36	4+	10	45.45	1 Nouns and Verbs	
4	5;7	6;7	16	72.73	4+	22	100.00	4+	
5	3;10	4;10	11	50.00	1 Nouns and Verbs	19	86.36	4+	
6	4;0	5;1	12	54.55	2	19	86.36	4+	
7	4;1	5;4	18	81.82	4+	21	95.45	4+	
8	4;2	5;4	8	36.36	1 Nouns	17	77.27	4+	
9	3;9	4;10	6	27.27	0	21	95.45	4+	
10	5;9	6;11	17	77.27	4+	21	95.45	4+	
11	4;5	5;5	15	68.18	2	20	90.91	4+	
n=11	Mean = 4;7	Mean = 5;8	Mean = 13.91	Mean = 63.22%		Mean = 19	Mean = 86.78%		

Table 7.3 Results – L2 English Comprehension at T2 Using the DLS-RST

Comprehension T2*			
Child	Score	Percentage	DLS Level (1-4+)
1	19	86.36	4+
2	20	90.91	4+
3	20	90.91	4+
4	22	100.00	4+
5	19	86.36	4+
6	19	86.36	4+
7	22	100.00	4+
8	21	95.45	4+
9	16	72.73	2
10	22	100.00	4+
11	20	90.91	4+
n=11	Mean = 20	Mean = 90.91	

*No results available for English Comprehension at T1 as the participants did not have any skills in this language at T1

7.5 RESULTS – EXPRESSIVE LANGUAGE

7.5.1 RESULTS – L1 EXPRESSION

Seven out of the eleven children produced more utterances at T2 than at T1, and one child produced the same number of utterances. Three children produced fewer utterances (see Table 7.4, below). Of the seven children who produced more utterances, three produced no expressive language sample at T1. Five children attempted all twenty one target items of the expressive language task, and only two children attempted less than nineteen out of the twenty one items. One child produced no expressive language in their home language at T2, despite attempting 20 of the 21 items at T1. This child (Child 3) was the same child who experienced a drop in home language comprehension skills between T1 and T2.

The general pattern of increasing skills was also reflected in the number of words produced and hence the MLUw scores. Eight children had a higher MLUw score at T2 and three had a lower MLUw. The average MLUw for the group rose from 1.917 at T1 to 2.833 at T2. These MLU scores must be viewed with caution. The data collection tool “je zindegi” contains stimulus items which elicit only basic sentence structures. The MLU scores will therefore be constrained by the tool. The MLU scores encompass the development over a range of ages. This is an extremely small sample and the figures only reflect performance on a test rather than spontaneous data. As these are bilingual children they merely reflect one snapshot of one part of their expressive language ability. All the children also had abilities in English (see below). However, the figures suggest that these children are able to attempt more test items and produce longer utterances in home language after a year of maturation.

Table 7.4 L1 Mirpurii/Punjabi/Urdu Expression Number of utterances, words and MLUw at T1 and T1

Child	Age T1	Age T2	Number of utterances T1	Number of Utterances T2	Number of words T1	Number of words T2	MLUw T1	MLUw T2
1	3;11	4;11	19	21	56	98	2.947	4.667
2	5;5	6;5	0	5	0	9	0	1.800
3	5;5	6;5	20	0	56	0	2.800	0
4	5;7	6;7	15	20	24	24	1.600	1.200
5	3;10	4;10	18	21	26	69	1.444	3.286
6	4;0	5;1	21	20	57	72	2.714	3.600
7	4;1	5;4	21	19	68	78	3.238	4.105
8	4;2	5;4	0	21	0	67	0	3.190
9	3;9	4;10	0	20	0	53	0	2.650
10	5;9	6;11	19	21	41	76	2.158	3.619
11	4;5	5;5	21	21	88	64	4.190	3.048
n=11	Mean = 4;7	Mean = 5;8	Mean = 14	Mean = 17.18	37.82	55.45	1.917	2.833

7.5.2 RESULTS – ENGLISH

The RAPT has ten items with no practice items. Unlike 'je zindegi', the task examines grammar beyond basic utterances. Of the eleven children, seven attempted all ten items and only one child attempted less than nine items. In contrast to the home language expressive language task, no child failed to produce a response.

The average MLUw was 5.312. Nine of the eleven children had an English MLUw which was greater than their MLUw for L1.

English and the Pakistani heritage languages are very different in terms of morphology. It is not possible to compare these languages directly and it is therefore more appropriate to look at the child's utterances descriptively. However, the MLUw scores for each language do illustrate general trends and these are discussed below.

7.5.3 DESCRIPTIVE RESULTS – MIRPURI / PUNJABI / URDU

The children from the Pakistani heritage community are generally monolingual in a Pakistani heritage language and are then exposed to English as an additional language (EAL) at school. There are several possible paths that their bilingual language acquisition might follow. These can be summarised as:

1. Maintenance of L1 skills and development of EAL
2. Decline or loss of L1 skills and development of English
3. Continued monolingualism and failure to develop EAL.

All of the children presented with the English data collection tool at T2 had developed English skills. How had these skills impacted on their L1?

1. Maintenance: Eight children improved their L1 MLUw score at T2 when compared with T1 (three of these gave no response at T1). These children continued to develop their home language skills while developing language skills in English. 6 of these children had higher

MLUw for English than home language, suggesting that they were beginning to become dominant in English.

2. Loss: Child 3 was the only child to dramatically lose L1 skills. This child went from an MLUw of 2.800 in home language to no expressive ability at T2. This was accompanied by a loss of verbal comprehension skills, down from understanding home language instructions containing '4+' information carrying words to just '1'. At the same time, child 3 acquired English comprehension to the '4+' level and expressive language skills (MLUw 4.286). This child has lost early home language skills as English skills have been acquired. Nine children had a higher English MLUw score than their L1 score at T2, suggesting dominance in English.
3. Continued monolingualism: No child failed to develop skills in English. This applied to both comprehension and expressive language skills. Only two children (child 1 and child 9) had improved on their original L1 MLUw score *and* scored higher for L1 than for English. Both of these children were amongst the youngest children in the sample. Continued monolingualism with no English acquisition was therefore not observed.

An examination of the L1 scripts at T1 and T2 was undertaken, with a focus on verbs. Data analysis of expressive home language samples showed that the incorporation of English items into the verb phrase was a sign of grammatical sophistication. It is of interest if this is accompanied by a maintenance of home language verbs, or a loss of home language verbs. This information would then indicate if this population were experiencing the acquisition of a second language (English) or if English acquisition was leading to an attrition of home language skills.

Table 7.6 below lists the L1 verbs and the English or codeswitched compound verbs inserted into their home language by the children at T1 and T2, approximately twelve months apart using the expressive language data collection tool "je zindegi". A full analysis forms Appendix Five.

Table 7.5 L2 English Expression - number of utterances, words and MLUw at T1 and T1

Child	Age T1	Age T2	Number of Utterances T2	Number of words T2	MLUw T2
1	3;11	4;11	19	46	2.421
2	5;5	6;5	14	75	5.357
3	5;5	6;5	14	60	4.286
4	5;7	6;7	13	56	4.308
5	3;10	4;10	13	73	5.615
6	4;0	5;1	10	57	5.700
7	4;1	5;4	10	72	7.200
8	4;2	5;4	10	52	5.200
9	3;9	4;10	10	21	2.100
10	5;9	6;11	12	129	10.750
11	4;5	5;5	14	77	5.500
n=11	Mean = 4;7	Mean = 5;8	Mean = 12.64	65.27	5.312

Table 7.6 Home language data collection: number of Verb Types Found in L1 and Codeswitched Utterances at T1 and T2

	T1		T2			
Child	Unique Mirpuri / Punjabi / Urdu Verbs	Unique English Verbs used in home language tool	Mixed Compound Verbs in a home language frame	Unique Mirpuri / Punjabi / Urdu Verbs	Unique English used in Home language tool	Mixed Verbs in home language tool
1	10	1	2	15	1	4
2	NR	NR		1	0	1
3	9	1	4	NR	NR	
4	10	0	1	0	14	0
5	6	4	1	11	0	6
6	11	1	2	7	0	12
7	13	1	2	12	0	5
8	NR	NR		10	1	8
9	NR	NR		12	1	3
10	2	10	0	13	0	8
11	12	1	2	11	1	8
TOTALS	73	19 + 14 = 33		92	18 + 55 = 73	
MEANS OF TOTALS	9.125	4.125		9.200	7.300	

7.5.3.1 L1 VERB USAGE

Excluding those children who gave no response, five children used the same number of verbs (+/- one verb), or more L1 verbs at T2. Only two children used fewer L1 verbs at T2. On average, the children maintained the number of unique home language verbs they employed (T1=9.125 verbs, T2=9.200 verbs).

7.5.3.2 L1 CODESWITCHED COMPOUND VERB CONSTRUCTION USAGE

The child with the highest number of codeswitched compound verb constructions at T2 was child 6 with 11 examples. These constructions were of note in that they were frequent and they complied to the MLF 4M model, i.e. formed using a morphosyntactic frame derived from the L1 (Mirpuri) grammar. Two examples were formed in the same way as Mirpuri compound verbs, in that they were 'Noun + operator', the Mirpuri noun being codeswitched directly for an English noun, e.g. 'machine mar-ni' (machine do+contact-ing+female). Nine of the eleven examples were inclusions of the root English verb plus a Mirpuri operator, e.g. 'draw kar-na' (draw do-ing+male), i.e. a mixed compound verb (MCV), the most frequently used construction for verb incorporation (see Chapter Six). No examples of inflected English verbs were found within the compound verb constructions. However, many of these examples may be interpreted as 'noun + operator' and therefore identical to the Mirpuri monolingual compound verb construction, as discussed in Chapter Six.

Data from child 5 and child 10 both included examples of a compound verb construction formed from an English inflected verb + Mirpuri or Punjabi operator, e.g. 'clapping kar-ni' (clapping do-ing+female); 'colouring kar-da' (colouring do-ing+male). This may be interpreted as a 'doubling' of the morphology to indicate present tense. The MLF model would label the English '-ing' an early system morpheme as it looks to the head (verb) for its form (and therefore produced in the same language as the content morpheme, in this case the verb). The operator inflection '-na' is a late system morpheme as it looks to the agent, outside its immediate phrase and in the matrix language, in this case Mirpuri. The examples of double present tense markers are therefore

not counterexamples to the MLF 4M model. It is also likely that these items are being treated as nouns due to under specification of the English verb (see Chapter Six). Child 5's utterances show signs of English syntactic influence on one utterance, where SOV is replaced with SVO phrase order,

Table 7.7 Example of a Mirpuri frame with an English SVO word order	
Child #5's utterance	'aba throw kar-nay ball'
Word-by-word translation	dad throw do-ing+respect ball
English translation	dad throwing (the) ball

7.5.4 DESCRIPTIVE RESULTS – ENGLISH DEVELOPMENT AT T2

No child used any Pakistani heritage word in his/her English utterances. There were neither intersentential nor intrasentential codeswitching found in the data.

There were individual difference in the length and complexity of utterances produced. Also there were examples of utterances which contained appropriate information, but did not appear to have any cohesive structure. For example, child 1 aged 4;11 at T2 (14 months exposure to English) produced the following utterance when asked 'What is the mother doing?': "mummy shoes feet". This response is correct (the mother is putting the shoes on the girl's feet) but lacks the essential verb and preposition. The same girl produced one utterance with Mirpuri syntax, i.e. *Subject Object Verb* word order: "her shoes taking off". The other responses contained key lexical items which were often missing grammatical or morphological features, for example "she baby" (omitting the verb to be); and "man sitting".

Similar utterances, with appropriate lexical items but 'telegraphic' structure were found in the English utterances of those children with 14-18 months exposure. This trend of telegraphic utterance types in the early stages of English acquisition was observed in children where the home language was superior to their EAL skills.

Child	Months Exposure at T2	Age (Months)	Utterance
1	14	59	her shoes taking off
9	16	58	bag open apples down
6	16	61	fell down apple
7	16	64	stopping the mouse
8	16	64	mouse cat kill
11	18	65	posting the letter # into the chatterbox

7.5.5 SUMMARY

This small sample of children showed that the majority continued to develop their L1 language skills whilst developing English as an additional language. However, English MLUw scores were higher at T2 than home language MLUw scores. This is likely to be the result of the contrast between the home language data collection tool, which only examines basic utterances, and the English language tool, which examines a range of grammatical forms.

The development of English skills may be beginning to exceed home language skills at T2. However, data collection using identical assessment tools in the home language medium and the English language medium would be required to make a direct comparison. As the expressive data collection tool only examines basic sentence forms a further tool is required for older children. Such a tool would need to examine a wider range of language structures. Alternatively regular naturalistic language recording at home and in school would prove more reliable methods of data collection.

Child 3 illustrates that a child from this community can move from an initial basic level of L1 which is almost completely replaced by English in 12 months. Child 3 was one of the oldest children. However, the oldest child (child 10) retained L1 skills, demonstrating more L1 lexical verbs at T2 than T1 and also using eight codeswitched compound verb constructions.

7.6 DISCUSSION

As the data are just a snapshot of language development at two points, it is not possible to predict if the children will continue to develop L1 skills and English or if L1 skills will begin to fall away. The compound verb construction, when codeswitched, appears to be a creative site for the development of L1 versions of English verbs. Whether this is simply a stepping stone to the displacement of L1 verbs with English verbs, heralding a change to English or a sign of adult-like codeswitching sophistication is unclear. Further research is indicated into this area, with regular naturalistic language sampling of children using both their L1 skills and their English skills.

**CHAPTER EIGHT:
DEVELOPMENT OF ENGLISH AS AN
ADDITIONAL LANGUAGE (EAL) IN PAKISTANI
HERITAGE CHILDREN**

8.1 INTRODUCTION

Bilingual children experience a different language learning situation to their monolingual peers. It is likely that there are both similarities and differences between the language development of bilingual children and that of their monolingual peers. Grosjean states that “..whether a child acquires only one language and becomes monolingual or acquires two languages and becomes bilingual, the rate and pattern of language development are the same” (1982: 181). Bilingual children, by definition have two groups of monolingual peers. Bilingual children cannot be compared directly to *either* group, as a bilingual child is not merely ‘two monolinguals in one person’ (Gosjean 1989 quoted in Meisel 2004: 93). Genesee points out that, despite this “...there are no standardised tests whose norms are based on bilingual children” (Genesee *et al.* 2004: 196).

There is often a distinction made between *bilingual first language acquisition* and *sequential language acquisition*. For example, Meisel (2004) and Lanza (1997) focus on children who have grown up with exposure to two or more languages from birth. This raises the question of definitions. How much exposure is required from each language? At which age does bilingual language acquisition become sequential or successive bilingualism? Grosjean states that “Children can become bilingual at any age” (1982: 192).

Definitions are problematic even when languages are well described. The present study examines children mainly exposed to Mirpuri, a language which has not been previously described. Even the other Pakistani heritage languages, Punjabi and Urdu, for which there are published grammars (Bhardwaj 1995, Bhatia 1993, Bhatia and Koul 2000, Ethnologue 2004, Matthews and Dalvi 1999, Narang 2004, Schmidt 2004) are variants on the Indian standards. In addition, the extent to which adults use a mixed Pakistani heritage-English mixed code is unknown.

For bilingual Mirpuri-English children growing up in the UK, it is therefore debatable if monolingual Mirpuri language acquisition data would be applicable.

Children are exposed to a varied input, with codeswitching acceptable in the adult population when a Mirpuri frame is being used. It becomes a matter of semantics when describing the children's language; are these children experiencing sequential language acquisition, (partial) simultaneous acquisition or mixed code acquisition? Some children will have Mirpuri speaking parents who do not codeswitch, whilst others will hear other Pakistani heritage languages (Punjabi and / or Urdu) and English. Other researchers studying similar minority ethnic populations in the UK have suggest that children are developing hybrid languages, influenced by the home language and English. Martin *et al* (2003) studied 6-7 year old Sikh Panjabi-English speakers in Birmingham, UK. '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' (2003: 261). The language acquisition patterns for Mirpuri are discussed in Chapter Five. In this chapter I will focus on the acquisition of English. This is usually termed 'English as an Additional Language' acquisition, or EAL. This term will be discussed at the end of the chapter in light of the data. Are the children acquiring English and Mirpuri as separate languages or a mixed code?

Most research suggests that bilingual children acquire each of their languages in much the same way as their monolingual peers (Romaine 1995: 217). 'Errors' that are highlighted in English as a second language children's language are often found in young monolingual children, and cannot therefore be attributed to the child's bilingualism. The 'errors' are merely characteristic of the early stages of the acquisition of that particular language. As Jackson states "Making errors is a normal concomitant of the language learning process (1987: 100).

Older research focused on 'interference'. Typically, 'interference' is a negative term that is applied by monolingual speakers to describe 'errors' in bilingual speaker's speech and/or language. It is possibly the notion of negative influence on the learning of a mainstream high prestige language that motivates the now invalidated advice of learning one language at the expense of the home language. The myth that the presence of another language in the home

will 'interfere' (slow down, lead to 'confusion' or otherwise harm) is not born out by the evidence, at least for children (Jackson 1987: 100).

Some authors have defined interference as any difference between monolingual and bilingual language. This is described by Jackson as '...a largely unconscious process and appears to operate mainly in respect of the less obvious difference between languages' (1987: 101). Makey asks 'How well does a bilingual keep his languages apart? To what extent does he fuse them together? How does one of his languages influence his use of the other?' (2000: 27).

It appears for some, the notion of an 'ideal bilingual child' is one who has high levels of proficiency in both languages and can create the illusion of 'two monolingual speakers in one person'. This assumes that a bilingual person uses both of his/her languages in the same environments for the same reasons. This is almost never the case, as the vast body of sociolinguistic research attests. The 'ideal bilingual child' and the contrasting 'semi lingual child' has been criticised for its simplistic nature, linking form and content (see Romaine 1995: 264). Even speakers with high levels of competence may prefer a language for a certain function. For example, it is noticeable in the speech and language therapy clinic that parents of bilingual children are more fluent and provide more salient information when a case history is taken in the home/community language rather than English. Parents are thinking about family circumstances and language skills in the home. The home language is therefore the preferred medium, and the use of the home language says nothing of the language skills of the speaker, rather merely the environment and topic.

What forms does interference take? Interference has been relabelled 'transference' by Clyne (2000: 257, Romaine 1995: 52). This more neutral than negative term focuses on the exchange of form, skills or ideas between the languages. For example, it is thought that positive transference takes place, i.e. if a speaker has knowledge of a structure and an analogous structure is present

in the additional language, the speaker can use his/her knowledge of the first language to learn the L2 structure more quickly than a speaker who does not have that structure in their L1. If transference is possible, then one might expect that it could appear at any level. Most research appears to have been focused on codeswitching (see Chapter Six). However, other transferences have been observed. Mackey defines interference as ‘...the use of features belonging to one language while speaking or writing another’ (Mackey 2000: 40). The interference may be characterised by the level at which it operates, i.e. the ‘...cultural, semantic, lexical, grammatical, phonological, phonetic or graphic levels...’ (Mackey 2000: 42). In order to identify interference / transference, three main tests need to be applied:

- Is the language behaviour or structure found in the L1?
AND
- Is the language behaviour or structure different / not found / or considered unusual in the L2?
AND
- Is the language behaviour or structure not explainable by developmental patterns of acquisition?

8.1.1 COMPARING AND CONTRASTING MIRPURI AND ENGLISH

Cultural interference are ‘phenomena ... (as) the result of the introduction of unfamiliar objects... (Mackey 2000: 44). One test item in the expressive language data collection tool ‘je zindegi’ is *a lady pushing a trolley* (see Chapter Four and ‘je zindegi’, item 12) . Many of the children thought that the lady was hoovering and produced the label ‘machine’. Mirpuri speakers may be unfamiliar with items such as trolleys and vacuum cleaners, labelling them as ‘machine’ in English, even in the context of a Mirpuri utterance. Alternatively, the semantic field for ‘machine’ in Mirpuri may be wider than that for the same term in English. Interviews with parents appear to confirm this, in that any item with moving parts may be labelled ‘machine’. However, correspondents did not agree on the extent of the semantic field. Some parents felt that the term machine was derived from the time of the British Raj in Indian, pre-partition.

Cultural interference is contrasted with semantic interference. This is where a familiar item or experience is structured differently. In Mirpuri, the semantic field for 'cooking pot' extends to any food cooked within it, hence both are labelled 'handi'. A Mirpuri speaker may use a term such as 'dinner' to refer to a meal or a cooking pot.

Lexical interference is where lexical items entering the language as single words or larger units. Examples in Mirpuri include words such as 'cup' and 'plate' where no monolingual alternative exists through to 'spoon' and 'boy' where monolingual alternatives are available.

Grammatical interference is where structures not previously available create new parts of speech. In Mirpuri, the English use of determiners has led to some speakers using 'ik' (*one*) as a determiner in Mirpuri, despite the fact that determiners do not normally form part of Mirpuri grammar.

It is interesting to note that while influences of English on Mirpuri are common, Mirpuri influences on English are extremely rare. Chapter Six reports examples of word order (syntactic) influence of English on Mirpuri. Syntactic interference would be where the word order is influenced by the other language. For this to be noticeable, the languages must have contrasting structures. Mirpuri is a *Subject + Object + Verb* (SOV) language and contrasts with English, which is a *Subject + verb + Object* (SVO) language. Both languages have SV constructions, and so any interference on this level would go unnoticed as the languages are congruent. However, SOV influence into English or SVO into Mirpuri would be seen as violations of the phrase/word order by monolingual speakers. This is an important issue, as syntactic and word order difficulties are labelled as signs of language disorder in monolingual English speaking children. As Nettelbladt states, this poses a problem for the diagnosis of bilingual children with specific language impairment 'Problems with word order is one of the more common errors in children with grammatical disability and, interestingly enough, word order presents a long-lasting problem for learners of

Swedish as a second language' (Nettelbladt 1992: 138). In the present study, only 5 from a total of 753 Mirpuri multi-word utterances composed of all Mirpuri morphemes or a combination of Mirpuri and English morphemes with an English SVO word order were found

Mirpuri is a morphologically rich language, employing, for example, *Subject-Verb* gender agreement and adjective-noun gender agreement. English by comparison is morphologically impoverished, relying more on word order and structure for the conveying of meaning. Mirpuri speakers are therefore more tolerant of word order changes than English speakers.

These issues make the interpretation of 'interference' and 'errors' in the use of English by speakers in the early stages of acquiring it as an additional language problematic. The previous chapter presents English data from Mirpuri speaking children who are being exposed to English intensively for the first time on entry to school.

8.1.2 RATIONALE

It was decided to evaluate the usefulness of using 'je zindegi' (described in Chapter Four) to monitor Pakistani heritage children's English as an additional language (EAL) acquisition. The tool was judged to be culturally appropriate and useful to elicit expressive language samples in Pakistani heritage children's home languages (see Chapters Four and Five). Language samples elicited using 'je zindegi' had yielded many examples of codeswitching (see Chapter Six). As English is considered a prestigious language because of its use as the medium of education and other 'non-home' environments and functions, it was hypothesised that there would be far fewer examples of codeswitching from the lower prestige Mirpuri language into English than was found from English into Mirpuri. However, if this is not the case, and similar levels of codeswitching are found, then this would suggest that children are less affected by social motivations for codeswitching and that only grammatical considerations are important.

Since compound verbs, both L1 and L1-L2 codeswitched types, were a feature of L1 Mirpuri for children of this age, do the children employ this structure in their English L2 verb production? An analysis of 'doing', the translation equivalent of the Mirpuri operator 'kar-na' / 'kar-ni' was therefore carried out (see Chapter Six). In addition the development of English determiners, and pronouns was examined. These are of particular interest as they may highlight if bilingual children from the Pakistani heritage community learn such items in the same way as their monolingual peers or if there is influence from Mirpuri. As Mirpuri has no definite or indefinite articles and there is no gender difference between third person pronoun ('oh' is used as a single third-person pronoun in Mirpuri, the equivalent of the English 'he' and 'she'), both these structures are new to these children. It is possible that influence from the home language may affect their acquisition.

8.2 METHOD

Cohort 2 discussed in this chapter consisted of forty four Pakistani heritage children aged between 3;10 and 6;9 years of age (46 and 81 months). These children were a separate cohort to those that provided data discussed in previous chapters (see Figure 3.2). Data were collected at a local primary school over a period of nine days. A monolingual English speaking final year speech and language therapy student collected data with the assistance of a BSLTA. The children were made up of 22 boys and 22 girls (see Table 8.1, below, brackets indicate non-responders to expressive language task). None of the children had been referred for speech and language therapy. The parents and school staff had no concerns about the development and general health of the children. Verbal and written consent was gained via experienced BSLTAs. Children were seen individually in a quiet room. The data were transcribed during the data collection session and then checked from tape recordings. The BSLTA translated any borrowed / codeswitched words from Pakistani heritage languages.

The data were entered into a computer using a text editor. The CLAN program was then used to analyse the data. Frequency of use (FREQ program) and key

word searches (KWAL program) were used to identify examples of codeswitching, compound verb constructions, and different categories of words that are often thought to be influenced by interference / transference such as determiners.

Age	Minimum Age (Months)	Age Band	Number of participants	Female	Male
0 - 2;05	1	0	0	0	0
2;06 - 2;11	30	1	0	0	0
3;00 - 3;05	36	2	0	0	0
3;06 - 3;11	42	3	8	5	3
4;00 - 4;05	48	4	19	6	10 (+3)
4;06 - 4;11	54	5	10	6 (+1)	3
5;00 - 5;05	60	6	3	2	1
5;06 - 5;11	66	7	2	1	1
6;00 - 6;05	72	8	1	1	0
6;06 - 6;11	78	9	1	0	1
7;00 - 7;05	84	10	0	0	0
TOTALS			44	21 (+1) = 22	19 (+3) = 22

Numbers in brackets indicate the number of non-responders

Home Language	n	Percentage
Mirpuri	30	68.2
Punjabi	2	4.5
Urdu	12	27.3
English	0	0.0
Other	0	0.0
Total	44	100.0

Age Band	Mirpuri	Punjabi	Urdu	Total
3	5	1	2	8
4	11 (+2)	0	5 (+1)	16 (+3)
5	7 (+1)	0	2	9 (+1)
6	2	0	1	3
7	0	1	1	2
8	1	0	0	1
9	1	0	0	1
10	0	0	0	0
TOTALS	27 (+3)	2	11 (+1)	40 (+4)

Numbers in brackets indicate the number of non-responders

8.3 RESULTS

Forty four children were seen, of whom four gave no language sample. This is a 10% non-responder rate. All non-responders were in the youngest age bands (age bands 3-5, aged 3;6 to 4;11). Stow and Pert reported lower response levels for children from this community in home language in this age range when assessing phonology (2006a).

Of the 40 children who gave English expressive language samples, the majority were L1 Mirpuri speakers (27 children of the 40 who gave a language sample, or 67.5%). Of the L1 Mirpuri speaking children, age bands '3' to '5' had data from between five and eleven children, whereas older age bands contained data from between zero and two children. The L1 Mirpuri children's English language samples in age bands '3', '4' and '5' were therefore examined as other language samples and age bands had data from a very small number of children and were therefore less likely to reveal representative patterns of language usage. L1 Mirpuri speaking children are the focus of this study and other chapters focus on this language as this is the language predominantly used by the Pakistani heritage population in the UK. The 23 English expressive language data samples examined in this chapter are therefore only 85.19% of the data samples collected from the L1 Mirpuri speakers and only 57.5% of the total data set. the remaining data were not analysed.

Table 8.4 English MLUw for ‘Je Zindegi’ - Mirpuri-English speaking Children – Age Band 3 (3:06 - 3:11)				
Age Band	Reference	Words Tokens	Utterances	MLUw
3	HP41	69	20	3.450
3	HP37	70	21	3.333
3	HP44	63	21	3.000
3	HP05	125	21	5.952
3	HP03	61	21	2.905
n=5	Totals	388	104	18.640
	Means	77.6	20.8	3.728

Table 8.5 English MLUw for 'Je Zindegi' - Mirpur-English speaking Children – Age Band 4 (4:00 - 4:05)

Age Band	Reference	Words Tokens	Utterances	MLUw
4	HP18	40	20	2.000
4	HP34	70	21	3.333
4	HP22	89	21	4.238
4	HP14	64	21	3.048
4	HP36	50	21	2.381
4	HP29	84	21	4.000
4	HP38	40	19	2.105
4	HP42	104	20	5.200
4	HP30	52	21	2.476
4	HP19	95	21	4.524
4	HP21	33	21	1.571
n=11	Totals	721	227	34.877
	Means	65.545	20.636	3.171

Table 8.6 English MLUw for 'Je Zindegi' for Mirpuri-English speaking Children – Age Band 5 (4;06 - 4;11)

Age Band	Reference	Words Tokens	Utterances	MLUw
5	HP24	85	21	4.048
5	HP32	114	21	5.429
5	HP43	85	21	4.048
5	HP31	73	21	3.476
5	HP20	80	18	4.444
5	HP16	95	21	4.524
5	HP40	70	21	3.333
n=7	Totals	602	144	29.302
	Means	86.000	20.571	4.186

Age Band	n	Age Years; Months	MLUw mean
3	5	3;6 - 3;11	3.728
4	11	4;0 - 4;5	3.171
5	7	4;6 - 4;11	4.186

8.3.1 USE OF CODESWITCHING

8.3.1.1 BAND 3 – 3;6 TO 3;11

From 122 lexical items used by the children in the group, there were only two Mirpuri words used (1.64%). Both lexical items were nouns; 'chavel' (rice) and 'dud/dudu' (milk). These items occurred 2 times each, accounting for only 4 of the 441 words or 0.91%.

- 'chavel' was used by two children, both occasions as a single word utterance,
- 'dud' or 'dudu' was used by two children. The first in the context of an English utterance (Verb + Object construction), i.e.

Utterance	drink	dud .
Literal translation	drink	milk .

The second child also used an English *Subject + Verb + Object* frame with only the verb in English, i.e.

Utterance	eh	eating	dudu .
Literal translation	this	eating	milk .

8.3.1.2 BAND 4 – 4;0 TO 4;5

Band 4 children also codeswitched the nouns 'chavel' (rice, 3 occasions) and 'dud' (2 occasion). In addition, the nouns 'phul' (flower 4), 'poree' (ladder 1), and toliya (towel, 2) were used.

- 'chavel' (rice) was used once by three children. One child used a single word utterance. One child used an English SVO sentence, i.e.

Utterance	mummy	making	chavel .
Literal translation	mummy	making	rice

One child used an English utterance that did not accurately describe the stimulus picture:

Utterance	mummy	on	the	chavel .
Literal translation	mummy	on	the	rice .

- 'dud' (milk) was used as a single utterance by one child and in an English SVO utterance by another:

Utterance	he	making	dud .
Literal translation	he	making	milk .

- 'phul' (flower) was used once by four different children. Two children used 'phul' as a single word utterance, whilst the other two used the item in the context of an English utterance:

Utterance	boy	and	the	phul .
Literal translation	boy	and	the	flower .

Utterance	he's	holding	phul .
Literal translation	he's	holding	flowers

- 'poree' (steps/ladder) was used by one child as a single word utterance.
- toliya (towel) by one child as a single word utterance and once in the context of an English (OV) utterance:

Utterance	hold	the	toliya
Literal translation	hold	the	towel

Interestingly, one child appears to have used inflection directly onto the English 'towel' to form 'towel-a'. 'towel' was not thought to be a fully borrowed item by the BSLTAs. In the example, below, the child is using the plural ending. Alternatively, the child may have made a phonological error, as the English and Mirpuri word ('tolija') sound very similar.

Utterance	daddy	got	the	towela .
Literal translation	daddy	got	the	towel

One child in Band 4 (HP21) also used verbs in a non-standard manner.

- 'kha-ing' (eat-ing), where the Mirpuri lexical verb *eat* has been inflected by the English present progressive was used by one child, i.e.

Utterance	kha-ing	there .
Literal translation	eat-ing	there.
Target	Target item 9. (the) boy is eating (the) sweets.	

The same child in Band 4 (HP21) also produced a novel English verb directly from a noun:

- 'balling'

Utterance	he's	balling .
Literal translation	he's	balling
Target	Target item 20. (the) man is throwing (the) ball.	

A second child (HP19) also produced a novel English verb directly from a noun:

- 'machining' (1)

Utterance	the	mummy	machining .
Literal translation	the	mummy	machining
Target	Target item 12. (the) lady is pushing (a) trolley.		

- Two words were unintelligible in Band 4 but only in one child's utterances (HP36).

Mirpuri words accounted for 6 of the 184 different types used (3.26%), or 13 of 870 tokens (1.49%).

8.3.1.3 BAND 5 – 4;6 TO 4;11

Of the 147 different lexical items used by this group, only one Mirpuri word was used by one child for a single utterance (0.68% or a frequency of 1 of 707 total words – 0.14%).

'ki' (to) would usually be used in Mirpuri with a lexical verb, i.e. "Ki tona" (to wash). The example below appears to show that the child has used a Mirpuri construction of Subject + Object + Verb, with the English verb replacing the Mirpuri lexical verb, but retaining the infinitive 'to':

Utterance	and	a	boy	in	the	baby	ki	washing
Literal translation	and	a	boy	in	the	baby	to	washing.
Free translation	boy washing baby .							
Target	Target item 16. (the) boy is washing (the) dolly.							

- 6 words were unintelligible, all in one child's utterances (HP43)

8.3.2 USE OF CODESWITCHING - DISCUSSION

Codeswitching is rare in the English production of these Mirpuri-English speakers. Frequency of use is never above 1.5% and the number of lexical items from Mirpuri is never greater than 6 for any of the three groups of children. This constitutes a very low use compared with children from the same community when speaking Mirpuri. When speaking Mirpuri, children produced large amounts of codeswitching by employing nouns and verbs from English in Mirpuri sentences. For example Mirpuri children, aged 3;6 to 3;11 discussed in Chapter Six produced 76 English lexical items from a total of 288 lexical items used (26.38% or a frequency of 284 of 1533 tokens – 18.53%). There were therefore 20.35 times more English items in Mirpuri utterances than Mirpuri into English for this age group.

Of the Mirpuri items that were inserted into English frames the majority were nouns replacing English nouns. The most likely explanation for this codeswitching is that the item was unknown in English. For example, 'chavel' (rice), phul (flower) and 'dud' (milk) were used in this way. This hypothesis is further supported in that the insertion of nouns disappears completely for the oldest children (Band 5). Presumably, their vocabulary has grown and eliminated the need to refer to their L1 lexicon. The explanation of codeswitching as a deficit has been challenged in adults (Heredia and Altarriba 2001). For children, it has been argued, 'language mixing' is a different process to adult codeswitching. Jisa (2000) states that 'While single-word switches are rare in older bilinguals (except nouns), young bilinguals often show one word switches in multiword utterances' (1367). The Mirpuri-English speakers in this study reflect that, with all the examples being a single Mirpuri word in a multiword English utterance. However Jisa goes on to say that 'Single-word switches in bilingual children are overwhelmingly grammatical morphemes' (2000: 1367). The Mirpuri-English children only produced one example, Band 5 'and a boy in the baby ki washing' (and a boy in the baby to washing). Key differences between the majority of the literature and the present study is that codeswitching is most often studied in children using similar languages, typically Adult Hispanic Spanish-English or two European languages (Brice and Anderson 1999: 18). Also, the studies, such as Jisa (2000), focus on children being raised in households using the one-person one-language approach. The present study could not control language exposure and is naturalistic in nature. Mirpuri-English children enter school and are expected to acquire English. Also, Mirpuri is a radically different language to English and this may be one of the reasons why the codeswitching patterns are different.

Other researchers disagree that there is a difference between child and adult code-switching, at least in terms of the mechanisms. Paradis *et al.* (2000) examined 15 French-English bilingual children aged 2;0 to 3;6 and found that their code-mixing '...obeyed all the constraints set out in the Matrix Language Frame model the majority of the time' (2000: 245).

Of the codeswitched utterances listed above, only one utterance had mainly English items but reflected a Mirpuri word order (spoken by child HP20): ‘and a boy in the baby ki washing’ (and a boy in the baby to washing).

i.e. SOV, with superfluous ‘in’;

‘and a boy / in the baby / ki washing’ compare with Mirpuri

‘mura / gudi / ki to-na pija .’ *boy / dolly / to wash-ing+male is+male*

This was probably motivated by the codeswitching of the infinitive element *to*. If the child was unable to construct this in English, he used a Mirpuri frame. Only a very small number of utterances were found which may be interpreted as being English utterances with the word order influenced by Mirpuri. These are listed below:

Band	Actual Utterance	Mirpuri equivalent	Word order
3 (HP44)	‘ bread eating ’	roti kha-na <i>bread eat-ing + male</i>	object + verb
4 Examples from the same child (HP18)	‘ chair chair sit down ’	kursi apr beh-t <i>chair on sit-ing + female</i>	location + verb
	‘ dolly washing ’	gudi to-na <i>doll wash-ing + male</i>	object + verb
5 Examples from the same child (HP20)	‘ girl in the chair sit ’	kuri kursi upr beh-ti <i>girl chair up-on sit-ing + female</i>	subject + Preposition Phrase + Verb
	‘ dad hand washing ’	aba at to-na <i>dad hand wash-ing + male</i>	subject + object + verb

Note that in each example the word order is a Mirpuri word order, but all items are in English. However, although these examples demonstrate that some children do appear to be experiencing interference / transference at this syntactic level, they only constitute six utterances from a total of 559 utterances (1.07%) and all examples were from just three different children. This means that, the majority of the time, the Mirpuri-English speaking children use English

word order in complete utterances. This appears to support other researcher's findings that young bilingual children very quickly differentiate their languages and the respective grammars. As Meisel (2004) surmises 'The fact that, during the first half of the third year, these children violate such grammatical constraints only rarely, suggests that they have access to separate grammatical systems at this point of development...' (2004: 97). This comment refers to children acquiring bilingualism simultaneously as first language development. Given the fact that the Mirpuri-English children are mainly sequential bilinguals, the separation of English from Mirpuri is astonishingly fast, with most children only exposed to monolingual English input on Nursery or reception class entry (that is, within the time frame of the age bands examined in this chapter).

Is there evidence that the home language disappears as children grow older and are exposed to more English in school? Compound mixed verb structures are common in Mirpuri and the analogues are examined below.

8.3.3 COMPOUND VERB CONSTRUCTIONS IN ENGLISH

As the use of compound verbs is common in Mirpuri a search was conducted on the data to identify the use of 'do' and 'doing' in similar constructions in English. Examples of Mirpuri word order of 'noun + doing' and English word order 'doing + noun' were identified. 'doing that' cannot be usefully analysed as this is a common construction in English monolingual children when the child does not know or cannot remember the lexical verb. Some items were ambiguous and therefore difficult to analyse. A summary of the results may be found below.

Age	noun + doing	doing + noun	'doing this', 'doing that' or similar	Not analysed	Total
3;6-3;11	2	7	10	"this doing", "brushing doing brush", "finger doing this", "doing daddy taking this". 4	23/122 utterances (18.85%)
4;0-4;5	1	10	12	"he's doing nothing" "he's doing a homework" "what is he doing?" "boy doing got" 5	28/266 utterances (10.53%)
4;6-4;11	0	2	3	"towel he doing like this" 1	6/171 utterances (3.45%)

8.3.4 COMPOUND VERB: 'NOUN + DOING' (MIRPURI WORD ORDER)

8.3.4.1 BAND 3 - 3;6 TO 3;11 EXAMPLES

talking / (tele)phoning

Utterance **telephone doing** and sit and telephone.

Comment Practice item 2. (the) girl is talking.

pushing / hovering / vacuuming

Utterance girl **machine doing** .

Comment Target item 12. (the) lady is pushing (a) trolley.

clapping

Utterance mum come **this doing** .

Comment Target item 5. (the) lady is clapping.

8.3.4.2 BAND 4 – 4;0 TO 4;5 EXAMPLES

talking / (tele)phoning

Utterance he **telephone doing** the baby .

Comment Practice item 2. (the) girl is talking.

8.3.4.3 *BAND 5 – 4;6 TO 4;11 EXAMPLES*

No examples in this group.

8.3.5 COMPOUND VERB: 'DOING + NOUN' (ENGLISH WORD ORDER)

8.3.5.1 *BAND 3 - 3;6 TO 3;11 EXAMPLES*

writing / drawing

Utterance the boy is **doing a pencil** .

Comment Target item 7. (the) boy is drawing (a) picture.

talking / (tele)phoning

Utterance he's **doing this phone** .

Comment Practice item 2. (the) girl is talking.

pushing / hovering / vacuuming

Utterance **doing machine** .

Comment Target item 12. (the) lady is pushing (a) trolley.

brushing

Utterance eh **doing brush** .

Comment Target item 14. (the) lady is brushing (the) floor.

catching

Utterance boy **doing catch** catch .

Comment Target item 20. (the) man is throwing (the) ball.

8.3.5.2 *BAND 4 – 4;0 TO 4;5 EXAMPLES*

talking / (tele)phoning

Utterance the man doing the phone .

Comment Practice item 2. (the) girl is talking.

pushing / hovering / vacuuming

Utterance she doing the doing machine .

Comment Target item 12. (the) lady is pushing (a) trolley.

brushing

Utterance doing the brush .
Comment Target item 14. (the) lady is brushing (the) floor.

clapping

Utterance the girl is doing the pan .
Comment Target item 5. (the) lady is clapping.

doing homework / working / writing etc

Utterance he's doing a homework.
Comment Target item 7. (the) boy is drawing (a) picture.

drinking / feeding

Utterance dolly doing milk .
Comment Practice item 3. (the) girl is feeding the dolly.

kicking / playing

Utterance he's doing football .
Comment Practice item 4. (the) lady is kicking (the) ball.

sleeping

Utterance he's doing eyes and sitting on the chair .
Comment Target item 8. (the) man is sleeping.

colouring

Utterance he doing colour .
Comment Target item 7. (the) boy is drawing (a) picture.

carrying / taking

Utterance he doing ladder .
Comment Target item 17. (the) man is carrying (a) ladder.

talking / (tele)phoning

Utterance doing telephone .
Comment Practice item 2. (the) girl is talking.

8.3.5.3 BAND 5 – 4;6 TO 4;11 EXAMPLES

cutting

Utterance it's doing a cake .

Comment Target item 15. (the) lady is cutting (the) cake.

kicking / playing

Utterance he's doing a ball .

Comment Target item 20. (the) man is throwing (the) ball.

- There were no examples in any of the three groups of a noun with 'hit' / 'hitting', the equivalent of 'mar-na' / 'mar-ni', another compound verb, in Mirpuri.

8.3.6 COMPOUND VERB CONSTRUCTIONS IN ENGLISH - DISCUSSION

The use of compound verbs is common in Mirpuri (see Chapter Six). Children acquiring English as an additional language with few lexical verbs may recruit this construction as a transference or interference form Mirpuri. The use of the Mirpuri word order form of compound verbs violates English word order, i.e. word by word translation of 'kuri ishara kar-ni' would be 'girl **point doing**' (with the loss of the female gender agreement). This type of *object + verb* construction is found in Bands 3, 4 and 5, on 3, 1 and 0 times respectively. This represents a very low rate of use: 2.46%, 0.38% and 0% of utterances respectively. This rapid elimination of the compound verb construction is accompanied by an increase in the range of verbs used (see below).

The use of the English word order, i.e. *verb + object* is more open to debate. This may be transference from the Mirpuri compound verb construction with English word order imposed upon it. Alternatively, it may simply reflect the normal use of a 'general all purpose' verb (GAP verb) when a child does not have the lexical verb in his/her vocabulary. Monolingual children tend to acquire common nouns initially, followed by larger numbers of verbs (Barrett 1995: 368) and the use of 'doing (a) noun' may simply reflect that bilingual children know (from their first language) that a verb should be used but have only acquired the requisite noun and not the verb. In any case, the use of 'doing + (determiner) noun' is more common than the Mirpuri word order compound verb, with 8, 12

and 3 examples in groups 3, 4 and 5 respectively (8/122 or 6.56%, 12/266 or 4.51% and 3/171 or 1.75% of the utterances respectively).

8.3.7 THE USE OF ENGLISH LEXICAL VERBS

The following lexical verbs were used by the children in the three age groups:

8.3.7.1 BAND 3 – 3;6 TO 3;11

The following verbs were used by the children in Band 3:

brushing, climbing, colouring, coming, cooking, cutting, eating, giving, going, got, hold, hopping, hurting, kicking, laughing, laying, looking, phoning, playing, reading, riding, said, sitting, sleep, smell, standing, taking, throwing, walking, washing. (30)

8.3.7.2 BAND 4 – 4;0 TO 4;5

The following verbs were used by the children in Band 4:

bring, brushing, clapping, climbing, colouring, cooking, cutting, drawing, drinking, drying, eating, getting, giving, going, got, holding, hovering, hopping, jumping, kicking, laughing, looking, mixing, painting, phoning, playing, pulling, pushing, putting, reading, running, sitting, sleeping, smelling, standing, talking, throwing, trying, walking, washing. (40)

8.3.7.3 BAND 5 – 4;6 TO 4;11

The following verbs were used by the children in Band 5:

balancing, bathing, brushing, carry, chucking, clapping, cleaning, climbed/climbing, colouring, cutting, drawing, drinking, drying, eating, feeding, getting, giving, going, got, holding, kicking, know, laughing, looking, making, painting, phoning, playing, pointing, pushing, put, reading, remember, running, said/say, sit/sitting, sleep/sleeping, smelling, smiling, standing, taking, telephoning, throwing, walking, washing, watching, writing. (47)

8.3.8 THE USE OF LEXICAL VERBS - DISCUSSION

The number of lexical verbs used increases with age. The growth in lexical verbs is accompanied by the decline in the two types of 'doing' construction and the use of compound verb type utterances (see above). The number of verbs does not represent a full inventory, as the data is elicited and the stimuli will naturally restrict the verbs required.

8.3.9 PRESENT PROGRESSIVE AFFIX USAGE

The use of the present progressive marker '-ing' is described in stage II of Brown's framework of monolingual English language acquisition (1973). The present progressive is composed of:

auxiliary verb *to be* + the lexical verb + -ing

The following analysis focuses on the present tense morpheme '-ing' as this is frequent in the data, where as the auxiliaries are not. In monolingual English language acquisition, "present progressive *-ing* (with no auxiliary verb)" is the first of the fourteen grammatical morpheme to be developed (Brown 1973 in Hegde and Maul 2006: 216).

The children in Band 3 used the affix '-ing' on 29 lexical items, with 'doing' the most frequent (23.96%, frequency 23); and 14 other verbs with frequencies of between 7 and 2. Bare stem verbs were used for 12 utterances. These included utterances such as:

- codeswitched utterances,
e.g. '**drink** dud' (drink milk)
- Ambiguous or ill-formed utterance,
e.g. 'flower boy flower **hold** it', '**sit** the chair'
- Utterances that were acceptable apart from the omission of the present progressive affix,
e.g. 'he's **sleep**'; 'daddy **stand** up'; 'daddy **throw** ball'; '**play** with dolly'.

Band 3 used the present progressive affix on 96 occasions and omitted it in obligatory contexts 12 times. The affix was used appropriately 88.89% in

obligatory contexts. This is very close to the 90% mastery level suggested by Brown.

Band 4 used the present progressive suffix on 187 occasions for a total of 50 different verbs. Again, 'doing' was the most frequent form, accounting for 16.04% of the total. A further 28 verbs had frequencies ranging from 30 – 2. Bare stem verbs were used for 10 utterances. These included utterances such as:

- codeswitched utterances,
e.g. 'hold the toliya'
- Ambiguous or ill-formed utterance,
e.g. 'chair sit down'; 'this daddy he's go something an teeth look his shoes'
- Utterances where 'doing' formed a compound verb (see above)
e.g. 'he doing colour'
- Utterances that were acceptable apart from the omission of the present progressive affix,
e.g. 'mummy brush'

The present progressive suffix was used appropriately 94.92% in obligatory contexts. This is above the 90% mastery level.

Band 5 used the present progressive suffix on 164 occasions for a total of 48 different verbs. However, in contrast to Bands 3 and 4, the children in Band 5 used 'doing' much less frequently (6 occasions or 3.66% of '-ing' use, rank =5th). The verbs 'sitting' (9), 'standing' (14), 'brushing' (7), 'drinking' (7), all ranked higher in use. Only 1 occurrence of a bare stem verb where the present progressive was indicated was found in the data. The present progressive suffix was used appropriately 99.39% in obligatory contexts. This is above the 90% mastery level.

This group analysis confirms individual analyses carried out on individual children within the groups by Watts (2002: 22).

8.3.10 USE OF DETERMINERS

The use of determiners and articles in bilingual children is interesting as their use, like present progressive ‘-ing’ is one of the first fourteen grammatical morphemes to develop in monolingual English (Brown 1973 in Hegde and Maul 2006). The use of articles ‘a’ and ‘the’ develop later than the present progressive ‘-ing’ in monolingual English speakers. In addition, Mirpuri contrasts with English with regard to articles. English uses determiners to restrict the meaning by limiting the reference of the noun. Articles in English include indefinite articles ‘a’ and ‘an’ and definite article ‘the’. There are no articles in Mirpuri that are analogues of the articles ‘a’ and ‘the’, although numerical words and demonstratives may be used. If EAL acquisition were to be influenced by the structure of Mirpuri, one might expect to see little or no use of determiners. If, alternatively, determiners increase with exposure to English, the acquisition process would resemble monolingual acquisition patterns.

Band	n	‘the’ frequency (average)	Number of children using ‘the’	‘a’ frequency (average)	Number of children using ‘a’	‘an’ frequency
3	5	36 (7.2 per speaker)	4	12 (3 per speaker)	4	0
4	11	105 (9.55 per speaker)	10	23 (2.09 per speaker)	8	0
5	7	101 (14.43 per speaker)	7	23 (3.29 per speaker)	4	0
TOTAL	23	242	21	58	16	0

8.3.10.1 THE USE OF DETERMINERS IN BAND 3: ‘THE’

Frequency of use is listed in brackets.

- Standard use in a noun phrase (29)
e.g. ‘boy and **the** pencil’; ‘two babies and **the** milk’; ‘**the** girl is sitting in **the** chair’,

- Non standard (3)
e.g. *‘daddy on **the standing**’; *‘**the milking**’,
These non-standard usages suggest that the child is treating the verb as a noun. This is not in-line with typical monolingual English development and appears to be specific to EAL acquisition.
- False starts, single word utterances, ambiguous phrases, etc account for other examples of ‘the’

8.3.10.2 THE USE OF DETERMINERS IN BAND 4: ‘A’

- Standard use in a noun phrase (7)
e.g. ‘the boy is doing **a pencil**’; ‘**a machine** for the dishes, for dishes’
- Non standard, with 10 a verb (5)
e.g. *‘**a giving** him milk’; ‘**a sitting**’; ‘**a hurting**’; ‘**a playing**’;

8.3.10.3 THE USE OF DETERMINERS IN BAND 5: ‘THE’

- Standard use in a noun phrase (83)
e.g. ‘this boy sitting in **the chair**’; ‘**the girl** is kicking **the football**’,
- In a noun phrase where the head noun is codeswitched to a Mirpuri noun (4),
e.g. ‘hold **the toliya**’ (hold the towel); ‘boy and **the phul**’ (boy and the flower); ‘mummy on **the chavel**’ (mummy on the rice); ‘he’s standing up **the siri**’ (he’s standing up the ladder),
- Non-standard, with a verb (4)
e.g. ‘mummy and **the eating**’; ‘daddy on **the painting**’ (for the stimulus item – *the an is climbing the ladder*); ‘**the walking** he’s the boy’; ‘mummy making **the cooking**’;
- Repetition (1)
e.g. ‘**the one foot** here and one foot there’ (for the stimulus item – *the girl is hopping*),
- Ambiguous, incomplete or single word utterances etc (15).
e.g. ‘and **the colour**’ (for the stimulus item - *the boy is colouring / drawing*); ‘mummy reading **the page the about** and she’s doing

something holding' (for the stimulus item – *the lady is reading the newspaper*).

8.3.10.4 THE USE OF DETERMINERS IN BAND 4: 'A'

- Standard use in a noun phrase (18)
e.g. 'a boy sitting in chair and sleeping'; 'a photograph'
- Non standard, with a verb (0)
- Over extension (2)
 - To an uncountable noun - 'eating baby's drinking a milk' (for the stimulus item - *the baby girl is drinking milk*); 'he's doing a homework'
- Ambiguous, incomplete etc (3).

8.3.10.5 THE USE OF DETERMINERS IN BAND 5: 'THE'

- Standard use in a noun phrase (85)
e.g. 'he's feeding the baby'; 'the man's laughing'
- Non standard, with a verb (5)
e.g. *'dad in *the sitting*' (for the stimulus item – *the man is sitting and sleeping*); 'mum in the brushing' (for the stimulus item - *the lady is brushing (the) floor*);
- Non standard, with a preposition (4)
e.g. 'dad in the up' (for the stimulus item – *the man is standing up*); 'boy in the ups' (for the stimulus item – *the boy is walking*); 'girl in the up' (for the stimulus item – *the girl is pointing*); 'and the mum in the up' (for the stimulus item – *the lady is clapping*);
- Ambiguous, incomplete or single word utterances (7)
'he's throwing the...' (for the stimulus item – *the man is throwing the ball*);

8.3.10.6 THE USE OF DETERMINERS IN BAND 5: 'A'

- Standard use in a noun phrase (17)
e.g. 'he pushing a wheelbarrow'; 'a mum sit looking page',
- Ambiguous, incomplete or single word utterance (6)

8.3.11 USE OF DETERMINERS - DISCUSSION

It is interesting to note that the number of children using 'the' is consistently high (four of the five children in band 3; ten of the eleven children in band 4 and all seven of the children in band 5). The frequency of use of 'the' increases with age from an average of 7.2 per speaker in age band 3 to 9.55 in age band 4 up to 14.43 per speaker in age band 5. In contrast, 'a' is used by the same number of children in age band 3 (four of the five children) and fewer children in bands 4 and 5. The frequency of use of 'a' is much lower than the frequency of use of 'the' (ranging from 2.09 to 3.29 per speaker). See Table 8.10.

When the determiners are used in a non-standard manner, the use with a verb or codeswitched item is noted for 'the'. Although 'the + codeswitched noun' is only found in the data of Band 4, 'the + verb' is found in all three groups.

'a + codeswitched noun' is not found in the data. 'a + verb' is only found in Band 3 and not in Bands 4 and 5.

Abu-Akel *et al.* (2004) studied the acquisition of determiners 'a' and 'the' in monolingual English speaking children using data from the Wells corpus of the Child Language Data Exchange System (CHILDES). The children were aged 18 to 42 months and were observed at three-monthly intervals. Abu-Akel found that between 18 and 24 months indefinite determiner phrases predominated, i.e. 'a + noun'. Only at 27 months did definite ('the + noun') and indefinite types have a more equal distribution (2004: 417). It was also noted that children as early as 18 months almost never made errors in the use of determiner phrases, although there was large individual variation in the omission of determiners prior to 36 months (2004: 419).

The Mirpuri-English children in this study differed from the monolingual English acquisition pattern in that they used far more of the definite determiner structure 'the' than the indefinite 'a' (see Table 8.10 above). In no group did the distribution reach equal levels. Again, it must be remembered that the stimulus materials may have affected the results, although both constructions would have been equally acceptable for most items, e.g. 'a lady is cutting a cake' / 'the lady is cutting the cake'.

The overall use of determiners increased with age. It is possible to use 36 'the' or 'a' or combinations of both when describing the pictures in 'je zindegi'. However, the groups averaged much lower averages than this. Including all productions of 'a' and 'the', the bands 3, 4 and 5 averaged 8, 11.27, 15.57 determiners respectively. This accounts for only 22.22%, 31.31% and 43.25% of the maximum. This shows development with increasing age but even those children who have been exposed to English for the longest period, Band 5, do not reach mastery levels.

8.3.12 USE OF PRONOUNS

Recall that third person pronoun in Mirpuri does not have a male and female form. The grammatical concept of gender signalled by pronouns in English is therefore new to Mirpuri speakers. Table 8.11 below gives the frequency of use of pronouns and the number of children employing pronouns in their English expressive language samples.

	n	'he' frequency	Number of children using 'he'	'she' frequency	Number of children using 'she'
3	5	5	4	0	0
4	11	13	5	4	2
5	7	8	2	4	1
TOTALS	23	26	11	8	3

8.3.12.1 BAND 3 – ‘HE’ AND ‘SHE’ USAGE

‘he’ was only used for a female target on one of the five instances found in the data, ‘he do the that point’ (for stimulus item - *the girl is pointing*). All the other instances are appropriate, e.g. ‘he taking flower’.

There were no examples of ‘she’ in the data.

8.3.12.2 BAND 4 – ‘HE’ AND ‘SHE’ SUBJECT USAGE

‘he’ was used on four occasions (of thirteen) to refer to a female subject. One ‘he’ was a single word utterance (naming). The eight other instances of ‘he’ were used appropriately.

Only two children used ‘she’. All four examples of ‘she’ were used appropriately, e.g. ‘she cutting the cake now’.

8.3.12.3 BAND 5 – ‘HE’ AND ‘SHE’ USAGE

‘he’ was used on three occasions (of eight) to refer to a female subject. All other instances were appropriate.

Only one child used ‘she’. All examples were appropriate, e.g. ‘she making a cake there she cutting’.

8.3.12.4 ‘HIM’ AND ‘HER’

- ‘him’ used by one child in Band 3. ‘he’s got a baby a giving him milk (stimulus item – *the girl is feeding the dolly*’).
- No examples of ‘him’ were found in the data of Band 4.
- ‘him’ was used twice in the same utterance by the same child in Band 5, ‘him is him is walking’ (stimulus item - *the boy is walking*), i.e. once inappropriately as the subject and one repetition.
- No examples of ‘her’ were found in the data of Band 3

- Two examples of 'her' were found in the data of Band 4; 'baby that her girl' (stimulus item - *the girl is feeding the dolly*); 'he playing her' (stimulus item - *the boy is washing the dolly*).
- No examples of 'her' were found in the data of Band 5.

8.3.12.5 'IT' AND 'THIS'

- 'it' and 'this' were not used by any child as single word subject personal pronouns.

8.3.12.6 'THEY', 'THEM' AND 'THOSE' PLURAL PRONOUNS

- 'them' was only found in Band 4. There was only one example and this was used inappropriately (number)
i.e. '**them** a ball' (stimulus item – *the lady is kicking (the) ball*).
- 'they' was only found in the data of Band 4. There was only one example and it was used inappropriately (number),
i.e. '**they** getting the toys out' (stimulus item - *the boy is washing the dolly*).
- 'those' was not found in the data .

8.3.13 USE OF PRONOUNS – DISCUSSION

In Mirpuri, although pronouns do exist, the third person form is devoid of gender and not used in the same manner as English pronouns. Rather, the third person pronoun used is the same for both male and female agents, with the gender clarified by the verb tense and auxiliary verb morphemes. For example, compare:

'oh pi-ni pi'

[third person pronoun] drink-ing + female is + female

she is drinking

'oh pi-na pija'

[third person pronoun] drink-ing + male is + male

he is drinking

It may be expected that the use of gender specific personal pronouns as the subject of a sentence would be a candidate for interference / transference. However, it must be remembered that pronoun development in monolingual English children is recognised as particularly difficult. Moore (2001: 208) surmises that 'Pronouns are especially challenging to young children because pronouns continuously change according to different contexts'. Moreover, Moore found that young children with typical development made more errors on the production of 'she' than with 'he'. In addition, she found that errors of gender, i.e. using 'he' for the target 'she' were not as common as case errors, i.e. 'him' for 'he' and 'her' for 'she' type errors.

The Mirpuri-English children in this study did indeed have errors on 'she' and were more successful in using 'he'. 'him' and 'her' were only used minimally, and therefore contrasted with monolingual children in that they did not have more case errors than gender errors. The older children had still not mastered 'she', but they were still in the early stages of acquiring English. Other pronouns were equally sparse if present at all.

The data is not spontaneous data, but elicited using photographic stimuli. The stimuli were not designed to elicit pronouns. The stimuli have severely restricted the use of other pronouns, as all the stimulus items present singular persons carrying out incomplete or ongoing actions.

It appears that for pronouns, the Mirpuri-English children's data does *not* resemble that of typically developing (younger) monolingual children in terms of the errors types made on pronouns. The bilingual children made more gender than case errors and so resembled older typically developing monolingual children (Moore 2001: 219).

8.4 SUMMARY

The English expressive language skills of three groups of Mirpuri speaking Pakistani heritage children were examined. The use of Mirpuri lexical items by the children in all three groups was rare, with only 2, 6 and 1 lexical items

respectively (youngest to oldest group). The frequencies of Mirpuri words as a percentage of the total number of words were 0.91%, 1.49% and 0.14% respectively.

The translation equivalents of the compound verb common in Mirpuri could occur with the Mirpuri word order, i.e. ELEMENT + doing (operator) or the English word order, i.e. doing + ELEMENT. The Mirpuri word order form was extremely rare, with only 3, 1 and 0 examples in the data from the three age groups. The English word order form was more common, with 8, 12, and 3 examples respectively. This suggests that the structure is declining with age and exposure to English. At the same time, English lexical verb use is increasing, with 30, 40 and 47 lexical verbs used by the groups respectively.

The use of the present progressive was almost used to mastery levels by the youngest group of children. Older children could use the present progressive appropriately almost all of the time.

Determiners are increasingly used, with the definite article 'the' more common than the indefinite article 'a'. Determiners do not reach mastery levels for any group.

Pronouns were rarely used, although 'he' was most frequently found in the data. The bilingual children resembled monolingual children, in that 'he' was used more often than 'she' and 'she' was subject to more errors.

8.5 DISCUSSION

The data presented in this chapter suggests that Mirpuri-English children in Rochdale UK are exposed to both English and Mirpuri and have skills in both languages by the age of 3;6 to 3;11. Skills in both languages continue to grow both in terms of vocabulary and MLUw. In the youngest group of children, codeswitching from Mirpuri to English is present, but only in very small amounts and this quickly diminishes in the older children. There is evidence of interference or transference from Mirpuri to English, in the form of compound

verbs. Again, this is at a very low frequency and these patterns have disappeared in the older children.

The acquisition of articles contrasts with that of monolingual language acquisition, with the definite article 'the' more frequent than the indefinite article 'a' in EAL acquisition. In addition, pronoun errors were primarily gender rather than case errors, which again contrasts with monolingual English development.

If speech and language therapists and other professionals are to identify children with specific language impairment in bilingual Mirpuri-English children, they must be aware that in the early stages of intensive English exposure, children make errors just like any child acquiring a language. Some interference may be present, but with increasing experience, children quickly eliminate patterns that violate English monolingual syntax, grammar and morphology. Although there are general patterns of increasing competence in English, specific morphemes may be acquired in a different order than that found in monolingual English acquisition.

'English as an additional language' may be a contentious label for this group of children. Does the present extent of language contact between Mirpuri and English mean that these children may be, in fact, acquiring a mixed code as their first language, as reported in an analogous Sikh Punjabi community by Martin *et al.* (2003)? The data presented in this chapter suggests that once children are intensively exposed to English, they rapidly acquire appropriate skills in the language. They do not attempt to incorporate features from Mirpuri as their English skills increase, and the languages become differentiated.

**CHAPTER NINE:
CASE STUDIES OF BILINGUAL CHILDREN WITH
SPECIFIC LANGUAGE IMPAIRMENT**

9.1 INTRODUCTION

Recall from Chapter One that the development of normative data from typically developing bilingual children is essential when attempting to differentiate diverse linguistic patterns of development from disordered patterns of development. This chapter presents three case studies of Pakistani heritage children with a diagnosis of specific language impairment (SLI). This will give information towards answering the research question:

- Do bilingual Pakistani heritage children with SLI differ from their normally developing peers in terms of their use of codeswitching?

The identification of SLI in bilingual children presents an enormous challenge to speech and language therapists. The number of bilingual children continues to rise in the UK (Crutchley 1999), other European countries (Ha°kansson *et al.* 2003), and in the USA, where monolingualism has previously been seen as the norm. Speech and language therapy undergraduate courses do not always include training on bilingualism and, as a result, speech and language therapists may be ill equipped to work with this client group (Royal College of Speech and Language Therapists National Special Interest Group in Bilingualism 1999).

Despite large bodies of research on both typical bilingual language acquisition and on specific language impairment, little research exists on SLI in bilingual children. Crutchley *et al.* state that 'There is a dearth of literature tying these disparate strands together, with the result that research tends to be carried out in relative isolation' (1997: 268). The small body of research that does examine this population has found that early identification and equity are still key issues (Stow and Dodd 2003), and that bilingual children are not being identified in the same numbers and at the same stage as their monolingual English speaking peers.

Bilingualism and specific language impairment are both wide-ranging topics. Within the field of speech and language therapy there has been intense interest

in SLI. However, bilingual clients have been overlooked, and are usually excluded from studies as they are viewed as sources of confounding factors. The exclusion of bilingual clients has become so widely accepted in the area of research that sometimes there is no reason or explanation given as to why the presence of more than one language would alter the outcome of a study. This is particularly true in the standardisation of assessment tools, where diversity of subjects may appear to threaten consistency of scores. For example, in the development of the 'Children's Communication Checklist' (Bishop 1998), children with a '...bilingual home background' are excluded (881), without any mention as to why. Informed readers may infer that such children may have significantly different pragmatic skills through social norms, which contrast to Western norms. However, the opportunity to investigate if this is true or not is missed, and even the opportunity to highlight the need for further research on this population (or populations) is overlooked. Other researchers do not exclude bilingual or culturally diverse subjects, for example Harrison *et al* (2004) in their preliminary investigation of parent verbal contingencies for stuttering and severity ratings included 'Five participants (13%)...from culturally and linguistically diverse backgrounds' (260).

Exclusion of bilingual populations is a lost opportunity. Although there may be marked cultural and linguistic differences between monolingual children and bilingual children, it is bilingual children who are the majority and hence the norm in the world. Research into language acquisition and SLI is largely centred around monolingualism, as if this is the 'default' condition; and also centred on the English language. Both these factors are historical and cultural accidents rather than factors resulting from sound scientific thinking. Romaine points out that the issue of monolingual-centric thinking dominates the field of linguistics '...it is precisely a monolingual perspective which modern linguistic theory takes as its starting point in dealing with basic analytical problems such as the construction of grammars and the nature of competence' (1995: 1).

Research activity in the field of bilingual language acquisition has grown dramatically in the last two decades (Meisel 2004). Interest in bilingualism has

grown, especially as the majority of research challenges the many myths that the wider public hold about the negative nature of bilingualism. In contrast, the investigation of specific language impairment in bilingual children is under-researched (Crutchley 1999: 201). This presents a practical problem for speech and language therapists and other professionals working with bilingual children suspected of presenting with SLI. A lack of even basic information such as bilingual language acquisition data means that professionals cannot compare an individual child's communication profile with the norm. Diagnosis and then treatment is therefore often based on informal judgements. Combined with a lack of training and access to specialist practitioners, inconsistencies in the services to monolingual compared to bilingual children seem inevitable.

In a survey of parents of children attending language units in England, Crutchley (2000) contrasted the experiences of parents of monolingual and bilingual children attending those language units. Crutchley found bilingual parents no less likely to say that they were the first to notice their child's problems, but they were more likely 'to state that one or more professionals had failed, either to diagnose the child's difficulties or to take the parents' concerns seriously' (72). Crutchley also found that bilingual parents feel less involved and less informed than their monolingual peers (76).

9.2 TREATMENT OF SPECIFIC LANGUAGE IMPAIRMENT

The treatment of SLI, in common with all speech and language therapy treatments may be considered from three perspectives: the setting in which the treatment is undertaken, the manner and frequency of the treatment, and the types of treatment which are undertaken.

In the UK most children with SLI are treated in language units. Research has supported the differentiation of children with SLI from those with learning difficulties. Goorhuis-Brouwer *et al.* (2002) found that 'Speech therapy seems to be effective for children with SLI. For children with non-SLI, special education, sometimes in combination with speech therapy, is effective' (135-136).

Treatment in such units is led and directed by a speech and language therapist and delivered by the speech and language therapist and the teaching staff. Frequency of input and whether input is delivered on a one-to-one basis or in small group settings is at the discretion of the speech and language therapist and teaching team. Prior to entering the language unit children have typically undertaken at least one episode of speech and language therapy, and often several. An episode of care is defined as a period of treatment where a set of linguistic deficits identified from assessment are targeted in therapy activities. The episode of care is usually deemed complete when the child can demonstrate basic skills in the identified area. Language units are one of the few provisions which still find support in a culture of integration. There is surprisingly little research on the effectiveness of intervention for SLI and calls have been made for more research into this area (Hall 1992).

9.3 THE TREATMENT OF SLI IN BILINGUAL CHILDREN IN ROCHDALE

There are two provisions for children with SLI in the Rochdale area, a specialist unit attached to a mainstream school or support within a mainstream classroom. Children with SLI are proposed for a formal assessment of special educational needs, usually by the speech and language therapist. Once the statement of special educational needs is issued, children with SLI may be seen in their mainstream school setting using an indirect treatment approach. Alternatively, children may attend the speech and language unit. This is a specialist unit within a mainstream school (Botting and Conti-Ramsden 2004) providing 12 places to children aged four to seven years. The unit has a high staff-pupil ratio with a specialist teacher, support assistants (one monolingual, one bilingual) and two speech and language therapists. This type of provision is common for children with SLI aged five to eleven years in England and Wales (Dockrell *et al.* 2006).

This chapter reports on three bilingual children with SLI attending the unit. These children receive direct therapy in the form of mother tongue programmes designed by the speech and language therapist and delivered by the speech and language therapist and the bilingual teaching assistant together. The

treatment is then continued by the bilingual teaching assistant (also known as the bilingual learning support assistant or bilingual LSA) on a daily basis and monitored by the speech and language therapist. Indirect therapy in the form of language support is provided by the same assistant. The assistant translates the teacher's instructions during lessons and activities. The assistant is employed five mornings a week.

9.4 BILINGUAL CHILDREN WITH SLI - CASE STUDIES

The following are three case studies focusing on the assessment and treatment of three bilingual children diagnosed with SLI. This diagnosis was based on the opinion of a multi-disciplinary team, including the researcher and a speech and language therapist with a special interest in bilingualism. The periods between assessment reflect the reality of clinical practice and were not pre-planned as they would have been in a controlled research environment. The children have different patterns of SLI. The first two cases presented primarily with severe speech disorder, one child with co-occurring expressive language disorder and one child with minor expressive language difficulties. The final case presented with severely delayed and disordered language development affecting both comprehension and expression. Leonard (1998b: 25) recognises that "...children with SLI do not constitute a homogenous group...".

9.4.1 CASE STUDY 1: SM

9.4.1.1 BACKGROUND INFORMATION

SM was referred to the speech and language therapy service by his mother, following concerns that SM had "unclear speech" (age on referral 4;5). SM has two older brothers, and one of these brothers was already known to the service, referred for a moderate to minor phonological delay. SM was seen for an initial screening appointment where a case history was taken from his mother and speech and language assessments were administered.

SM's family have a Pakistani heritage background. SM's mother speaks both Mirpuri and English and his father only speaks Mirpuri. Mirpuri is the only

language used in the family home by the parents. A BSLTA who spoke Mirpuri was present at all appointments.

SM's mother reported that SM was a full-term baby and that there had been no complications during the pregnancy. It was reported that SM's general development had been unremarkable with the exception of his communication skills. SM had been fed milk from a bottle until the age of 3, although this is not unusual in the Pakistani heritage community in Rochdale.

SM's parents had no concerns about his verbal comprehension or expressive language skills. They were, however, concerned about his speech sound production. SM's mother reported that, although she could understand her son, others did not. It was reported that SM had used his first words at around the age of 2;0 in Mirpuri.

At age 6;4 SM was assessed for possible special educational needs as part of the referral procedure to the language unit. At this time SM was seen by a range of professionals to assess his general health and learning abilities. SM was assessed by the Educational Psychologist who carried out a range of assessments. She concluded that SM's '...non verbal cognitive abilities lie within the average range...'. At the same time, a medical examination found that SM was in good health with normal hearing. Speech and language therapy assessment (see details below) showed that SM had delayed verbal comprehension, disordered expressive language development and a severe speech disorder. In the absence of any medical, developmental or cognitive deficits it could be concluded that SM presented with a specific speech and language impairment.

9.4.1.2 *SM TREATMENT SUMMARY*

SM was assessed and treated by the specialist bilingual speech and language therapy team at his local community clinic. He was seen for an initial screening appointment four weeks after the referral aged 4;5. SM's name was not placed on a waiting list for further assessment and regular therapy according to the

usual departmental procedure, as the specialist speech and language therapist was concerned that delay may have prevented SM accessing further services. Therapy was arranged and the chief speech and language therapist contacted to commence the process of gathering evidence to request a referral to the language unit.

All treatment was delivered in Mirpuri by the BSLTA. SM was seen for 24 sessions (including screen) lasting approximately 60 minutes each over a period of 28 months prior to commencing his placement at the language unit. Home practice and school advice was also given in addition to this direct therapy. Since attending the language unit, SM has received indirect therapy in Mirpuri for 45 minutes on a daily basis. This has been in the form of programmes written by the specialist speech and language therapist delivered in Mirpuri by the bilingual LSA. Approximately 32 hours of direct English support have also been delivered by a non-specialist speech and language therapist.

Therapy was focused on SM's articulation and phonology, as inconsistent production was his most severe symptom. Therapy also targeted his expressive language skills.

9.4.1.3 *RECEPTIVE LANGUAGE SKILLS*

SM developed along typical lines, although much slower at the initial stages, moving from basic understanding of Mirpuri, to more complex in-depth understanding and eventually to a level where he was able to understand all everyday instructions and conversations directed toward him. In the same way as many of his typically developing peers, SM also rapidly developed his understanding of English, which quickly became comparable to his level of understanding of Mirpuri (age 5;11). Teaching staff and parents interacted with SM in the same way as his bilingual age peers and informal observation showed that he was able to follow classroom instructions in English from his teacher and in Mirpuri from the bilingual LSA.

Age	Comprehension Level - Mirpuri	Comment – Comparison to comprehension data for typically developing children
4;5	Two information carrying word	SM appears to have delayed skills at this time. (53% of typically developing (TD) children could demonstrate understanding at 4+ ICW level)
5;11	Three information carrying words and some 4+ instructions	Similar performance to typically developing children. (58% of TD children could demonstrate understanding of 3ICWs in the 5;06-5;1 age band and 83% some 4+ instructions)
6;0	Four word level and above	Similar performance to typically developing children – unable to evaluate*. (100% of TD children could demonstrate understanding of 1 to 4+ANY ICWs, with 50% able to pass all items on the DLS-RST. *However, note that all children – including SM are at ceiling for the DLS-RST; TD figures are small and other standardised tools were not available)

See Figure 5.1 for data on typically developing children

9.4.1.4 EXPRESSIVE LANGUAGE SKILLS

9.4.1.4.1 Expressive Language Assessment – 1

SM's expressive language was first assessed in Mirpuri aged 4;7. At that time he was dominant in Mirpuri and had insufficient expressive English skills to warrant assessment in English. SM was assessed using the Mirpuri version of the early expressive language assessment 'je zindegi' (Pert and Stow 2002). The development of this assessment is described in previous chapters.

SM produced 19 utterances from a possible 21; SM failed to produce a spontaneous response for 2 stimulus items. 7 responses were single word responses (four Mirpuri, three English) Nine out of nineteen of SM's utterances

were multi-word Mirpuri utterances and three codeswitched utterances with a Mirpuri syntax and grammar.

Multiword Mirpuri utterances	Intrasentential codeswitched utterances	Single Word: Mirpuri	Single Word: English	No Response
9	3	4	3	2

He produced a total of 43 words. The mean length of utterance (number of words divided by utterances, hereafter MLUw) was 2.263 and MLUm 2.737. The MLUw normative data for typically developing bilingual Mirpuri children is 2.84 with a standard deviation of 1.11 for the age group 4;6-4;11 (see Table 5.4). SM's expressive language was therefore slightly below the mean. SM therefore had low average expressive language (in terms of length) at this time. MLUw is only a crude measure of expressive language development and does not reveal the types of construction SM was utilising.

SM's utterances, in common with his Mirpuri-English peers, included lexical items of English origin. These were exclusively nouns including 'baby, ball, bath, brush, cake, daddy and machine'. These items made up seven of the 33 total types (21.21%) and seven of the 43 total tokens (16.28%). Of the English origin items, three of the seven occurred as single word utterances. The other four words occurred in the context of a Mirpuri utterance, i.e. intrasentential codeswitched utterances. They were as follows:

(1a)

SM's utterance	machine mar-ni hea .
Word-by-word translation	machine do-ing+female+contact is.
Translation	(she) doing (a) machine .
Stimulus Item	Target item 12. (the) lady is pushing (a) trolley.

(1b)

SM's utterance	ami brush kar-ni hea .
Word-by-word translation	mum brush do-ing+female is.
Translation	mum (she) is doing brushing .
Stimulus Item	Target item 14. (the) lady is brushing (the) floor.

(1c)

SM's utterance	bath deh-nay baby ki .
Word-by-word translation	bath give-ing+respect baby to.
Translation	giving baby (a) bath .
Stimulus Item	Target item 16. (the) boy is washing (the) dolly.

'Machine', 'mum' and 'bath' were both used in this way by children in the normative data sample. In this respect, these utterances are typical Mirpuri-English utterances. It is notable that there is no codeswitching in the verb phrases used by SM except the common compound verb construction of noun + doing for 'brush' and 'machine'. SM also either omitted auxiliary verbs (which require gender agreement with the subject or agent of the utterance), or used the Urdu 'hea' (see above). This auxiliary does not require gender agreement but typically occurs in Urdu with an auxiliary that does carry the gender 'raha' or 'rahi'. It is interesting to note that SM interacted with an Urdu speaker his own age who played with SM at home. SM began to prefer the use of the Urdu auxiliary to the Mirpuri auxiliary. It may be that SM made this decision as it

made sentence production easier for him, as the Urdu auxiliary does not change its form depending on the gender of the agent.

Typically developing children produced a mean of 7.43 English nouns, and 2.29 English verbs in codeswitched multiword utterances (see Chapter Six). SM's codeswitching was restricted to nouns. SM only produced four English nouns and no English verbs. This shows that SM was not incorporating English content morphemes into Mirpuri frames in the same way as his peers. SM's expressive language was similar to his bilingual peers in length (MLUw). However there were omissions of auxiliary verbs.

9.4.1.4.2 *Expressive Language Assessment – 2*

SM's expressive language was next assessed 16 months later. Age on assessment 5;11. At this time SM was increasingly aware that his speech was unintelligible. This caused SM considerable distress and this may have been a factor in his performance on this assessment. As this assessment did not reveal SM's typical language performance no comparisons with the normative data have been made here.

On the 'je zindegi' expressive language assessment SM produced three utterances from a possible 21. The assessment was discontinued after stimulus item T10 as SM indicated that he would not complete the assessment. Of the ten attempted, there was no response to seven items.

The three utterances produced consisted of two, two word utterances and one single word utterance, giving a total of only five types and six tokens. All words were Mirpuri words.

9.4.1.4.3 *Expressive Language Assessment – 3*

A week later, SM's English expressive language skills were assessed using the Action Picture Test (Renfrew 1997). Age on assessment 5;11. Although the test has age norms for monolingual English speaking children, bilingual norms are not available.

SM produced nine utterances from a possible ten with one no-response. Two responses were in Mirpuri, but both of these took the form of single word utterances (a single noun – ‘mouse’ and a single verb – ‘tied’). The remaining seven utterances were entirely in English. SM produced a total of 24 types, 27 tokens. MLUw was 3.00 and MLUm 3.33.

SM’s English utterances ranged from a single word noun (‘man’) to four word utterances. SM omitted verb inflections, auxiliaries and articles. Some utterances were formed entirely of content (nouns), following English word order but not related around a lexical verb,

(2a)

E.g. big girl baby letter

Target: the big girl is picking up the baby/boy to post the letter

Other utterances did have a lexical verb,

(2b)

E.g. girl falling down...her glasses broke

Target: the girl has fell down the stairs and broken her glasses.

At this time SM appears to be attempting to separate his Mirpuri and his English. At assessment one sixteen months earlier he was unable to formulate an utterance with an English word order, but did incorporate English items into his Mirpuri utterances. At this time, it appears that SM has attempted to produce utterances which are either Mirpuri or English. This has resulted in separate but less well formed utterances in both languages. This contrasts with his normally developing peers, who continue to codeswitch in Mirpuri as their English skills develop. However, this behaviour conforms to the pragmatic norm, that English, the language of education may not be produced in a codeswitched form.

9.4.1.4.4 *Expressive Language Assessment – 4*

SM's Mirpuri skills were assessed 19 months later using 'je zindegi'. SM was aged 7;6. He produced 21 utterances from 21 attempted. Thirteen of these utterances were entirely in Mirpuri whilst eight contained English items in the context of a Mirpuri utterance.

Multiword Mirpuri utterances	Intrasentential codeswitched utterances	Single Word: Mirpuri	Single Word: English	No Response
13	8	0	0	0

SM produced two utterances with unintelligible items (which are therefore not counted in the calculated of the MLUm but are counted in MLUw). SM used 40 word types and 79 tokens. Of these, eight types were English nouns ('ball, brush, cake, chair, sweet') or verbs ('point, push, writing'). MLUm was 4.789 and MLUw 3.857. The oldest age group for which normative data are available is the 7;0 – 7;5 group. This group achieved an MLUw of 5.16, however, the data needs to be approached with caution as it represents the performance of only two typically developing Mirpuri-English bilingual children. The score does suggest that SM's expressive language was mildly delayed. It appears that SM's expressive language skills in Mirpuri had developed to at least the basic level, and that codeswitched utterances formed a large part of his output. The scores also suggest that SM had reached the ceiling on this particular assessment.

In contrast to his initial assessment, SM has incorporated more English bare verbs into the compound verb structure. Examples include (from practice items):

(3a)

SM's utterance	kuri skip kar-ni pi si .
Word-by-word translation	girl skip do-ing+female is+female future+female.
Translation	(the) girl is going to do skipping .
Stimulus Item	Practice item 1. (the) girl is hopping.

(3b)

SM's utterance	janani ball kick kar-ni pi .
Word-by-word translation	lady ball kick do-ing+female is+female.
Translation	(the) lady is kicking (the) ball .
Stimulus Item	Practice item 4. (the) lady is kicking (the) ball.

These compound verbs are common in Mirpuri-English children's expressive language (see Chapter Six).

SM replicates some semantic information across a codeswitch, expressing 'push' both as an English bare verb and as the Mirpuri verb/compound 'mar'. This is unusual as the typically developing children used 'push kar-ni' (see Table 6.6), i.e. employ the 'do' *kar* which does not carry other semantic information (see Chapter Six). The 'push mar-ni' construction was not found in the typically developing children's data.

(4a)

SM's utterance	janani raree push mar-ni pi .
Word-by-word translation	lady trolley push do+contact-ing+female is+female.
Translation	(the) lady (she) is pushing (the) trolley .
Stimulus Item	Target item 12. (the) lady is pushing (a) trolley.

Most of SM's exclusively Mirpuri utterances were well formed, with Mirpuri syntax and grammar in place. However, he still made occasional errors on the gender agreement with the subject on selecting the form of the verb auxiliary. In the following example, despite selecting the correct (female) present tense for the lexical verb 'par' (to read), the auxiliary selected is the male verb *to be* 'pija' instead of the female form 'pi'.

(5)

SM's utterance	*janani kitab par- ni pija .
Word-by-word translation	lady newspaper read-ing+female is+male.
Translation	(the) lady (he) is reading (a) newspaper .
Stimulus Item	Target item 11. (the) lady is reading (a) newspaper.

These errors are highly unusual in normally developing children. Usually children select the correct agreement or omit the auxiliary verb completely.

9.4.1.4.5 Expressive Language Skills Summary

On initial assessment SM's expressive language was similar to a younger Mirpuri-English child's language. It consisted of short utterances with English lexical items incorporated into his Mirpuri utterances (intrasentential codeswitching or borrowing). However, SM had specific difficulty with agent-verb gender agreement and also did not incorporate English verb stems into Mirpuri verb phrases, a process which also required agent-verb gender agreement.

Following entry to reception year in an all-English-speaking educational placement, SM's Mirpuri was very restricted, with no English items present. SM also found speaking Mirpuri difficult and the assessment was abandoned. His developing English skills at this time appeared to be superior to his Mirpuri. He was able to produce multiword utterances in English. Although he did use some single Mirpuri words, SM did not use Mirpuri words in the context of an English utterance.

Following entry to the speech and language unit, where therapy in Mirpuri had been arranged every day, SM's expressive language skills in both Mirpuri and English develop to a level commensurate with his bilingual peers. SM employed intrasentential codeswitching in Mirpuri and began to self-correct his utterances.

Age	Language	MLU(w)	MLU(m)	Typically Developing Children MLU(w)*	Intrasentential CS (multiword utterances)	Percentage codeswitched utterances (Typically developing children, range)
4;7	Mirpuri	2.263	2.737	2.84 SD: 1.11	3/12 (25%)	44.9% mean 16.67 – 100% range (4;6 – 4;11 age range)
5;11	Mirpuri	-	-	3.82	0/2	82.35% mean No range data (5;6 – 5;11 age range)
5;11	English	3.00	3.33	No data	0/7	No data
7;6	Mirpuri	3.857	4.789	No data 7;0 – 7;5 = 5.16 SD: 2.77	8/21 (38%)	No data (7;0 – 7;5 age range) 61.54% mean 36.84 – 42.86%

*Taken from Table 5.4 Chapter Five

The above table shows that, although SM was perceived by adults and peers to have expressive language difficulties, these were related to the *form* of his utterances rather than the *length* of his utterances. The MLUw data (see Table 5.4) shows that SM was developing longer utterances in the same way as his typically developing peers (within one standard deviation).

SM's expressive language development contained intrasentential codeswitching. This was the same pattern as his typically developing peers, i.e. content morphemes were incorporated into a Mirpuri language frame (see Chapter Six). The percentage of his multi-word utterances also fell into the range of codeswitched utterances produced by typically developing children. However, SM's codeswitching was mainly restricted to nouns with only one example of an English verb incorporated into a Mirpuri frame. Typically developing children from this community begin using a range of English verbs in a Mirpuri frame at age 3;0 and continue to use a range of English verb stems as they develop. SM typically used monolingual Mirpuri verbs and also tended to omit the auxiliary (or use the more 'generic' Urdu auxiliary). This lack of English verb insertion was particularly striking at age 5;11 when SM found it very difficult to cooperate with a Mirpuri expressive language assessment. Typically developing children aged 5;6-5;11 produced the highest percentage of codeswitched utterances and incorporated more English verbs into Mirpuri framed utterances than any other age group. It was at this age that SM attempted to separate his Mirpuri from his English, producing more English utterances than Mirpuri utterances, and producing no codeswitched utterances.

SM therefore had specific difficulty with verb phrase formation, particularly the formation of novel compound verbs using an English content morpheme (verb stem). This process involves late system morpheme production. SM also had difficulty employing codeswitching at a time when intrasentential codeswitching was most common in his typically developing peers.

9.4.2 CASE STUDY 2: AI

9.4.2.1 *BACKGROUND INFORMATION*

AI was referred to the speech and language therapy service, aged 3;8 by the family Health Visitor. The referral stated that AI's mother was concerned that her son could not be understood when he spoke Mirpuri, but that the nursery were not concerned when he spoke in English.

Seven months following referral, AI was seen with his mother for an initial assessment. This delay was due to waiting list pressures and staffing issues. AI has one older sister. His mother speaks both Mirpuri and English and his father speaks only Mirpuri. AI's mother reported that there was no history of speech and language difficulties in the family. She also reported that AI was a full-term baby and that it was an unremarkable birth. AI had no sensory or developmental difficulties except for his speech and language. AI did not have a dummy or drink from a bottle at the time of the screen. AI's mother was unsure if his first words were at the expected time or were delayed. In clinic AI was observed to mouth breathe.

As part of the formal assessment of possible special educational need AI was assessed by a multi-disciplinary team. This is part of the referral process to the language unit. A medical was undertaken. Apart from minor ailments, AI was found to be healthy with only a minor immaturity in his motor development. AI did have a mild to moderate hearing loss, with bilateral middle ear effusions noted on tympanometry (age on assessment 5;6). He was therefore monitored by the audiology department. The Educational Psychologist assessed AI aged 5;3 and concluded that AI's overall cognitive ability was '...in the average range'. In light of his communication difficulties, it could be concluded that AI presented with specific language impairment. AI presented with a severe speech disorder. In a similar way to SM, there were also concerns about AI's expressive language.

9.4.2.2 AI TREATMENT SUMMARY

AI attended community clinic for 40 sessions (including assessment) lasting from between 45 minutes and one hour over a period of 15 months prior to entering the language unit. Therapy was both direct and indirect, with some sessions conducted by the specialist speech and language therapist and BSLTA and some sessions carried out by the BSLTA following a written program devised by the therapist. On average, AI was seen on a weekly basis, with home practice set. In addition to this, the therapist visited the school to advise the class teacher and special educational needs co-ordinator (SENCO).

At the time of writing, AI had just been admitted to the language unit and therefore assessment was ongoing.

9.4.2.3 RECEPTIVE LANGUAGE SKILLS

AI's mother has never been concerned about his verbal comprehension, but instead expressed ongoing concern about his speech sound production. AI's English verbal comprehension progressed from a level where it was not testable on referral (as Mirpuri was his main language) to rapidly matching and outstripping his Mirpuri comprehension at age 5;8.

Age	Comprehension Level - Mirpuri	Comment – Comparison to comprehension data for typically developing children
4;3	Two information carrying words	Delayed skills (53% of TD children demonstrate understanding of 4+ANY instructions at this age)
4;6	One information carrying word (including nouns or verbs)	Delayed skills (100% of TD children achieve 2ICW level and 72% 4+ANY level)
5;1	Two information carrying words	Delayed skills (93% TD children pass the 4+ANY level)

See Figure 5.1 for data on typically developing children

9.4.2.4 EXPRESSIVE LANGUAGE SKILLS

9.4.2.4.1 Expressive Language Assessment – 1

AI was assessed in Mirpuri using 'je zindegi' (Pert and Stow 2002) aged 4;3. AI produced a response for all 21 target items. Only one utterance was a single word production and this was a Mirpuri verb, 'has-na' ('smiling' with appropriate male subject-verb gender agreement). Multiword utterances were evenly split, with ten utterances composed of all Mirpuri items and ten utterances composed of Mirpuri and English origin items. The codeswitched utterances all retained Mirpuri syntax, grammar and gender agreement. However, all items were English nouns ('baby, cake, chair, football, light, machine, newspaper) or noun-

types in a compound verb construction ‘noun + doing’, i.e. ‘brush mar-ni’, ‘machine mar-ni’ and ‘colour kar-na’.

Multiword Mirpuri utterances	Intrasentential codeswitched utterances	Single Word: Mirpuri	Single Word: English	No Response
10	10	1	0	0

Al produced 44 types and 64 tokens. MLUw was 3.048 and MLUm 4. The MLUw score is within the range for typically developing Mirpuri-English children (see Table 5.4, age band 4;0-4;5 MLUw=3.01, SD=0.95), although this data was not available at the time of assessment.

9.4.2.4.2 Expressive Language Assessment – 2

Al was again assessed using ‘je zindegi’ in Mirpuri aged 4;6. This assessment was carried out just under three months after assessment 1.

Multiword Mirpuri utterances	Intrasentential codeswitched utterances	Single Word: Mirpuri	Single Word: English	No Response
11	8	1	0	1

Al’s codeswitched utterances again included English origin nouns as direct replacements for Mirpuri nouns or as part of typical compound verb constructions. The compound verbs were again ‘brush kar-ni’, ‘machine mar-ni’ and ‘colour kar-na’, although note that the generic verb with ‘brush’ is now the

more generic 'kar-ni' rather than 'mar-ni', the latter used to indicate contact. This is identical to the form used by typically developing children (see Chapter Five).

Al produced 48 types and 68 tokens. The MLUw was 3.4 and the MLUm was 4.3. These scores are an increase on the previous assessment and above the mean for Mirpuri-English children of his age (4;6-4;11 MLUw=2.84 SD=1.11).

9.4.2.4.3 *Expressive Language Assessment – 3 and 4*

Al was assessed in English using the Action Picture Test (Renfrew 1997). His age on assessment was 5;1. Al's phonological difficulties made the interpretation of two types difficult; both [da:d] and [dila] were not recognised by the BSLTA (however, these only account for three tokens). It is not clear if these were examples of codeswitching (with phonological processes masking their meaning to the BSLTA) or examples of unintelligible English items. Apart from these items (found in three multiword utterances), there were no examples of codeswitching (intrasentential or intersentential). Al omitted possessive markers, e.g. 'put the girl Wellington (boots on)' and verb inflections, e.g. 'help the cat' (although not consistently, e.g. 'the man's picking 'em up'). He used the definite article prior to all appropriate nouns (21 instances) except one, 'in letter box' but did not use the indefinite article 'a' at all. Al used 'and' to connect utterances together but did not use subordinate clauses to link interrelated ideas. There were case errors on pronouns, e.g. *'her picked up the little baby...' and in the selection of simple prepositions, i.e. *'the horse jumping in the gate'.

No utterance had word order errors. Al used 60 types and 106 tokens. The MLUw was 10.6.

Al was assessed one week later in Mirpuri using 'je zindegi' aged 5;1 months. He produced 19 utterances from a possible 21.

Table 9.8 Distribution of utterances in Al's third expressive language assessment				
Multiword Mirpuri utterances	Intrasentential codeswitched utterances	Single Word: Mirpuri	Single Word: English	No Response
10	8	1	0	2

The distribution of Al's utterance types had remained almost the same since the last assessment some seven months previously. However, a new pattern had emerged in his codeswitching which suggested that English was influencing Al's Mirpuri utterance construction. This was extremely rare in the typically developing children's data, with only five utterances from a total of 1369 multiword utterances (0.4 percent). Two utterances had an English SVO construction and yet employ Mirpuri verbs, i.e.

(6a)

Al's utterance	munda kar-na sweet .
Word-by-word translation	boy eat-ing+male sweet.
Translation	boy sweet eating .
Stimulus Item	Target item 9. (the) boy is eating (the) sweets.

(6b)

Al's utterance	munda to-na baby .
Word-by-word translation	boy wash-ing+male baby.
Translation	(the) boy baby washing .
Stimulus Item	Target item 16. (the) boy is washing (the) dolly.

Al used 31 types and 52 tokens. Of these, seven were English nouns ('baby, ball, ladder, newspaper, sweet') or nouns used with the generic doing verb, i.e.

'machine mar-ni' and 'colour kar-na'. In addition to this, AI introduced a bare stem English verb 'smell' and used this in a novel compound verb for which there is a Mirpuri equivalent, i.e. 'munda smell kar-na' (boy smell do-ing+male; the Mirpuri lexical verb is 'sung-na'). This is the first instance of AI incorporating an English verb into the compound construction where there is a direct Mirpuri equivalent simple form lexical verb.

The MLUw was 2.737 and the MLUm was 3.579. This is decrease on AI's scores for the previous assessment and below the mean found for typically developing children, although less than one standard deviation from the mean (5;-5;5 MLUw=3.12 SD=1.08).

9.4.2.4.4 *Expressive Language Assessment – 5*

AI was assessed in English using the Action Picture Test (Renfrew 1997). AI was aged 5;8. AI produced ten multiword utterances from a possible ten. He did not use any Mirpuri words in his utterances and all utterances were produced according to English word order.

AI used 57 types and 122 tokens. The MLUw was 12.2. This was an improvement since the last assessment seven months previously. AI had begun to use the indefinite article (four instances) in addition to the established definite article (24 instances). There were no examples where AI had omitted an article. AI could now select the appropriate preposition, i.e. '...the horse jump over the little tree'. Although AI was now using 'he' appropriately he did not use 'she' at all, continuing to substitute 'her', e.g. *'her fell down some stairs...'. This type of error is typical of young monolingual language learners. AI still had difficulty inflecting verbs for tense, using a mixture of bare verb stems ('jump, rip sit'), irregular past tense verbs ('fell, took, got') and inflected verbs ('crying, holding, hugging, sitting'). There was only one example of a verb inflected with the simple past tense '-ed' and this example may have been acquired as a learned phrase ('picked the baby up').

9.4.2.4.5 Expressive Language Skills Summary

Al's data showed that his Mirpuri skills were within normal range throughout the assessment period. The appearance of English word order influence (SVO) aged 5;1 in Al's Mirpuri word order was highly unusual. Codeswitching, where English content morphemes were incorporated into Mirpuri utterances (typically involving only nouns) was at a level found in his typically developing peers.

Age	Language	MLUw	MLUm	Typically developing MLUw	Intrasentential CS (multiword utterances)
4;3	Mirpuri	3.048	4.0	3.01 SD: 0.95	10/20
4;6	Mirpuri	3.4	4.3	2.84 SD: 1.11	8/19
5;1	English	10.6	11.8	No data	0/10
5;1	Mirpuri	2.737	3.579	3.12 SD: 1.08	8/18
5;8	English	12.2	12.8	No data	0/10

For Al's final English assessment, Al's data suggested that he was developing EAL like other bilingual children. The patterns of pronoun case errors and determiner development matched the normally developing bilingual children's usage of pronouns discussed in a Chapter Seven on EAL development. Al used the definite article ('the') extensively prior to introducing the indefinite article ('a'). Al also employed 'him' and 'her' sentence initial before introducing 'he' (case error); whilst 'she' was yet to be found in his data at the time of the last assessment. The use of verb inflection suggested that Al was beginning to generalise inflections, with the simple present tense preceding the simple past tense.

Al's expressive language development was similar to that of typically developing children in terms of utterance length (MLUw) and the main focus of his therapy was on his speech disorder. However, Al's use of English word order for Mirpuri phrases and the lack of English verb integration suggest that the *pattern* of development was not the same as his typically developing peers.

9.4.3 CASE STUDY 3: MH

9.4.3.1 *BACKGROUND INFORMATION*

MH was referred to the speech and language therapy service by the Community Paediatrician following concerns of 'global developmental delay...significant delay with speech and language'. MH was aged 3;4 at this time. He was also referred to the Consultant Paediatrician for further investigation.

MH is the second youngest child of seven children. MH's older brother was known to the speech and language therapy department and had attended the language unit before returning to mainstream schooling. This sibling was diagnosed with King–Denborough syndrome (also called 'King syndrome'), a condition associated with short stature, facial dysmorphism and myopathy and malignant hyperthermia (Echenne *et al.* 1997, Goemans *et al.* 1997). Intelligence is usually normal and information available does not list speech and language disorder as a feature of the syndrome. It is thought that MH also has this syndrome and the family were advised by the Regional Genetics Service. MH had frequent falls and needed physiotherapy and specialist footwear to address his toe-tip gait. MH presents with many of the typical features of King-Denborough syndrome including short stature, certain facial features and curvature of the spine.

MH was seen for an initial screening appointment approximately three months later (age 3;7). He was then seen on a regular basis at community clinic before entering the language unit (age 5;4). Prior to admission to the language unit, MH was seen as by the Educational Psychologist as part of the multi-disciplinary assessment. On removal of language scores, the non-verbal composite score indicated that MH had '...cognitive skills...within the low average range'. It was noted that MH had limited listening and attention skills.

9.4.3.2 *MH TREATMENT SUMMARY*

MH was seen in both one-to-one and group situations with other Mirpuri speaking children. MH attended 28 Mirpuri medium sessions over a period of

20 months in a community clinic. Each session lasted between 45 and 60 minutes. In addition to this, visits to school and sessions to assist the family with the formal assessment of special educational needs were also offered. MH entered the language unit aged 5;4. Since that time MH has received daily therapy sessions in Mirpuri delivered by the bilingual LSA in addition to English input in small group and classroom situations.

9.4.3.3 RECEPTIVE LANGUAGE SKILLS

Table 9.10, below gives a summary of MH's development of verbal comprehension skills. MH presented with consistently delayed verbal comprehension skills.

Table 9.10 MH Language Skills Summary – verbal comprehension		
Age	Comprehension Level	Comment
3;8	One information carrying word (nouns or verbs)	Delayed pattern (45% of children understood 4+ICW instructions and well over 50% passed 1 and 2 ICW instructions)
4;5	Two information carrying words	Delayed pattern (53% of TD children passed '4+ANY' level)
5;4	Two information carrying words and an instruction containing 'and'	Delayed pattern (93% of TD children passed '4+ANY level' and 53% passed the 3ICW level)
5;8	Three information carrying words	Delayed pattern (83% of TD children passed the 4+ANY level)

See Figure 5.1 for data on typically developing children

9.4.3.4 EXPRESSIVE LANGUAGE SKILLS

9.4.3.4.1 Expressive Language Assessment – 1

Prior to this assessment, MH's expressive language consisted entirely of unintelligible vowel sounds. He was frequently distressed and frustrated at not being able to communicate his basis needs. His main form of expression was

pointing or pulling an adult (usually his mother) to items he desired. As he received speech and language therapy, he was able to use a range of strategies including pointing to pictures, his own small range of 'signs' which involved acting out verbs, and increasingly, intelligible single word nouns in Mirpuri. He also learnt a small number of Paget-Gorman signs (Paget Gorman Society 1999) to support his verbal output.

MH was assessed using 'je zindegi' (Pert and Stow 2002) in the medium of Mirpuri. MH was aged 4;5. MH would not attempt all items and the assessment was abandoned after ten target items. MH used gesture extensively during the assessment, primarily for verbs. For example, when shown a picture of a girl pointing MH said 'girl' and pointed to himself immediately afterwards.

MH failed to respond on three occasions and produced seven single word utterances, one of which was unintelligible. Both Mirpuri and English origin words were used. All words were nouns ('aba' – dad, 'boy', 'eh' – this, 'girl' and 'pencil').

MH's output was restricted to single word utterances in naturalistic situations both at home, in school and in the clinic situation. This was clearly a delayed or disordered language acquisition pattern. Typically developing children aged 4;0 – 4;5 had an MLUw of 3.01 (see Table 5.4).

9.4.3.4.2 *Expressive Language Assessment – 2*

MH's expressive language was assessed again approximately 12 months later following extensive therapy input. MH was 5;5 at this time. MH produced responses for 19 out of the 21 stimulus items on 'je zindegi'. Three responses were single Mirpuri words whilst the remaining 16 were multiword utterances.

Table 9.11 MH's responses on a Mirpuri expressive language assessment - utterance types					
Multiword Mirpuri utterances	Multiword English utterances	Intrasentential codeswitched utterances	Single Word: Mirpuri	Single Word: English	No Response
5	2	9	3	0	2

MH produced a total of 16 utterances of two or more words. Of these, one contained a Mirpuri noun and an unintelligible word. Eleven of the 15 utterances contained either a verb which was either a Mirpuri verb, an English verb or compound verb codeswitched verb. Four utterances were composed exclusively of nouns,

E.g.

(7a)

MH's utterance kuri kursi .

Word-by-word translation girl chair .

Translation (the) girl (a) chair .

Stimulus Item Target item 1. (the) girl is sitting.

(7b)

MH's utterance mura hath pani .

Word-by-word translation boy hand water.

Translation (the) boy hand water .

Stimulus Item Target item 16. (the) boy is washing (the) dolly.

MH produced utterances that were difficult to categorise as codeswitching or disordered utterances. For example, the following example has an inflected English verb and yet has Mirpuri word order (SOV) and an auxiliary verb with appropriate gender agreement with the subject (agent).

(8)

MH's utterance	mum ball kick-ing pi .
Word-by-word translation	mum ball kicking is+female.
Translation	mum (she) is kicking (a) ball .
Stimulus Item	Practice item 4. (the) lady is kicking (the) ball.

If the utterance is judged to be an English utterance, the word order would suggest disordered language. If judged to be a Mirpuri utterance composed of English content, then the inflection on the English verb and the absence of a Mirpuri generic verb (*kar-ni*) is incongruous. In either case, the example illustrates that MH had difficulties constructing an utterance which complied with either a Mirpuri or English frame.

MH also had some difficulty with agent-verb gender agreement. In the following example he constructed a Mirpuri SOV utterance, codeswitching the noun 'sweetie'. Note that the gender agreement on the Mirpuri lexical verb 'kha' (to eat) is correct, i.e. the male present tense '-na' to agree with the gender of the agent, in this case 'mura' (boy). However, the auxiliary is the female form 'pi' rather than the male form 'pija':

(9)

MH's utterance	mura sweetie kha-na pi .
Word-by-word translation	boy sweet eat-ing+male is+female.
Translation	(the) boy (she) is eating (the) sweetie .
Stimulus Item	Target item 9. (the) boy is eating (the) sweets.

MH produced 30 types and 45 tokens. The MLUw was 2.368, MLUm 2.684. Typically developing children aged 5;0 – 5;5 had a mean MLUw of 3.12 SD=1.08. This is therefore a low average score.

Age	Language	MLUw	MLUm	Typically developing MLUw	Intrasentential CS (multiword utterances)
4;5	Mirpuri	Single word utterances / signs	1.0	3.01 Age range 4;0 – 4;5	Not applicable
5;5	Mirpuri	2.368	2.684	3.12 Age range 5;0 – 5;5 SD: 1.08	9/16 (56.25%)

MH presented with delayed expressive language abilities when compared to his Mirpuri-English peers aged 4;5. He had particular difficulty with the use of verbs, often omitting verbs completely from an utterance. Although he did employ intrasentential codeswitching when multiword utterances emerged aged 5;5, this was mainly restricted to nouns or inflected English verbs, with poor integration of the gender agreement of the Mirpuri grammar requirements. Although the incorporation of English inflected verbs into Mirpuri frames was not unknown in the typically developing population, it was rare (only one example in the data for the age range 4;0 – 4;5). MH showed errors on Mirpuri gender agreement despite specific therapy aimed at this grammatical feature.

9.5 CASE STUDIES – DISCUSSION

All three case studies presented in this chapter are Mirpuri-English Pakistani heritage children who attended a language unit. All three children were extremely complex and severe cases. Crutchley *et al* (1997) found that ‘...bilingual children are significantly likely to arrive in language units with *just* syntax and morphology problems, and are significantly likely *not* to have phonological problems’ (269). In contrast, both SM and AI had severe phonological problems. The Rochdale speech and language therapy service has a specialist service with a specific interest in the identification of bilingual children with speech disorders (Stow and Dodd 2005). This explains the reason that these cases do not conform to the pattern identified by Crutchley *et al*.

(ibid). Crutchley *et al* (1997) also found that ‘...bilingual language unit children tend to have more severe difficulties than their monolingual peers, and to progress less quickly’ (273). All three cases presented with severe problems, initially all three children presented with delayed verbal comprehension skills and restricted expressive language at, at least one assessment point. All three children had accompanying speech disorder.

The three case studies on bilingual children with SLI illustrate that they do not form a homogenous group (in terms of the trajectory of their language development). SM and AI developed expressive language skills, resolving into a more specific speech disorder presentation, while MH continued to have difficulties with both language and speech. This reflects previous findings on monolingual children (Leonard 1998b).

Mirpuri-English children with SLI look like poor speakers of Mirpuri and of English. This is expected and matches findings on other (monolingual) SLI speakers using languages other than English (Leonard 1998a). The major difference between monolingual children with SLI and bilingual children with SLI is the possibility of codeswitching. Intrasentential codeswitched utterances have a syntactic and grammatically cohesive form. Bilingual children with SLI would be expected to have problems with this, in the same way that monolingual children have problems with general grammatical form.

Of the three children, two developed English skills (SM and AI) whilst MH was only just beginning to use single words in English consistently. SM only used one Mirpuri word in an English utterance (and self corrected this). AI and MH never attempt to use Mirpuri with a non-Mirpuri speaking person. This suggests that the pragmatic rule of never using Mirpuri in an environment perceived to be an English-only environment (i.e. school) is a very powerful pragmatic constraint, as even those children with SLI conform to the ‘rule’.

In contrast to the clear separation of languages when speaking English, all three children incorporated English origin items into their Mirpuri utterances.

This was in common with their Mirpuri-English non-SLI peers. 94.81% of normally developing Pakistani heritage children who produced multiword utterances incorporated English origin items into their Mirpuri utterances. The insertion of English nouns was much more common than the insertion of verbs in typically developing children (94.07% of children inserted nouns and 45.93% inserted verbs). This was also the case for the bilingual SLI children, with noun insertion more likely than verb insertion.

Compound verbs were used by all three children at least once. The Table 9.13, below shows which constructions were used by the three bilingual children with SLI. There is no parallel verb for the construction ‘colour kar-na’ (colouring; literal ‘colour doing’) in Mirpuri. ‘push mar-ni’ could be replaced with the lexical verb to push ‘chalani’. ‘machine mar-ni’ appears to be a misinterpretation of the stimulus item. The item actually shows a woman pushing a trolley. Several children in the normative sample thought that the picture depicted a woman using a vacuum cleaner. ‘Machine mar-ni’ could therefore be seen to be a hi-tech version of the Mirpuri compound verb ‘to brush’ which is ‘charu mar-ni’, where ‘charu’ is a traditional brush. Similarly, ‘brush mar-ni’ is a version of this compound with the English noun ‘brush’ replacing ‘charu’. ‘brush kar-ni’ uses the same basic construction. However, the ‘contact’ theme is lost. Finally, ‘smell kar-na’ could be replaced by the lexical verb ‘sungena’. Therefore, ‘colour kar-na’, ‘push mar-ni’ and ‘smell kar-na’ could be viewed as the integration of English stem verbs to replace a Mirpuri lexical verb (or fill a lexical gap) by a codeswitched compound Mirpuri verb construction. The other examples are simply the codeswitching of the noun ‘charu’ to the English ‘brush’/‘machine’. Verb integration should pose a greater challenge to the morphology of SLI impaired children as not only must the English verb be produced as an uninflected stem, but the generic ‘mar’ (do + contact) or ‘kar’ (do) must be inflected with a present tense morpheme, the form of which is determined by the gender of the agent (subject). The latter is also true of ‘noun+generic verb’ production, but this does not require any modification of the noun. Only one of the four of SM’s compound verbs are ‘verb+do’. Four of the nine instances of

AI's compound verbs are of this type and MH only produced one, and this was the 'noun+do' type.

SM and MH also contrasted with AI in that they both had examples of English lexical verb stems that they failed to integrate into their Mirpuri grammar. These included the following:

(10a) Example of a non-integrated English stem verb: SM, Target item 4, assessment 4.

kuri **point** **auntie** pi
 girl point auntie is + female
 (the) girl (she) is point auntie

(10b) Example of a non-integrated English stem verb: MH, Target item 4, assessment 2.

kuri **point**
 girl point
 (the) girl point

(10c) Example of a non-integrated English stem verb: MH, Target item 5, assessment 2.

mum **clap** pi
 mum clap is + female
 (the) mum (she) is clap

In contrast, MH could produce English or codeswitched phrases which had simple inflected English verbs. This suggests that it was the Mirpuri agent-verb agreement which he found challenging:

(11) Example of an English verb used by MH, Target 6, assessment 2.
 "dad **laughing**"

(12) Example of a two word codeswitched utterance used by MH, Target 7, assessment 2.

mura drawing

mura drawing

(the) boy drawing

These data suggest that the expressive language of children with SLI may contain fewer examples of the integration of bare stem English verbs into Mirpuri grammar and fewer examples of codeswitched compound verbs. All three children codeswitched by incorporating English nouns, however, this is less challenging as the issue of gender does not occur (as none of the items included an adjective).

Note that the errors made by the children presenting with SLI are around late system morphemes, regardless of whether these are codeswitched or not. The presence of codeswitching merely makes this more apparent. The integration of verbs (content morphemes) requires the production of a subject-verb agreement (late system morpheme) and the three children had difficulty with this (see examples 10a-10c). SM (example 5) and MH (example 9) made errors on the subject-gender verb agreement while often omitting the auxiliary completely. The omission (or errors) on late system morphemes is also seen in monolingual SLI language data, with the verb *to be* missing from verb tense expressions such as “Mommy drinking tea” (Leonard 1998: 37). The ‘telegraphic’ nature of children with SLI may be explained by the MLF 4M model. Is it possible that children with SLI have content (early system morphemes) but lack the late system morphemes? The data from three case studies is of course insufficient data to make any firm conclusions. However, the three children appear similar to their monolingual SLI peers in that they presented with delayed verbal comprehension development and used restricted utterances. Their codeswitching, was less sophisticated than their monolingual Mirpuri typically developing peers, with some evidence of difficult selecting the appropriate matrix word order (example 6a and 6b) and subject-gender agreement (shown by selecting the wrong gender for the present tense

morpheme or auxiliary, or failing to incorporate English items into a compound verb phrase). There are only a few examples of compound verb phrases with English items occupying the left-most slot (contrast Table 9.13 below with Table 6.6 and 6.7). The difficulty with late system morphemes (highlighted by codeswitching) may be characteristic of SLI. More data (both monolingual and bilingual) is required to develop this hypothesis. The research question:

- Do bilingual Pakistani heritage children with SLI differ from their normally developing peers in terms of their use of codeswitching?

may be answered. Pakistani heritage children with SLI sometimes have difficulty with codeswitching. However, the difficulty is not with codeswitching itself, but with the formation of a satisfactory morphosyntactic frame. The presence of codeswitching merely illuminates the sentence production process. Whether a monolingual Mirpuri utterance or a bilingual Mirpuri-English utterance with English content morpheme(s) is being produced, a Mirpuri morphosyntactic frame is required. SLI children's difficulty with sentence production appears to be related to satisfying the demands of the morphosyntactic frame.

Target Item	Compound Verb	SM	SM	SM	AI	AI	AI	MH	MH
		1	2	4	1	2	4	1	2
		4;7	5;11	7;6	4;3	4;6	5;1	4;5	5;5
7	colour kar-na <i>colour do-ing + male</i>	-	-	-	✓	✓	✓	-	-
12	push mar-ni <i>push do + contact-ing + female</i>	-	-	✓	-	-	-	-	-
12	machine mar-ni <i>machine do + contact-ing+female</i>	✓	-	-	✓	✓	✓	-	-
14	brush mar-ni <i>brush do + contact-ing + female</i>	-	-	✓	✓	-	-	-	✓
14	brush kar-ni <i>brush do-ing + female</i>	✓	-	-	-	✓	-	-	-
18	smell kar-na <i>smell do-ing + male</i>	-	-	-	-	-	✓	-	-
Total		2	0	2	3	3	3	0	1

**CHAPTER TEN:
SUMMARY AND CONCLUSIONS**

10.1 INTRODUCTION

The researcher set out to answer the following questions.

- What are the patterns of language development in typically developing Pakistani heritage children growing up in England?
- Is codeswitching in young Pakistani heritage children common?
- Do the patterns of codeswitching in young Pakistani heritage children conform to any existing models of adult codeswitching?
- Do bilingual Pakistani heritage children with SLI differ from their typically developing peers in terms of their use of codeswitching?

To answer these questions, Mirpuri, the main language of the community was described (Chapter Three). A basic grammar was derived from discussions with trained bilingual speech and language therapy assistants and other adult informants from the community who were fluent in one or more of the three main Pakistani heritage languages and English. The researcher also acquired basic Mirpuri skills in order to better understand the language.

A literature review of codeswitching and other language contact phenomena was carried out. A suitable model of codeswitching was identified, the Matrix Language Frame and 4-M (four morpheme) models (Chapter Two).

Home language data collection tools were developed for both verbal comprehension and expressive language (Chapter Four). Data were collected from 167 typically developing children (Cohort 1). The data were analysed quantitatively using mean length of utterance (Chapter Five). The unexpectedly high frequency of intrasentential codeswitching observed in the data was analysed qualitatively using codeswitching models previously used to describe the grammatical outcomes of adult codeswitching, the Matrix Language Frame (MLF) and 4-M models (Myers-Scotton 1993, 2002, 2006). The insertional patterns of codeswitching, including the apparent insertion of English verb stems into compound Mirpuri verb phrases was described (Chapter Six).

As children from the Pakistani heritage community in Rochdale are a minority ethnic population acquiring bilingual skills sequentially rather than simultaneously, seven children were followed-up twelve months after the initial data collection point. Data were examined to track the trajectory of their home language acquisition and the development of English as an additional language (EAL). This comparison was carried out in order to investigate patterns of language development in this group. It had been reported that some children, in acquiring English, maintained their home language skills while other children lost them (Chapter Seven).

Data were collected from a second cohort of forty four children (Cohort 2) from the same community. This data was analysed to examine their EAL acquisition patterns (Chapter Eight).

Finally, three case studies of children from the community presenting with specific language impairment were carried out (Cohort 3). The data from these children were analysed to discover if codeswitching patterns differed from their typically developing peers (Chapter Nine).

10.2 SUMMARY OF KEY FINDINGS

10.2.1 THE MIRPURI LANGUAGE

Mirpuri is an Indo-European language related to, but distinct from the other two main Pakistani heritage languages spoken in Rochdale, Punjabi and Urdu (Ethnologue 2004). Similarities to Punjabi and Urdu include numerous shared lexical items (Stow and Pert in Zhu Hua and Dodd 2006). The current research has contributed the following:

- Differences between Mirpuri and the other Pakistani heritage languages included some common lexical items and grammatical morphological differences, especially in the construction of verb phrases. For example, Mirpuri includes subject-verb agreement in the present tense morpheme attached to lexical verbs and also in the morphology of the auxiliary. Punjabi and Urdu also have subject-verb agreement, however, this is

marked only once in the verb phrase on the present tense morpheme. A brief description of the language was produced (see Chapter Three).

- Mirpuri is viewed as a culturally and linguistically separate code by adult informants. The difficulty many Mirpuri speaking adults and children experienced when listening to Punjabi or Urdu confirmed that for many, the three codes are not mutually intelligible. In the literature, Mirpuri has been assumed to be a variant (dialect) of Punjabi or Urdu (Duncan 1989, Reynolds 2002). Researchers have presented Mirpuri language examples along with Punjabi examples (Romaine 1986, Moffatt and Milroy 1992). This may be due to many social as well as linguistic factors. Mirpuri speakers do not always report their language accurately (Pert and Letts 2003), possibly due to the view that Mirpuri is viewed as a low status language. Codeswitching between the three Pakistani heritage languages has been observed (Pert and Letts 2003) and this may also be a factor in why the language boundaries used by this community are difficult to identify.
- Mirpuri was the main language spoken by Pakistani heritage children in Rochdale, UK (62.3%), with Urdu the second most frequent language (19.2%) and Punjabi the third (16.2%) based on a sample of 167 children (Table 5.2). These findings generally agree with Stow (2006: 159) who found that 52% of a sample of 246 Pakistani heritage children in Rochdale spoke Mirpuri, followed by 26% Punjabi and 22% Urdu.

Mirpuri is possibly the third most commonly spoken language in the UK after English and Welsh with an estimated 500,000 speakers (Rahman 1998). The findings of this research therefore have both theoretical and clinical application. As a language in contact with English, it is important that the monolingual form of Mirpuri is described in order to identify language contact phenomena that may be taking place. This information will then allow clinicians, who currently have little information on this language, to identify typically developing patterns from disordered language acquisition patterns.

10.2.2 WHAT ARE THE PATTERNS OF LANGUAGE DEVELOPMENT IN TYPICALLY DEVELOPING PAKISTANI HERITAGE CHILDREN GROWING UP IN ENGLAND?

10.2.2.1 *DEVELOPMENT OF HOME LANGUAGE (L1)*

10.2.2.1.1 *Verbal Comprehension*

Pakistani heritage children are a minority ethnic population, typically living in areas of high economic deprivation (see Chapter One, 1.6). This has been the case for several decades, particularly for Asian families. Ara and Thompson stated in 1989 that “Asian families are particularly likely to have low incomes, work anti-social hours and live in the poorest housing with the highest number of dependants per working adult” (134). This profile has not changed to the present day (National Statistics 2004). Deprivation has been demonstrated to have a negative impact on both monolingual English populations (Miller 1998, Locke *et al.* 2002) and minority ethnic populations learning English (Huaqing Qi *et al.* 2003). The socioeconomic status of the population may depress language learning and therefore lead to erroneous assumptions that minority ethnic populations acquire language slower than their peers.

- Verbal comprehension of home languages (Mirpuri, Punjabi and Urdu) develops from the understanding of simple instructions (where one key word noun is understood in an instruction) to more complex instructions (where a list of items or two instructions may be understood).
- Verbal comprehension appears to develop later than typical monolingual acquisition. Bates *et al* (1995 in Sheridan 2001) reports that in their second year (monolingual English) children will “...understand up to two key words...” and during their third year will “...understand prepositions...action words...and will begin to understand size differences”. By age five long and complex sentences will be understood (54). Not all children in the present study displayed mastery on the assessment procedure used of understanding of single word instructions until the age band 4;6-4;11. Instructions containing prepositions (three information carrying word level) were not understood by more than half of an age band until 5;0-5;5. This is likely to be related to economic deprivation rather than any issues related to bilingualism. In addition,

assessing comprehension using enactment tasks and picture pointing tasks with young children have been criticised (see Evaluation, below).

10.2.2.1.2 *Expression*

- Children from the Pakistani heritage community frequently refuse to provide an expressive language sample. From a sample of 167 typically developing twenty three children 13.8% refused to provide an expressive language sample. There was no gender difference with twelve females and eleven males refusing. There was an age difference. Almost all refusals (twenty children) were from children aged 4;5 years or below.
- When a bilingual child is able to express themselves in one language only, i.e. only the L1 (Mirpuri) or only the L2 (English), then their performance is limited. This is especially true in the early stages of language acquisition when only a few translation equivalents are known by the child. In contrast, if the bilingual child is able to converse with a fellow bilingual, then the child is able to draw on both lexicons and produce bilingual (intrasentential codeswitched) utterances. Typically developing Pakistani heritage children were able to achieve higher MLU scores for their multiword utterances when producing bilingual utterances than Mirpuri only or English only utterances (Pert and Letts 2006). This finding suggests that MLU measures developed for monolingual Mirpuri or monolingual English children cannot be applied to bilingual children acquiring both languages sequentially. 'Bilingual normative data' should therefore aim to describe a population using two or more languages and not assume that monolingual data (for either language) is a suitable measure of bilingual children's language acquisition.
- For monolingual English "Roughly speaking, up to the age of 5, a child's MLU should be equivalent to chronological age, so that a 1-year-old child can be expected to be producing one-word utterances...and so forth" (Hegde and Maul, 2006: 123). The MLUm scores for Mirpuri children aged 3;0 to 4;5 broadly follow this rule. These age bands have the largest number of data samples, with between ten and twenty eight data samples in each band (data from 66 children across three bands or 75%

of the Mirpuri data samples). Normative data above MLU=4.0 is thought to be less reliable as the measure no longer reflects increases in complexity (Parker and Brorson 2005). More direct comparison of MLU with monolingual English acquisition confirmed that the Mirpuri expressive language normative data overlapped with monolingual English normative data for the age bands 3;0 to 4;5 (see Table 5.7). These findings confirm that for the early stages of language acquisition, expressive language development in monolingual English and LI Mirpuri speakers are comparable.

- MLU scores from Punjabi and Urdu calculated from this study are less reliable as no one age band contains data from more than six children.

10.2.2.2 *DEVELOPMENT OF THE HOME LANGUAGE ON EXPOSURE TO THE SECOND*

- Of the eleven children seen twelve months after the initial data collection, ten continued to develop their verbal comprehension skills (home language) to near or at-ceiling levels on the DLS-RST. One performed at a much lower level at T2, falling from near-ceiling to single word level.
- Eight of the eleven children produced the same number of utterances or more utterances at T2 compared to T1 on the home language expressive language data collection tool. One child produced no home language utterances at T2 despite attempting twenty of the twenty one items at T1. This was the same child who's home language comprehension skills had fallen between T1 and T2.
- Eight children had a higher MLUw score at T2 compared with T1 and three had a lower MLUw.
- On average, the children used the same number of home language verbs at T1 and T2.
- The majority of the sample maintained receptive home language skills (ten of the eleven) and maintained expressive language skills (eight of the eleven). One child lost home language skills whilst acquiring English language skills (language loss).

10.2.2.3 THE PATTERNS OF DEVELOPMENT OF THE ADDITIONAL LANGUAGE - ENGLISH (L2)

Two cohorts of children provided data in the present study (see Figure 3.1). Eleven children were followed up twelve months following initial data collection, Cohort 1 at T2 (see Chapter Seven) and a larger cohort of children, Cohort 2, were assessed in English only. The same data collection tool was used to gather data on verbal comprehension, the DLS-RST cultural adaptation administered in English. Results for expressive language are not comparable for both groups as different data collection tools were used to elicit expressive language. For Cohort 1 the Action Picture Test (Renfrew 1997) was used and for Cohort 2 the original expressive language data collection tool “je zindegi” was used (See evaluation below).

10.2.2.3.1 Cohort 1

- Comprehension of basic English was established rapidly. None of the eleven children could demonstrate any consistent understanding of English at T1. Twelve months later ten of the eleven children could demonstrate understanding of English at the ‘4+ level’, i.e. near ceiling scores on the DLS-RST. The remaining child had developed English skills up to the two information carrying word level. No child failed to develop English comprehension skills.
- At T2 nine of the eleven children had an English MLUw which was greater than their MLUw for L1. However, this may have been a result of “je zindegi” restricting longer and more complex utterances.
- No intrasentential codeswitching was found in the English utterances produced at T2. That is, no home language morphemes were inserted into English utterances.
- In the early stages of EAL acquisition (12-14 months exposure), children’s expressive language samples contained examples of
 - Utterances composed entirely of content morphemes, E.g. “mummy shoes feet” (the mother is putting the shoes on the girl’s feet).

- Utterances with home language word order (SOV),
E.g. “her shoes taking off” (she is taking off her shoes).
- This suggests that children do not have an English frame at this early stage and rely on content morphemes to produce utterances.

10.2.2.3.2 *Cohort 2*

In contrast to Cohort 1, intrasentential codeswitching utterances was observed in Cohort 2. That is, home language morphemes were inserted into English utterances. This is interesting as the children from both cohorts were drawn from the same Pakistani heritage community in Rochdale and the age bands overlap. Both cohorts were seen by a bilingual adult speaker and so both had an opportunity to produce intrasentential codeswitching. Both cohorts were seen in what may be viewed by the children as an “English” environment, i.e. nursery or primary school. The difference in the data collection was the data collection tool used. For Cohort 1 the stimulus items were line drawings depicting white people. For Cohort 2, “je zindegi” was used which depicts only people from the local Pakistani heritage community.

- Codeswitching where Mirpuri morphemes were inserted into English frames occurred for between 0.68% to 3.26% of tokens (0.14% to 1.49% of types). Codeswitching where English words were inserted into a Mirpuri frame (Chapter Six) occurred for between 9.70% to 25.00% of tokens for an age band. Insertion was therefore more likely from English into a home language frame than in the other direction using the “je zindegi” expressive language data collection tool for both English and Mirpuri.
- From a total 559 utterances only six (1.07%) had a home language (SOV) phrase order. All six examples were from just three different children. This suggests that these bilingual children quickly differentiate their languages, and that “interference” at the basic phrase order level is rare.
- It appears that the generic verb construction of a ‘noun + doing’ is used in monolingual English utterances, influenced by the compound verb found in Pakistani heritage languages. This occurs at the early stages

and declines as more English lexical verbs are learnt. Frequency of this construction is rare (only four instances in the data set) and disappeared by age band 4;6-4;11.

- The use of English articles were examined and errors were different to monolingual English acquisition. In monolingual English acquisition, the indefinite article 'a' is acquired prior to the definite article 'the'. The opposite was true for the children in Cohort 2. Usage of 'the' increased with age (ranging from a mean of 7.2 to a mean of 14.43) while 'a' was less frequent and remained at a low level (ranging from a mean of 2.09 to a mean of 3.29). See Table 8.10.
- Pronoun usage also contrasted with monolingual English development. In typically developing monolingual English development, case errors are more common than gender errors. For Cohort 2 children 'he' was used most frequently with errors on 'she'. The case errors expected, e.g. using 'him' for 'he' were not observed. This may be influenced by the fact that Mirpuri has a single pronoun 'oh' for both male and female subjects.

Patterns of EAL acquisition differed from monolingual English acquisition. The nature of the stimulus items appeared to be more important than the setting when considering codeswitching of home language into English frame utterances.

10.2.3 IS CODESWITCHING IN YOUNG PAKISTANI HERITAGE CHILDREN COMMON?

Age of exposure is thought to be an important variable when discussing the process of acquiring two languages (Lanza 2004). The present study examines codeswitching in children acquiring Mirpuri at home and then acquiring English on nursery or school entry. The children are therefore sequential bilinguals and their codeswitching behaviours may contrast to simultaneous bilinguals. Studies of sequential bilingualism are relevant as most individuals acquire bilingual abilities in this manner, acquiring a home language initially, followed by a second on school entry (Grosjean 1982). Little is known of the language

behaviour of newly established immigrant populations as they move to more established communities (Dabene and Moore in Milroy and Muysken 1995).

Speakers of minority ethnic languages are an under-researched population. There is little or no information on monolingual Mirpuri development. Speakers in The UK are likely to be in contact with English as the dominant language in the country. Language contact and/or language change have been long identified as key themes. Code-mixing and code-switching in adult speakers of Panjabi was reported by Romaine in 1986 (number of participants not stated). Calls for research in this area were made by Duncan in 1989, stating that “Most of the influences on Punjabi and Bengali in the UK seem to be in the domain of lexis and coinage terms” (21). Contact phenomena (“language mixing” and “language alternation”) in ten Panjabi/English speaking bilingual children was reported by Moffatt in 1991 and Moffatt and Milroy in 1992 (heritage of the participants not stated). The present study produced the following information towards answering the research question, relating to intrasentential codeswitching where English morphemes are inserted into Mirpuri frame utterances:

- Codeswitching in Pakistani heritage children has not been previously reported (except in publications arising from the present study: Pert and Letts 2003 and Pert and Letts 2006).
- In the structured data collection situation, when conversing with a bilingual adult, children from the Pakistani heritage community in Rochdale employ a high level of intrasentential codeswitching. Of those children providing multiword utterances, 95.52% produced at least one multiword utterance containing an English lexical item or morpheme.
- The number of children producing intrasentential codeswitched utterances increases with age. The number of children using *at least one* intrasentential codeswitched utterance increased gradually from 60% of children aged 3;0-3;6 up to 100% of children aged 6;6 to 6;11 (see Table 5.10).

- The percentage of utterances containing intrasentential codeswitching is stable after age 3;5. For Mirpuri speakers, the percentage of codeswitched utterances was stable at a level between 40 and 50% of multiword utterances (see Table 6.2).
- The percentage of utterances formed from Mirpuri items only declines slightly with age, falling from 66.44% for age band 3;0-3;5 to 44.78% for age band 5;0-5;5. This is accompanied by a corresponding small increase in the percentage of utterances produced in English. However, the percentage of English-only utterances remains low, with only 4.48% of utterances produced in English for age band 5;0-5;5. The Mirpuri children therefore remain dominant Mirpuri speakers under the age of 5;5.
- The range of intrasentential codeswitching is large for any age band, with between 7.69% to 100% of utterances containing codeswitching (see Table 6.3).
- Intrasentential codeswitching is therefore a common, high frequency behaviour, with very few children producing no intrasentential codeswitching. The extent to how many utterances are produced as bilingual utterances varies from child to child. However, there is a stable mean across the age bands.

10.2.4 DO THE PATTERNS OF CODESWITCHING IN YOUNG PAKISTANI HERITAGE CHILDREN CONFORM TO EXISTING MODELS OF ADULT CODESWITCHING?

- For children from a Mirpuri-speaking home, codeswitching is characterised by a monolingual Mirpuri frame with content morphemes inserted from English. Language samples were analysed from 88 Mirpuri speaking children. A total of 1779 utterance were analysed. Of these, 1369 (76.95%) were multiword utterances. 583 intrasentential codeswitched utterances were produced (42.73% of the multiword utterances). Of the intrasentential codeswitched utterances, only eight did not conform to a Mirpuri monolingual frame. Of these, five utterances had a monolingual English frame (0.86%) and three were composite

frames (0.52%). This means that 575 (98.62%) utterances did conform to a monolingual Mirpuri frame.

- Codeswitching patterns were regular and constrained by a monolingual morphosyntactic frame. That is, for Mirpuri frame utterances a general *Subject + Object + Verb (SOV)* structure was produced. The SOV phrase order was not disrupted by the insertion of English verbs or nouns. Within the SOV structure, the requirements of the Mirpuri grammar were fulfilled. This included the Subject-Verb gender agreement which the insertion of English verbs may have potentially compromised.
- More English nouns were inserted into Mirpuri frames than English verbs at a ratio of around 6:1 (545 noun tokens compared with 86 verb tokens).
- English nouns occupied the 'slot' where analogous Mirpuri nouns would occupy.
- When English verbs were inserted into a Mirpuri frame, a light verb / compound verb / operator / helper / 'do' verb was employed. This type of verb insertion has been described by several researchers in *adult* codeswitching (Romaine 1986 – English-Panjabi speakers, Di Sciullo *et al* 1986 – English-Hindi speakers, Gardner-Chloros in Milroy and Muysken 1995 - English Greek Cypriot speakers). The structure of 'noun + operator' exists in both Mirpuri, Punjabi and Urdu and has been described as "similar to (English) phrasal verbs...or particle verbs" (Duncan 1989, my brackets). To the researcher's knowledge, this codeswitched construction has not been previously reported in preschool children's expressive language.
- English verbs were overwhelmingly incorporated into a Mirpuri compound verb construction as a bare stem as the left-most element (77.22%, see Table 6.5). This is a key finding. If English verbs were inserted into Mirpuri utterances as bare forms without the operator then the utterance would not meet the requirements of the monolingual Mirpuri grammar, i.e. Subject-Verb gender agreement. The presence of the English verb does not disrupt the SOV phrase order and the utterance remains a monolingual Mirpuri frame.

- The monolingual Mirpuri frame, including verb insertion into a compound verb, is explainable and predicted by the MLF 4M model (Myers-Scotton 1993, 2002, 2005, Myers-Scotton and Jake 2000a, 2000b).
- The insertion of the English verb into a Mirpuri compound verb construction cannot be explained by the equivalence constraint proposed by Poplack (1981). English is an SVO language whilst Mirpuri is an SOV language. The languages only map onto each other at the *Subject*. One would predict codeswitching of nouns, particularly subjects. However, codeswitching the verb phrase final violates the syntax of English. The codeswitched verb phrases appear to contradict the equivalence constraint.
- The government constraint (Di Sciullo *et al* 1986) does refer to the compound verb form in Hindi, asserting that the English element is a borrowed form. The numerous examples in the present study suggest that the children are using the compound verb construction creatively. Both English nouns and bare stem English verbs are inserted into the left-most slot to produce a total of 45 codeswitched compound verbs (see Table 6.6. and Table 6.7). Not all these novel verbs can be borrowed as although the codeswitched compound construction is common, some of the actual novel verbs are clearly the invention of one child, e.g. ‘ladder kar-na’ for ‘climbing’. Rather than rigid borrowed terms, these verbs appear to be sites for creativity. As Myers-Scotton states “Established borrowings occur with some level of predictability....Conversely, those Embedded Language singly occurring words...have no “reoccurrence value” (2006: 259).
- The high frequency and diversity of novel compound verbs formed using the Mirpuri operator ‘kar’ suggests that English verbs are underspecified and therefore treated as nouns. This would explain why the ‘noun + operator’ structure found in monolingual Mirpuri is such a productive site.
- The MLF model predicts from the **morpheme order principle** that “...surface word order (and morpheme order) will be that of the Matrix Language” (Myers-Scotton 2006: 244). As previously stated, the vast majority of utterances complied with a Mirpuri monolingual SOV order

and this language formed the language frame. The nouns and verbs are inserted into this frame as typical content morpheme as they either receive or assign thematic roles. The **system morpheme principle** states that “...all system morphemes *which have grammatical relations external to their head constituents...* will come from the Matrix Language” (ibid). The codeswitched compound verb consists of:
 CONTENT MORPHEME (English noun or verb) + OPERATOR + PRESENT TENSE MORPHEME + AUXILIARY.

- I propose that the first two morphemes are content morphemes. The English inserted morpheme is a noun or verb and clearly meets the criterion of either receiving or assigning a thematic role. The operator has the role of ‘activity’. In contrast, the present tense morpheme looks outside the verb phrase to the subject phrase for its form, taking either a male (-*na*) or female (-*ni*) morphological form. Similarly, the auxiliary also looks to the subject phrase for a male (*pja*) or female (*pi*) form. These morphemes look outside their immediate head constituent for a grammatical function (gender agreement) and so are clearly system morphemes. These morphemes will be drawn from the matrix frame language (Mirpuri in most examples). The 4-M model classifies morphemes according to their stage in the utterance production. Myers-Scotton states that “The clearest example of an outsider morpheme...is the element that shows subject-verb agreement” (ibid: 269). Put simply, in such verbs a Mirpuri content morpheme has been replaced with an English content morpheme. The presence of the operator allows the grammatical late system morphemes to attach to a native item thus fulfilling the requirements of the monolingual Mirpuri frame. The MLF 4-M model therefore predicts and explains the Pakistani heritage children’s codeswitching in a way that other codeswitching models cannot.
- It is surprising that preschool children are able to demonstrate adult-like codeswitching. Very few studies have examined codeswitching from this perspective. Paradis *et al* 2000 studied French-English codeswitching in preschool children using the MLF model and found that their codeswitched utterances generally conformed to adult patterns. As Myers-Scotton views codeswitching and sentence production as the

same process, codeswitching may therefore be a window into the development of children's lexical and grammatical development. It is notable that codeswitching became frequent and insertion patterns stabilised at age 3;6-3;11 and above. In the 3;0-3;5 age band no English verbs are inserted into a codeswitched compound verb. Contrast this with eleven of the fifteen English verbs inserted into this construction in the 3;6-3;11 age band. By 4;6-4;11 all English verbs are inserted in this way. This suggests that children's ability to codeswitch coincides with the mastery of Mirpuri basic grammar. That is to say, codeswitched utterances are merely examples of grammatically well-formed utterances. Prior to the mastery of monolingual grammar, children are unable to demonstrate adult-like intrasentential codeswitching as they have no mastery of the monolingual grammatical frame production process. This leads to both monolingual and 'mixed' utterances which are composed mainly of content morphemes and experimental grammar. This may explain why the literature suggests that simultaneous bilingual children below the age of 3;0 show unstructured language 'mixing'.

- Codeswitching data supports Myer-Scotton's assertion that both languages are activated at the same time.
- Composite (non-monolingual) frames are rare. Three examples (0.52%) were found in the data. This contrasts with other minority ethnic populations in the UK (Martin *et al* 2003). "Composite frames contrast with classical codeswitching" (Myers-Scotton 2006: 242) and may be a sign of convergence. The finding suggests that the Pakistani heritage population in Rochdale, UK have *not* developed a new variety of "English-Mirpuri" but retain a monolingual grammar and classical codeswitching.

10.2.5 DO BILINGUAL PAKISTANI HERITAGE CHILDREN WITH SLI DIFFER FROM THEIR TYPICALLY DEVELOPING PEERS IN TERMS OF THEIR USE OF CODESWITCHING?

- All three case studies on initial presentation had difficulty with verbal comprehension (in comparison with the means for data collected from their typically developing peers, Cohort 1). In terms of MLU, SM and AI's expressive language was similar to their typically developing peers but was perceived to be impaired by his parents. MH's was severely impaired in terms of MLU. The perception that all three children's expressive language was impaired appears to come from the form of their utterances.
- SM made Subject-Verb agreement errors in monolingual Mirpuri utterances on the present tense morpheme. SM also omitted auxiliaries (which also look to the subject for their morphological form).
- SM's expressive language did contain codeswitching which was similar to his typically developing bilingual peers in terms of noun insertion. However, SM only had one example of an English verb inserted into a monolingual Mirpuri frame. At this age, SM's peers had a very high frequency of English verb insertion into a codeswitched compound verb construction.
- SM's expressive language difficulties therefore appeared to be related to verb phrase formation, whether monolingual or codeswitched. These difficulties related to late system morphemes.
- AI also had MLU scores similar to his typically developing bilingual peers. AI had word order difficulties, employing an SVO word order instead of an SOV word order for Mirpuri utterances. This was unusual in the typically developing data. In terms of codeswitching AI inserted nouns in the same way as his typically developing peers, but again, only inserted one English verb into a Mirpuri frame.
- MH did insert English verbs into Mirpuri frames, however he was not able to produce a satisfactory monolingual Mirpuri frame, omitting the present tense morpheme or selecting the incorrect morphological form of the

auxiliary to agree with the gender of the subject. MH also produced utterances with no verb phrase at all.

- All three children presenting with SLI did not present with the same difficulties and did not develop in the same way. This is unsurprising as SLI is not a homogenous group (Leonard 1998).
- All three children were able to insert English morphemes into Mirpuri utterances in the same way as their typically developing peers if the morphemes were nouns.
- English verb insertion was much less frequent. The reason for this appears to be less about the status of the content morpheme and more with the generation of the monolingual Mirpuri compound verb phrase to accommodate the English verb stem. The formation of the verb phrase using late system morphemes appears to be the most severely affected (gender agreement with the subject).
- Codeswitched utterances highlighted word order and morphological difficulties present in their monolingual grammar. This gave the impression to both parents and other adult interlocutors that these children had impaired language.
- Codeswitching models such as the MLF 4-M models may be useful frameworks for evaluating the expressive language difficulties of bilingual children in the absence of normative developmental data.
- The verb phrase is always problematic for children with SLI, regardless of the language used and regardless of whether intrasentential codeswitching is present (Leonard 1998)

10.3 RESEARCH FINDINGS: IMPACT ON THEORETICAL KNOWLEDGE BASE

10.3.1 THE MLF AND 4-M MODELS

This study provides support for the MLF and 4-M models. The high percentage of codeswitched utterances produced with a monolingual Mirpuri frame linked with the use of the codeswitched compound verb to incorporate English verbs while still maintaining the Mirpuri grammar support the basic principles of the models. Firstly, in codeswitched utterances the Matrix Language (typically

Mirpuri for this population) and Embedded Language (English) do not participate equally. This was also found to be the case when the situation was reversed and English formed the Matrix Language and Mirpuri the Embedded Language. Secondly, not all morpheme types are equal. Overwhelmingly, inserted items were content morphemes, i.e. nouns and verbs. Thirdly, both languages are always “on” during codeswitching, with the Matrix Language more active. The Mirpuri speaking children remained dominant speakers of Mirpuri (in terms of monolingual grammar frame usage for codeswitched utterances and monolingual Mirpuri utterance usage) even when large numbers of content morphemes were drawn from the English lexicon. Only an extremely small number of utterances formed composite frames where a monolingual grammar did not apply.

The 4-M model clarified the usage of the compound verb phrase. Found in the monolingual form, this structure was adapted to produce novel verbs where an English noun or verb could occupy the left-most slot. The late system morphemes indicating subject-verb gender agreement were then able to fulfil the Mirpuri grammar.

The examples in this research are of particular relevance as they are drawn from two languages which contrast in surface structure. Mirpuri is primarily an SOV language and English is an SVO language. According to researchers who have devised surface level constraints, codeswitching would be precluded where the surface patterns of the two language did not coincide. For the Mirpuri-English dyad, it would therefore be predicted that only the subject phrase would be available as a site for codeswitching. In reality, codeswitching occurs in all the phrases, subject, object and verb. Researchers have asserted that examples which appear to be codeswitching “out of order” are really borrowings. However, the number of novel verb types produced by the children in the present study challenge this. Only the MLF and 4-M models explain the codeswitching found in the data.

These findings are also relevant to the theoretical knowledge base as they are drawn from data collected from preschool and primary aged children. The data complies with the expectations of classical codeswitching as described by the MLF and 4-M models, with most exceptions in the very youngest age group. This suggests that children are able to produce intrasentential codeswitching when they acquire competence in their monolingual grammar. The insertion of content morphemes from English does not appear to require any more skills than the insertion of Mirpuri content morphemes. This supports Myers-Scotton's statement that the models "...provide theoretical mechanisms operating at abstract levels as explanations for surface distributions of data" (2002: 105).

10.3.2 THE CODESWITCHED COMPOUND VERB PHRASE

Since the first reporting of codeswitched compound verbs by Romaine (1986) there has been interest in this structure. Examples from the paper such as "ple kerna" (to play) and "mix kerna" (to mix) have been highlighted. Gardener-Chloros claims that "It cannot be satisfactorily analysed in terms of English or Punjabi grammar" (in Milroy and Muysken, 1995: 78). Muysken also highlights the construction, commenting on the fact that English verbs are inserted into the place where a Panjabi nouns typically occupies "This is quite a remarkable observation because in Panjabi monolingual verbal compounds the left-most member cannot be a verb, and must be a noun,..." (2000: 210).

The Mirpuri-English data collected in this research contains numerous examples of codeswitched compound verbs which closely resemble those reported by Romaine. The operator 'kar-na' (or female equivalent morphological form 'kar-ni') was the most frequently employed operator and this was also reported by Romaine. Romaine stated the structure as:

$$\text{verb}+(\text{prep})_{E/P} + \text{operator } (\textit{hona/kerna})_p \\ (\textit{ing})$$

(Romaine 1986: 39)

Where E/P indicates an English or Panjabi morpheme.

The children in the present study did not use 'hona' as this appears to be a lexical item used in Panjabi and not Mirpuri. However, the same basic structure was employed, i.e.

verb+(ing)_{E/M} + operator (*kar-na/kar-ni/mar-na/mar-ni*)

Where E/M indicates an English or Mirpuri morpheme.

The MLF and 4-M model demonstrates that the 'verb' element is a content morpheme. Content morphemes are typically nouns or verbs. The insertion of a content morpheme from the English lexicon to replace a content morpheme from the Mirpuri lexicon is therefore predicted and acceptable using the MLF 4-M model. The use of the operator ensures that the verb phrase *does* meet the requirements of the monolingual Mirpuri grammar.

Further questions include "How can apparent doubling of morphology be explained for examples such as "writing kar-na pija" (doing writing)? Secondly, "Why does the English verb not receive the late system morpheme directly?", that is, why are examples of verbs such as "eat-na" (analogous to 'kar-na' - *eating*) not found in the data? Myer-Scotton addresses these questions, highlighting that verbs are more difficult to insert than nouns as they are thematic role assigners rather than receivers. Therefore "*sufficient congruence* across grammatical systems in different languages is more an issue with verbs than nouns" (2002: 76). The doubling of morphology may be that verbs are simply underspecified by the children and treated as nouns. Myers-Scotton gives similar examples from Swahili/English analysing them as "...holistic forms in the mental lexicon..." (ibid: 95). Alternatively, the morphemes may be treated as gerunds (contrast "I am writing" – and "I did some writing"). The question of direct inflection of English verbs is related to this. If the verb stems are viewed as nouns then the codeswitched examples are identical to the monolingual Mirpuri compound verb. If they are viewed as verbs, then it may be that English and Mirpuri are too incongruent to combine directly. As discussed in Chapter

Six, Wichmann and Wohlgemuth (2005) state that when languages come into contact, verbs are typically treated as nouns.

10.4 RESEARCH FINDINGS: IMPLICATIONS FOR CLINICAL PRACTICE

Codeswitching has been popularly, but incorrectly viewed as a sign of language confusion, language disorder or a casual or improper form of language usage (Grosjean 2001, Genesee *et al.* 2004). Despite the large body of research to the contrary this is still a view commonly held. This research suggests the exact opposite situation for the Pakistani heritage community in Rochdale. That is, intrasentential codeswitching is a high frequency behaviour, a sign of grammatical sophistication and that an absence of codeswitching in children aged 3;0 and above is unusual.

Assessment of bilingual children's expressive language is challenging for clinicians. Few if any monolingual normative data exists for languages spoken by minority ethnic populations. Further, minority populations often speak varieties of languages which are non-standard, poorly described and influenced by contact with the majority language. Such variables make the identification of disordered language development patterns from linguistically diverse patterns difficult. Clinicians are recommended to evaluate "...the individual's communication skills in all the languages to which they are exposed" (Royal College of Speech and Language Therapists 2006: 269). However, this research has shown that bilingual to bilingual communication is essential to elicit a bilingual child's communicative potential. Assessing a bilingual child's languages separately imposes a monolingual expectation that limits the child to one frame and one lexicon at a time.

The high frequency of codeswitching presents several challenges. Unlike monolingual populations, assessment materials which allocate a scoring system for items produced in expressive language cannot be easily compiled. The range of behaviours may range from totally monolingual utterances to utterances where every content morpheme may be inserted from the additional language. Assessments similar in construction to the Renfrew Action Picture

Test (Renfrew 1997), where points are allocated for content ('information score') and grammar would prove impossible for Mirpuri-English populations. Instead, an evaluation of the utterance frame and the acceptability of the utterance in terms of the frame language are better measures of the child's success in sentence formation. This approach requires clinicians to be better informed about language contact phenomena. MLU measures are successful in the early stages of language development (up to MLU 4.0). However, for simplicity and comparison across languages, MLU words has been shown to be more useful than MLU morphemes. Low MLU scores may be indicative of language difficulties, however satisfactory MLU scores alone did not exclude a diagnosis of SLI. The case studies showed that children may have syntactic and grammatical difficulties and yet still achieve MLU scores similar to their typically developing peers.

The link between grammatical competence and codeswitching appears to be a useful perspective for clinicians. Children who have difficulty with grammatical relationships are likely to have difficulty producing codeswitched or bilingual utterances. This is because the two processes are the same. Mirpuri-English speaking children who have difficulty producing appropriate monolingual Mirpuri utterances or analogous intrasentential codeswitched utterances certainly look like candidates for further investigation by clinicians.

The EAL patterns of typically developing Pakistani heritage children have been shown to contrast with monolingual English acquisition patterns. This confirms that diagnosis of language difficulties can only be made if home language acquisition is affected. A diagnosis made on EAL data alone may lead to the misdiagnosis of language difficulties.

In summary, the following key recommendations may be made for clinical practice:

- Intrasentential codeswitching is a normal part of sequential bilingual children's language development (at least in the Mirpuri-English speaking population which is widespread in the UK). The presence of

codeswitching should not be viewed as a sign of confusion or language disorder. Parent(s)/guardians must be reassured that codeswitching is a grammatically and pragmatically sophisticated manner of communication which should not be discouraged.

- Codeswitched utterances are typically examples of the child's best utterances in terms of syntax and grammar. Where codeswitching is frequent and acceptable in the bilingual community at large, codeswitching assessment and linguistic analysis should be an essential component of the evaluation of a child's expressive language ability.
- A bilingual professional who speaks both (all) a child's languages must be involved in the assessment process of child suspected of having language impairment. It is only in the bilingual-to-bilingual communication situation that children are able to draw on all their linguistic resources and demonstrate their full potential.
- Assessment of children composed of two separate monolingual assessments may limit the child to one language at a time. This restricts the child's ability to employ codeswitched utterances and hence artificially partitions the child's languages. This may restrict expressive language and provide a false limited view of the child's language ability. Assessment of bilingual children should therefore itself be truly bilingual and not view the child as two monolinguals in one person.
- Qualitative assessment of a child's expressive language is far more useful diagnostically and when planning therapy (where indicated). Analysis using the MLF and 4M models may assist in identifying children having difficulties producing utterance frames.
- Quantitative assessment using measures such as MLU are less useful. Children presenting with MLU scores within the typical range may still be regarded as language impaired due to grammatical and morphological errors.
- An assessment of EAL development should not involve comparison with monolingual English normative data for sequential bilingual children. Such children develop mastery of syntax and morphology in a different way to their monolingual English peers. Clinicians risk confusing diverse

patterns of communication with language disorder if the child's skills in English are examined in isolation and no home language or bilingual assessment is carried out.

- Sequential bilingual children who do not employ codeswitching in their expressive language may have difficulty incorporating content morphemes from one language into another. This skill is the same skill as generating syntactically and grammatically sophisticated utterances in a monolingual utterance. Difficulty with grammatical frame production may indicate specific language impairment. Therefore, intrasentential codeswitched utterances are useful data when examining a child's expressive language ability. A lack of bilingual utterances (intrasentential utterances) may indicate that the child is at risk of specific language impairment. Such children are candidates for further assessment.

10.5 EVALUATION AND FUTURE RESEARCH

The researcher has produced a basic description of the Mirpuri language. This description is restricted to the basic language structures. The information therefore yielded useful information for analysing the early sentences of young Pakistani heritage children. It is obvious that such an under-recognised language needs further investigation, in both the monolingual form found in Pakistan and in the form found in the UK. The language development of children above the basic sentence level could then be explored. An investigation into the phonology of Mirpuri has already commenced (see Stow and Pert 1998, Stow and Pert in Zhu Hua and Dodd 2006, Stow and Pert 2006a, Stow 2006).

The use of a structured data collection tool for receptive language was successful. An official adapted form of the *Derbyshire Language Scheme Rapid Screening Test* was published for 'Mirpuri-Punjabi' (Masidlover 2001) along the same lines as the research version. The research version used in this study described the development of verbal comprehension skills and only began to reach ceiling at the 4;6-4;11 age band (single word noun and two word level). Even at age band 7;0-7;5 ceiling was not reached by all children for all items of

the test. Compliance with the comprehension tasks was higher than the expressive language tasks. Only four children (2.4%) refused to complete the DLS-RST compared with twenty three children who refused to complete the expressive language data task (13.8%). The DLS-RST involves acting out instructions and picture pointing (verbs). Both these methods are acknowledged to have limitations. Golinkoff and Hirsh-Paesk point out that enactment and acting out tasks "...may underestimate linguistic knowledge because children's predisposition to "act like x" may override the instruction to "act like y," even if the information in the sentence has been understood" (in Fletcher and MacWhinney 1995: 432). They also comment on picture tasks, stating that children may have insufficient motivation when presented with such materials. In addition, children may fail to understand artistic conventions such as lines to indicate motion or activity. As an alternative, researchers may seek more direct methods, employing instrumentation, video cameras and direct recording of cortical activity. Such methods, it is hoped, will provide more accurate information on what the child actually comprehends, bypassing motivation and behavioural aspects. For the present study, the comprehension data collection tool was a lo-tech solution screen to ensure that children did not present with severe receptive language difficulties. For this purpose the tool was effective.

The use of a structured data collection tool for expressive language, "Je Zindegi" ('this life', see Appendix Three) was successful for children in the early stages of development. For children providing language samples at MLU >4.0 a further, more complex tool was required which would have allowed a full use of the child's expressive language. The tool was shown to be reliable (a correlation of 0.739 between two data collection points, Chapter Five). The use of structured stimulus items did remove ambiguity for the purposes of analysing codeswitching data and allowed comparison of children across age bands. As no information was available on the development of Mirpuri, it was not possible at that time to produce a more challenging assessment for older children. Audio or video recording of free play scenarios or interactions with parents to gain spontaneous speech samples was also not appropriate for this population. Ara and Thompson state that "...many Asian children in the UK do not have similar

play materials to their mono-cultural peers, while others are willing to play with representational toys, even though these may be unfamiliar” (141). It is also likely that children have a different (but normal) experience of adult-child interactions. Adults from Asian families are reported to have more formal interactions with their children, with the extended family and siblings in particular providing more natural and varied communication opportunities (ibid).

MLU has been promoted as an indirect measure of syntactic development (Hewitt *et al.* 2005). There are obvious methodological differences between the MLU scores presented in this study, derived from a formal data collection situation and more naturalistic language sampling. However, even if these differences are put aside, the use of MLU scores to identify children with SLI has been questioned. Hewitt *et al.* (ibid) collected language samples from 27 children with SLI and 27 typically developing participants with a mean age of 6.01 and 5.99 respectively. They found that MLU-m measures only identified 67% of children diagnosed as SLI using standardised assessment techniques. The present study also found that children labelled as SLI had MLU scores in the same range as their typically developing peers. Therefore, low MLU scores may indicate language difficulties in a child, but MLU scores alone cannot rule out SLI.

For the collection of expressive data on English development, two different tools were employed. Cohort 1 were assessed at T2 using the Action Picture Test (Renfrew 1997) while Cohort 2 were assessed using “je zindegi”. This meant that Cohort 1 were restricted in their expressive language by the stimulus items when their language abilities may have developed beyond the ceiling of the assessment. The Action Picture Test does allow children to produce more complex utterances and is designed for monolingual English speaking children aged 3;6 to 8;5 years. However, the test is not culturally adapted for Pakistani heritage children and depicts objects and activities that children with a Pakistani heritage background would find unfamiliar. For example, item three shows a dog tied to a stick, and dogs are not typically kept as pets in the community. Item four depicts a man riding a horse as it jumps over a gate. The pictures are

now somewhat dated as the test was originally published in 1966, although its popularity remains high amongst clinicians and educationalist as a rapid assessment of expressive language. The Action Picture Test has been used to evaluate EAL programmes in the UK (Kotler *et al* 2001).

Although a large number of expressive language data sets were collected from children, individual age bands often had a small number of data sets, especially when each Pakistani heritage language was examined in turn. This affected the quantitative data (MLU scores), especially the Punjabi and Urdu scores. It would have been more informative to select only children from Mirpuri speaking homes, as this was the most frequently used language and the focus of much of the study. However, the misreporting of languages by parents meant that the selection of any particular language using information on consent forms prior to data collection was practically impossible.

The present study does not attempt to address the variable of codeswitching present in the adult model of Mirpuri. Informal observation and reports from adult informants strongly suggest that adults insert English origin lexical items into a Mirpuri frame on a regular basis. Children may be reflecting the parents' use of intrasentential codeswitching and this variable was not controlled. It has been reported that parents' discourse strategies have a direct bearing on the child's decision to use codeswitched utterances or persevere with a monolingual code (Juan-Garau and Perez-Vidal 2001). It not known how many other people in the extended family lived with the children in the study and what languages they spoke. As Ara and Thompson (in Duncan 1989: 139) point out "different family members may speak different languages to the child...If the child's older siblings attend school, English may soon become their dominant language, and the child may therefore be exposed to three languages". This situation is described as "...fairly common" for British Asian families (*ibid*). Such situations would help to explain codeswitching between Pakistani heritage languages as well as with English (Pert and Letts 2003). The important variable of home language exposure would have given more accurate information on overall language exposure. High frequency codeswitching suggests that adult

patterns of codeswitching are also high. Further research is indicated in order to compare the parents' and extended family input to the child's output.

Repetition of the data collection may have answered the question 'Do children treat content morphemes as synonyms?', i.e. do the same lemmas activate comparable items in the two lexicons. The highly structured format of the expressive language data collection tool "je zindegi" constrains the possible responses of the child. If a data collection point were placed a week after the initial data collection, within-child comparisons could have been made. Would a child use 'boy' as the subject on one occasion and 'mura' (boy) on another? This would also have helped answer the question as to whether the use of an item were because the child only knew the item in one language.

Both languages are highly activated during the process of bilingual sentence production. Myers-Scotton states that "...both languages are always "on" when a speaker engages in codeswitching, although the Matrix Language is always more activated" (2006: 243). High quality recordings of intrasentential utterances from Mirpuri-English speakers could be analysed in terms of their phonetic form. Do English inserted words retain an English phonological form or are they produced using a Mirpuri phonological form? If the former were found to be the case this would strengthen the assertion that both languages are activated in bilingual utterances.

Codeswitching in young children is often thought to be caused by gaps in vocabulary in one language, that is, a lack of translation equivalents. Vocabulary assessment (either direct or via parental report) in Mirpuri and then English would be useful to establish if children were aware of translation equivalents, and if so, if they used these items interchangeably in utterances.

One child in the current study was shown to experience home language loss on acquiring English as an additional language, while most children continued to develop their home language skills. A longitudinal study would be useful to examine the long term outcome of these children's language usage.

Finally, further case studies on bilingual children from the Pakistani heritage community presenting with specific language impairment would help to establish if all children in this category had reduced codeswitching, difficulty with late system morphemes and higher rates of unstructured mixing.

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**APPENDIX ONE:
CONSENT FORM AND PARENT INFORMATION**



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Bilingual Language Study - Parent Information

Dear Parent / Guardian

We are conducting a study investigating normal language development and language delay in children in their early years who hear two languages. The study aims to describe the language development of children who will first learn Punjabi / Mirpuri / Urdu at home and then English at school.

We currently understand the development of language in an English speaking child and this enables us to identify children who require speech therapy intervention. We now need to describe the development of language in children who hear and speak Punjabi / Mirpuri / English. This knowledge will then help us to offer more effective intervention for bilingual children.

We would like your child to take part in this study. She/ He will be asked to carry out tasks involving describing pictures and pointing to objects. Each task will be explained, demonstrated and practiced before testing begins. If your child becomes unhappy, testing will stop. A Speech and Language Therapist and a Bilingual Co-worker will carry out the testing.

The information we gather about your child will be used anonymously. This means that nobody looking at the results we gather could identify your child. The Speech and Language Therapist and Bilingual Co-worker will be happy to discuss the study further and answer any further questions you may have. You may withdraw from this study at any time. Your participation or decision not to participate in this study in no way affects your child's future access to speech and language therapy if this should be needed.

Yours sincerely

Speech and Language Therapist



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**Bilingual Language Study
Parental Consent Form**

I, _____ confirm that I understand the nature of the study*.

I consent to my son / daughter _____ being assessed using the tasks described.

My child's date of birth is ____ / ____ / ____

I realise that I may attend the assessment session and that if my child becomes distressed or does not wish to continue, assessment will cease.

*

Either

I have read the explanation attached

Or

I have given a verbal translation of the patient consent form and I believe this person has understood it.

Signed _____ **Assessing Speech and Language Therapist**

Signed _____ **Bilingual co-worker**

Date ____ / ____ / ____

**APPENDIX TWO:
RECEPTIVE LANGUAGE
DATA COLLECTION TOOL**

- a) Original published Derbyshire Language
Scheme – Rapid Screening Test (DLS-RST)
- b) Mirpuri adaptation

RST

RAPID SCREENING TEST SCORE SHEET

NAME _____
 DATE OF TEST _____
 DATE OF BIRTH _____
 AGE _____
 Level of Impairment _____
 (eg 1, 2, 3, 4 or 5)
 Highest level with a score of more than 50% correct _____

CONTENT	SCORE	STARTING POINT DTC
Item 1 SINGLE WORD LEVEL Real objects	5/6	SINGLE WORD - SUBTEST 1 REAL OBJECTS
Item 2 Pictures of actions	4/6	SINGLE WORD - SUBTEST 4 PICTURE TEST
* Item 3 TWO WORD LEVEL Command - two information carrying words	2/3	TWO WORD - SUBTEST 1 TOY PLAY TEST
Item 4 THREE WORD LEVEL Command - three information carrying words		THREE WORD - SUBTEST 1 TOY PLAY SUBTEST
Item 5 FOUR AND ABOVE Command - including 'and'	1/1	THREE WORD - SUBTEST 1 TOY PLAY TEST
5(b) List of three objects	} /3	FOUR WORD - TOY PLAY TEST & LEVELS 5 - 10
5(c) Command - two separate actions		
5(d) Sequences of two commands		

*If the child passes an item easily (ie n... demonstrations or prompts) and then only manages one request on the next item, drop back to Two Word Level if there are more than 50% failed items.
 If it is not the intention of the authors for this test to be used for a decision about the child's language comprehension, it is intended to be used in conjunction with the Disabled Test of Comprehension (DTC).

DERBYSHIRE LANGUAGE SCHEME
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TOTAL EQUIPMENT NEEDED:
 Cup, teaspoon, brick, key, fork, pencil, Shell doll, box, large enough to contain the doll
 Child's knife, plate
 If you use alternative items 3-5 you will also need a teddy bear and a toy bed, chair and table the same scale as the teddy.

Pictures: Drinking, sleeping, washing, running (Philip & Tooley's Actions-picture & word making cards 183-11)
 eating, sitting down

GENERAL PROCEDURE: Replace the equipment in its original position, after the child has completed each request.

Item 1: Procedure: Place objects marked (A) below your child and ask him/her to give you one marked (A) from the group (B) using same procedure
 Wording of Request: "Where's the _____?"
 or "Show me the _____"
 or "Give me the _____"
 Equipment: (A) Cup, Spoon, Brick (B) Key, Fork, Pencil
 Score /6

Item 2: Procedure: As for Item 1
 Wording of Request: "Who's washing?"
 or "Which one's washing?"
 or "Give me _____ one who's washing"
 Equipment: Pictures of children carrying out simple actions.
 (A) Eating, Sleeping, Washing (B) Drinking, Running, Sitting down
 Score /6

Item 3: Equipment: (A) Brick, Spoon, Doll, Knife (B) Box, Plate, Cup
 Procedure: Put items (A) near the child and items (B) about 6 feet away
 Requests: (a) "Put the spoon in the cup."
 (b) "Put the brick on the plate."
 (c) "Put the doll in the box"
 Score /3

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 W. Knowles
 - 1 -

ALTERNATIVE ITEMS FOR TESTER WHO FEELS THAT THE USE OF TOYS WILL PROVIDE A MORE ACCURATE RESULT BECAUSE OF INCREASED MOTIVATION.

GENERAL PROCEDURE: Replace the equipment in its original position, after the child has completed each request.

<p>Item 3: Equipment: Doll, teddy bear, toy chair, bed, table.</p> <p>Requests: (a) Put dolly on the bed (b) Put teddy on the table (c) Put teddy on the chair</p> <p>Score: /3</p>
<p>Item 4: Equipment: Doll, teddy bear, box (upside down), pencil.</p> <p>Requests: (a) Put the pencil under the table (b) Put the teddy on the bed (c) Put the teddy under the box</p> <p>Score: /3</p>
<p>Item 5: Equipment: Doll, spoon, doll, knife, pencil.</p> <p>Procedure: <i>Penetration: meet the child and item (B) 6' further away.</i></p> <p>Lead-in-Item: Put the doll in the box (Leave it there) Put the spoon in the box (Replace in original positions) Put the doll and spoon in the box</p> <p>GIVE THE REQUEST AS A SINGLE UNIT. DO NOT BREAK INTO PARTS</p> <p>Requests: (a) Put the spoon and knife on the plate (b) Give me the cup, the box and the doll (c) Put the pencil in the box and the knife in the cup (d) Put the brick under the box and give me the plate</p> <p>Score 5(a) /1 Score 5(b)-(d) /3</p>

GENERAL PROCEDURE: Replace the equipment in its original position, after the child has completed each request.

<p>Item 4: Equipment: As for Item 3</p> <p>Procedure: As for Item 3</p> <p>Requests: (a) Put the knife under the plate (b) Put the brick in the box (c) Put the spoon under the box</p> <p>Score: /3</p>
<p>Item 5: Equipment: As for Item 3 PLUS A PENCIL</p> <p>Procedure: As for Item 3</p> <p>Lead-in-Item: Put the doll in the box (Leave it there) Put the spoon in the box (Replace in original positions) Put the doll and spoon in the box</p> <p>GIVE THE REQUEST AS A SINGLE UNIT. DO NOT BREAK INTO PARTS.</p> <p>Test Request: (a) Put the spoon and knife on the plate (b) Give me the cup, the box, and the doll (c) Put the pencil in the box and the knife in the cup (d) Put the brick under the box and give me the plate</p> <p>Score 5(a) /1 Score 5(b)-(d) /3</p>

Derbyshire Language Scheme (DLS) Rapid Screening Test (RST)

Adaptation for Mirpuri by S. Pert

Page 1

TOTAL EQUIPMENT NEEDED:*(Items which differ from the original RST are underlined)*

Objects: Cup, teaspoon, car, key, watch, pencil, teddy bear, box large enough to contain the teddy bear, Child's comb, plate

If you use alternative items 3-5 you will also need a cat and a toy bed, chair and table the same scale as the cat.

Pictures:

Drinking, sleeping, washing, running, eating, sitting down.

(Use pictures that are culturally

appropriate to the client group

MUST all be the same gender

GENERAL PROCEDURE: Replace the equipment in its original position, after the child has completed each request.

Changes to the Original RST: Objects substituted			
Item 1		Item 3	
ORIGINAL	Bilingual Version	ORIGINAL	Bilingual Version
brick	car	brick	car
	'gʌɖi		'gʌɖi
fork	watch	doll	teddy bear
	'kʌɾi		tedi bæə
		knife	comb
			kʌŋgi
Alternative Items 3, 4 and 5 – Toys			
Item 3 – 5		As above	
ORIGINAL	Bilingual Version		
doll	cat		
	bɪli		

Key

Instruction
Instruction transcribed in I.P.A. for language of assessment
Direct translation of adapted instruction with notes relating to information carrying morphology

Item 1: *Procedure:* Place objects marked (A) below near the child and ask him/her to give you or show you the one you name. Remove group (A) from the table when completed and try group (B) using the same procedure.

Wording of Requests:

Where's the _____ ?		
_____	gɹ̩t̩e	je
_____	where	is

or

Show me the _____		
mɪki	d̩as	_____
me	show	_____

or

Give me the _____		
_____	mɪki	d̩e
_____	me	give

Equipment:

(A)	Cup	Spoon	Car
(A)	kɹp	'dʒɹmɹdʒ	'gɹd̩i
(B)	Key	Watch	Pencil
(B)	dʒa'bi	'kɹɹi	pensɪɩ

<p>(A1)</p> <table border="1" style="width: 100%; text-align: center;"> <tr><th colspan="3">Show me the cup</th></tr> <tr><td>mɪki</td><td>d̩as</td><td>kɹp</td></tr> <tr><td>me</td><td>show</td><td>cup</td></tr> </table>	Show me the cup			mɪki	d̩as	kɹp	me	show	cup	<p>(B1)</p> <table border="1" style="width: 100%; text-align: center;"> <tr><th colspan="3">Show me the key</th></tr> <tr><td>mɪki</td><td>d̩as</td><td>dʒa'bi</td></tr> <tr><td>me</td><td>show</td><td>key</td></tr> </table>	Show me the key			mɪki	d̩as	dʒa'bi	me	show	key
Show me the cup																			
mɪki	d̩as	kɹp																	
me	show	cup																	
Show me the key																			
mɪki	d̩as	dʒa'bi																	
me	show	key																	
<p>(A2)</p> <table border="1" style="width: 100%; text-align: center;"> <tr><th colspan="3">Show me the spoon</th></tr> <tr><td>mɪki</td><td>d̩as</td><td>'dʒɹmɹdʒ</td></tr> <tr><td>me</td><td>show</td><td>spoon</td></tr> </table>	Show me the spoon			mɪki	d̩as	'dʒɹmɹdʒ	me	show	spoon	<p>(B2)</p> <table border="1" style="width: 100%; text-align: center;"> <tr><th colspan="3">Show me the watch</th></tr> <tr><td>mɪki</td><td>d̩as</td><td>'kɹɹi</td></tr> <tr><td>me</td><td>show</td><td>watch</td></tr> </table>	Show me the watch			mɪki	d̩as	'kɹɹi	me	show	watch
Show me the spoon																			
mɪki	d̩as	'dʒɹmɹdʒ																	
me	show	spoon																	
Show me the watch																			
mɪki	d̩as	'kɹɹi																	
me	show	watch																	
<p>(A3)</p> <table border="1" style="width: 100%; text-align: center;"> <tr><th colspan="3">Show me the car</th></tr> <tr><td>mɪki</td><td>d̩as</td><td>'gɹd̩i</td></tr> <tr><td>me</td><td>show</td><td>car</td></tr> </table>	Show me the car			mɪki	d̩as	'gɹd̩i	me	show	car	<p>(B3)</p> <table border="1" style="width: 100%; text-align: center;"> <tr><th colspan="3">Show me the pencil</th></tr> <tr><td>mɪki</td><td>d̩as</td><td>pensɪɩ</td></tr> <tr><td>me</td><td>show</td><td>pencil</td></tr> </table>	Show me the pencil			mɪki	d̩as	pensɪɩ	me	show	pencil
Show me the car																			
mɪki	d̩as	'gɹd̩i																	
me	show	car																	
Show me the pencil																			
mɪki	d̩as	pensɪɩ																	
me	show	pencil																	
<p>Score _____ /6</p>																			

Item 2: Procedure: As for Item 1

Wording of Requests:

Who's washing ?		
kān	ṭona	pia
who	washing (+ male)	is (+ male)

or

Which one's washing?		
kira	ṭona	pia
which-one	washing (+ male)	is (+ male)

or

Give me the one who's washing				
miki	de	džera	ṭona	pia
me	give	the-one	washing (+ male)	is (+ male)

Equipment: Pictures of children carrying out simple actions
N.B. All the SAME gender

Who's
verb-ing
kira
pia

(1)

Which one's eating?		
kira	kana	pia
which-one (+ male)	eating (+ male)	is (+ male)

(2)

Which one's sleeping?		
kira	sṭa	va
which-one (+ male)	sleeping (+ male)	is (+ male)

(3)

Which one's washing?		
kira	ṭona	pia
which-one (+ male)	washing (+ male)	is (+ male)

(4)

Which one's drinking?		
kira	pina	pia
which-one (+ male)	drinking (+ male)	is (+ male)

(5)

Which one's running?		
kira	ḍona	pia
which-one (+ male)	running (+ male)	is (+male)

(6)

Which one's sitting?		
kira	bet ^h a	va
which-one (+ male)	sitting (+ male)	is (+ male)

Score /6

Item 3:	Equipment:	(A) Car Spoon Teddy bear Comb												
		(A) 'gɒdi 'dʒɒmɒdʒ tedi bæə kɒŋgi												
(B) Box Plate Cup														
(B) dɒba plɛɪt kɒp														
Procedure:	Put items (A) near the child and items (B) about 6' further away													
Requests:	(a)	<table border="1"> <tr><th colspan="4">Put the spoon in the cup</th></tr> <tr><td>dʒɒmɒdʒ</td><td>kɒpe 'ne</td><td>vɪtʃ</td><td>raq</td></tr> <tr><td>spoon</td><td>cup</td><td>in</td><td>put</td></tr> </table>	Put the spoon in the cup				dʒɒmɒdʒ	kɒpe 'ne	vɪtʃ	raq	spoon	cup	in	put
	Put the spoon in the cup													
	dʒɒmɒdʒ	kɒpe 'ne	vɪtʃ	raq										
	spoon	cup	in	put										
	(b)	<table border="1"> <tr><th colspan="4">Put the car on the plate</th></tr> <tr><td>gɒdi</td><td>plɛɪt 'ne</td><td>ɒpɔ</td><td>raq</td></tr> <tr><td>car</td><td>plate</td><td>on</td><td>put</td></tr> </table>	Put the car on the plate				gɒdi	plɛɪt 'ne	ɒpɔ	raq	car	plate	on	put
	Put the car on the plate													
	gɒdi	plɛɪt 'ne	ɒpɔ	raq										
	car	plate	on	put										
	(c)	<table border="1"> <tr><th colspan="4">Put the teddy bear in the box</th></tr> <tr><td>tɛɪ bæə</td><td>dɒbe 'ne</td><td>vɪtʃ</td><td>raq</td></tr> <tr><td>teddy bear</td><td>box</td><td>in</td><td>put</td></tr> </table>	Put the teddy bear in the box				tɛɪ bæə	dɒbe 'ne	vɪtʃ	raq	teddy bear	box	in	put
Put the teddy bear in the box														
tɛɪ bæə	dɒbe 'ne	vɪtʃ	raq											
teddy bear	box	in	put											
Score		/3												

GENERAL PROCEDURE: Replace the equipment in its original position, after the child has completed each request.

Item 4:	Equipment: As for Item 3													
	Procedure: As for Item 3													
Requests:	(a)	<table border="1"> <tr><th colspan="4">Put the comb under the plate</th></tr> <tr><td>kɒŋgi</td><td>plɛɪt 'ne</td><td>at̩^h</td><td>raq</td></tr> <tr><td>comb</td><td>plate</td><td>under</td><td>put</td></tr> </table>	Put the comb under the plate				kɒŋgi	plɛɪt 'ne	at̩ ^h	raq	comb	plate	under	put
	Put the comb under the plate													
	kɒŋgi	plɛɪt 'ne	at̩ ^h	raq										
	comb	plate	under	put										
	(b)	<table border="1"> <tr><th colspan="4">Put the car in the cup</th></tr> <tr><td>gɒdi</td><td>kɒpe 'ne</td><td>vɪtʃ</td><td>raq</td></tr> <tr><td>car</td><td>cup</td><td>in</td><td>put</td></tr> </table>	Put the car in the cup				gɒdi	kɒpe 'ne	vɪtʃ	raq	car	cup	in	put
	Put the car in the cup													
	gɒdi	kɒpe 'ne	vɪtʃ	raq										
	car	cup	in	put										
	(c)	<table border="1"> <tr><th colspan="4">Put the spoon under the box</th></tr> <tr><td>dʒɒmɒdʒ</td><td>dɒbe 'ne</td><td>at̩^h</td><td>raq</td></tr> <tr><td>spoon</td><td>box</td><td>under</td><td>put</td></tr> </table>	Put the spoon under the box				dʒɒmɒdʒ	dɒbe 'ne	at̩ ^h	raq	spoon	box	under	put
Put the spoon under the box														
dʒɒmɒdʒ	dɒbe 'ne	at̩ ^h	raq											
spoon	box	under	put											
Score		/3												

Item 5: Equipment: As for Item 3 PLUS A PENCIL

Procedure: As for Item 3

Lead-in-item:

Not scored

Put the teddy bear in the box			
tedi bɛə	dʌbe 'ne	vitʃ	raq
teddy bear	box	in	put

(Leave it there)

Now, put the spoon in the box				
unɹ	dʒʌmʌdʒ	dʌbe 'ne	vitʃ	raq
now,	spoon	box	in	put

(Replace in original positions)

Now, put the teddy bear and the spoon in the box						
unɹ	tedi bɛə	t̩e	dʒʌmʌdʒ	dʌbene	vitʃ	raq
now,	teddy bear	and	spoon	box	in	put

GIVE THE REQUEST AS A SINGLE UNIT. DO NOT BREAK INTO PARTS.

Test Request:

(a)

Put the spoon and comb on the plate					
dʒʌmʌdʒ	t̩e	kʌŋgi	plɛɪte 'ne	ʌpɹ	raq
spoon	and	comb	plate	on	put

Score
5 (a)
/1

(b)

Give me the cup, the box, and the teddy bear					
mɪki	kʌp	dʌba	t̩e	tedi bɛə	ɔ̩e
me	cup	box	and	teddy bear	give

(c)

Put the pencil in the box			
pensɪl	dʌbe 'ne	vitʃ	raq
pencil	box	in	put

and the comb in the cup				
t̩e	kʌŋgi	kʌpe 'ne	vitʃ	raq
and	comb	cup	in	put

(d)

Put the car under the box and give me the plate							
gʌdi	debe 'ne	ʌt	raq	t̩e	mɪki	pleɪt	ɔ̩e
car	box	under	put	and	me	plate	give

Score **5(b)-(d)** /3

APPENDIX THREE:

EXPRESSIVE LANGUAGE DATA COLLECTION TOOL

- a) Questions and prompts in Mirpuri, Punjabi and Urdu
- b) Example of a stimulus item “je zindegi” (this life)
- c) Example of target utterances in Mirpuri, Punjabi and Urdu

Mirpuri
Questions and Prompts for Mirpuri, Punjabi and Urdu

1. Give this direction and question for ALL items

Mirpuri	eī	tʌsviɾ	tæk ^h
Word-by-word translation	this	picture	look
English translation	Look at this picture		

Mirpuri	qe	onā	pɪja
Word-by-word translation	what	happening	is
English translation	What's happening?		

2a. Ask this question ONLY if the child omits the subject

Mirpuri	e	qunā
Word-by-word translation	this	who
English translation	Who's this?	

2b. Ask this question ONLY if the child omits the verb (+ object)

Mirpuri	e	qe	qarne	pe
Word-by-word translation	this	what	doing-they	are
English translation	What are they doing?			

Punjabi
Questions and Prompts for Mirpuri, Punjabi and Urdu

1. Give this direction and question for ALL items

Punjabi	e ^h	tʌsviɾ	dek
Word-by-word translation	this	picture	look
English translation	Look at this picture		

Punjabi	qi	honḍā	eī
Word-by-word translation	what	happening	is
English translation	What's happening?		

2a. Ask this question ONLY if the child omits the subject

Punjabi	eɪ	qōn	eī
Word-by-word translation	this	who	is
English translation	Who's this?		

2b. Ask this question ONLY if the child omits the verb (+ object)

Punjabi	eī	qi	qarḍe	nē
Word-by-word translation	this	what	doing-they	are
English translation	What are they doing?			

Urdu
Questions and Prompts for Mirpuri, Punjabi and Urdu

1. Give this direction and question for ALL items

Urdu	je	tΔsviṛ	ḍek ^h o
Word-by-word translation	this	picture	look
English translation	Look at this picture		

Urdu	qi ja	hō	rΔha	he
Word-by-word translation	what	happening	doing	is
English translation	What's happening?			

2a. Ask this question ONLY if the child omits the subject

Urdu	je	qōn	he
Word-by-word translation	this	who	is
English translation	Who's this?		

2b. Ask this question ONLY if the child omits the verb (+ object)

Urdu	je	qi ja	kar	rΔhe	he
Word-by-word translation	this	what	doing	they-are	is
English translation	What are they doing?				



	<p style="text-align: center;">Reference</p>	<p style="text-align: center;">11. Subject + Object + Verb</p>
<p style="text-align: center;">ENGLISH (Free translation)</p>		<p style="text-align: center;">(the) lady is reading (a) newspaper</p>

<p style="text-align: center;">MIRPURI</p> <p style="text-align: center;">Mirpuri to English literal translation</p>	<p style="text-align: center;">dʒenani</p>	<p style="text-align: center;">axbaɽ</p>	<p style="text-align: center;">parni</p>	<p style="text-align: center;">'pi</p>
<p style="text-align: center;">English literal translation</p>	<p style="text-align: center;">lady</p>	<p style="text-align: center;">newspaper</p>	<p style="text-align: center;">read –ing + female</p>	<p style="text-align: center;">is + female</p>

<p style="text-align: center;">PUNJABI</p> <p style="text-align: center;">Punjabi to English literal translation</p>	<p style="text-align: center;">oreṯ</p>	<p style="text-align: center;">axbaɽ</p>	<p style="text-align: center;">parḍi</p>	<p style="text-align: center;">'je</p>
<p style="text-align: center;">English literal translation</p>	<p style="text-align: center;">lady</p>	<p style="text-align: center;">newspaper</p>	<p style="text-align: center;">read –ing + female</p>	<p style="text-align: center;">is</p>

<p style="text-align: center;">URDU</p>	<p style="text-align: center;">oreṯ</p>	<p style="text-align: center;">axbaɽ</p>	<p style="text-align: center;">par</p>	<p style="text-align: center;">rahi</p>	<p style="text-align: center;">'he</p>
<p style="text-align: center;">Urdu to English literal translation</p>	<p style="text-align: center;">lady</p>	<p style="text-align: center;">newspaper</p>	<p style="text-align: center;">read</p>	<p style="text-align: center;">doing + female</p>	<p style="text-align: center;">is</p>

**APPENDIX FOUR:
MIRPURI, PUNJABI AND URDU WORDS TO
DENOTE RELATIONSHIPS WITHIN THE FAMILY**

Extended family – Aunts and Uncles and Cousins

Spouse

		<p>ṭaja (Older than father)</p>	ṭaji
	a.	ṭaja	ṭaji
15.	Paternal Uncle (Father's brother)	ṭaja tʃatʃa (Younger than father)	ṭaji tʃatʃi
	b.	tʃatʃa tʃatʃa	tʃatʃi tʃatʃi
16.	Aunt (Father's brother's wife)		ṭaji tʃatʃi
	a.		ṭaji
	b.		tʃatʃi tʃatʃi
17.	Paternal Aunt (Father's sister)	puwa OR pupi puwa OR pupi pupi	pupa pupa pupa
18.	Uncle (Father's sister's husband)		pupa or ṭaja (if paternal aunt is older than father) or tʃatʃa (if paternal aunt is younger than father)
19.	Maternal Uncle (Mother's brother)	mamu: OR marja mamu: OR mama mamu:	mami: OR marji mami: mami:
19.	Aunt (Mother's brother's wife)		mami: OR marji mami: mami:

		hala or ma'si		Uncle		halu or marğa
21.	Maternal Aunt (Mother's sister)	hala or ma'si hala	22.	(Mother's sister husband)		halu halu
		[Uncle] + plural + [Aunt word] +		na (male) or ni (female)	+ muṭa (boy) + kuri (girl)	e.g. ʔajai na muṭa Father's older brother's son e.g. puwa na muṭa Father's sister's son e.g. mame ɖi kuri Mother's brother's daughter e.g. hala ɖi kuri Mother's sister's daughter
23.	Cousin	[Uncle] + plural + [Aunt word] + [Uncle or Aunt word] +		ɖa (male) ɖi (female) zaɖ	+ manda (boy) + kuri (girl) + [brother] or [sister]	

Extended family - Grandparents

		Spouse	
24.	Grandfather (Father's father)	ḡaḡa ḡaḡa ḡaḡa	ḡaḡi ḡaḡi ḡaḡi
25.	Grandmother (Father's mother)	nana nana nana	nani nani nani
26.	Grandfather (Mother's father)	nana nana nana	nani nani nani
27.	Grandmother (Mother's mother)		
28.	Child	batʃa (male) batʃi (female) batʃa (male) batʃi (female)	batʃae batʃae batʃae
29.	Children	baua dʒi baba dʒi baba dʒi	bei dʒi bei dʒi bei dʒi
30.	Elderly man		
31.	Elderly lady		

**APPENDIX FIVE:
HOME LANGUAGE DEVELOPMENT DATA**

DISTRIBUTION OF VERBS IN HOME LANGUAGE
DATA SETS AT T1 AND T2 CATEGORISED AS:

- HOME LANGUAGE VERBS
(Unique L1 verbs)
- INSERTED ENGLISH VERBS
(Inserted English / codeswitched / compound
verbs)

**Distribution of verbs in home language data sets at T1 and T2:
Home language verbs, inserted English verbs and compound verbs including an initial
English element**

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
<p>1. Female T1 : 3;11.16 T2: 4;11.30</p>	<p>10</p> <p>beh-ta (sitting) char-ni (preparing) khel-na (playing) khult-ta (standing) ilkh-na (writing) par-ni (reading) pee-ni (drinking) pundz-na (cleaning) sung (smell) tari mar-ni (clap doing)</p>	<p>3 (1 + 2)</p> <p>cut-ani (cutting) hoover mar-ni (hoovering) paint kar-na (painting)</p>	<p>15</p> <p>beh-ti (sitting) char-na (climbing) has-na (smiling) khal-na (standing) kha-na (eating) kini (has got) paka-ni (making) pee-ni (drinking) pundz-na (cleaning) rak-ni (putting) sung-na (smelling) su-ta (sleeping) tak-ni (looking) tari ja (play – sense of clap)</p>	<p>5 (1 + 4)</p> <p>brush mar-ni (brushing) clap mar-ni (clapping) colour kar-na (colouring) cut-ani (cutting) hoover mar-ni (hovering)</p>

APPENDICES

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
2. Female T1 : 5;5.3 T2: 6;5.2	No response at T1	-	tur-na (walking) 1 tur-na (walking)	1 (0+ 1) brush mar-ni (brushing)
3. Female T1 : 5;5.27 T2: 6;5.26	9 bana-ni (making) beh-ta (sitting) chai (hold) char-na (climbing) khal-ta (standing) kha-na (eating) pee-ni (drinking) sat-na (throwing) tari mar-ni (clapping)	5 (1 + 4) bath kar-na (doing bath) brush mar-ni (brushing) colouring kar-na (colouring) cut-ani (cutting) machine mar-ni (doing machine)	No response at T2	-

APPENDICES

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
<p>4. Male</p> <p>T1 : 5;7.5</p> <p>T2: 6;7.4</p>	<p>10</p> <p>bana-ndi (making)</p> <p>bəht (sit)</p> <p>char-da (climbing)</p> <p>has-da (smiling)</p> <p>kha-nda (eating)</p> <p>khar-a (standing)</p> <p>pakar-da (holding)</p> <p>par-di (reading)</p> <p>ton-da (washing)</p> <p>tur-da (walking)</p>	<p>1 (0 + 1)</p> <p>brush kar-di (brushing)</p>	<p>0</p>	<p>14 (14 + 0)</p> <p>clapping</p> <p>clean (his hands)</p> <p>climbing</p> <p>eating</p> <p>eating</p> <p>eating</p> <p>making</p> <p>picking</p> <p>pointing</p> <p>pushing</p> <p>reading</p> <p>sitting down</p> <p>sleeping</p> <p>smelling</p> <p>throwing</p>

APPENDICES

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
<p>5. Female</p> <p>T1 : 3;10.7</p> <p>T2: 4;10.30</p>	<p>6</p> <p>bana-ndi (making)</p> <p>has-na (smiling)</p> <p>kha-na (eating)</p> <p>likh-na (writing)</p> <p>pee-ndi (drinking)</p> <p>tur-na (walking)</p>	<p>5 (4 + 1)</p> <p>brushing</p> <p>cut-nai (cutting)</p> <p>sitting down</p> <p>throwing</p> <p>wash</p>	<p>11</p> <p>ba-ni (putting)</p> <p>beh-ta (sitting)</p> <p>has-na (smiling)</p> <p>kha-ni (eating)</p> <p>ladder kar-na (doing ladder)</p> <p>likh-na (writing)</p> <p>par-ni (reading)</p> <p>pee-ni (drinking)</p> <p>saf kar-na (clean doing)</p> <p>su-ta (sleeping)</p> <p>tur-na (walking)</p>	<p>6 (0 + 6)</p> <p>clapping kar-ni (clapping doing)</p> <p>climb kar-nay (climb doing)</p> <p>hoover kar-ni (doing hoover)</p> <p>pointing kar-ni (pointing doing)</p> <p>smile kar-ni (smiling)</p> <p>throw karnay (throw doing)</p>

APPENDICES

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
<p>6. Female</p> <p>T1: 4;0.17</p> <p>T2: 5;1.9</p>	<p>11</p> <p>as-ni (smiling)</p> <p>bana-nay (making)</p> <p>char-nay (climbing)</p> <p>isra kar-ni (doing like-this)</p> <p>khal-tay (standing)</p> <p>kha-ni (eating)</p> <p>pee-ni (drinking)</p> <p>rak-ni (putting)</p> <p>saf kar-ni (doing cleaning)</p> <p>sat-nay (throwing)</p> <p>tak-ni (looking)</p>	<p>3 (1 + 2)</p> <p>colour kar-ni (colouring)</p> <p>cut-eni (cutting)</p> <p>machine mar-ni (doing machine)</p>	<p>7</p> <p>beh-ni (sitting)</p> <p>tur-na (walking)</p> <p>kha-ni (eating)</p> <p>pee-ni (drinking)</p> <p>tak-ni (looking)</p> <p>kinda (got)</p> <p>khel-ni (playing)</p>	<p>12 (0 + 12)</p> <p>point kar-ni (pointing)</p> <p>clap kar-ni (clapping)</p> <p>smile kar-ni (smiling)</p> <p>draw kar-ni (drawing)</p> <p>sleep kar-na (sleeping)</p> <p>machine mar-ni (doing machine)</p> <p>clean kar-ni (cleaning)</p> <p>brush kar-ni (brushing)</p> <p>cut-eni (cutting)</p> <p>mix kar-na (mixing)</p> <p>climb kar-ni (climbing)</p> <p>make kar-ni</p>

APPENDICES

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
<p>7. Male</p> <p>T1: 4;1.29</p> <p>T2: 5;4.17</p>	<p>13</p> <p>band kar raha hea (close doing)</p> <p>beh-ti (sitting)</p> <p>chal (walk)</p> <p>dal (give)</p> <p>eh kar-da (this doing)</p> <p>likh-na (writing)</p> <p>paka-nde (preparing)</p> <p>par-ni (reading)</p> <p>pee-nda (drinking)</p> <p>peh-ne (wearing)</p> <p>pundz-da (cleaning)</p> <p>rak (put)</p> <p>sung-da (smelling)</p>	<p>3 (1 + 2)</p> <p>brush mar-na (brushing)</p> <p>eating</p> <p>machine mar-da (machine doing)</p>	<p>12</p> <p>bana-ni (making)</p> <p>beh-ni (sitting)</p> <p>chai-a (picking up)</p> <p>kara-na (giving)</p> <p>khal-ta (standing)</p> <p>kha-ni (eating)</p> <p>khel-na (playing)</p> <p>pee-ni (drinking)</p> <p>su-ta (sleeping)</p> <p>tak-ni (looking)</p> <p>to-na (washing)</p> <p>tur-na (walking)</p>	<p>5 (0 + 5)</p> <p>brush kar-ni (brushing)</p> <p>clap kar-ni (clapping)</p> <p>colour kar-na (colouring)</p> <p>machine mar-ni (doing machine)</p> <p>point kar-ni (pointing)</p>

APPENDICES

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
<p>8. Male</p> <p>T1 : 4;2.6</p> <p>T2 : 5;4.25</p>	No response at T1	-	<p>10</p> <p>bana-ni (making)</p> <p>beh-ni (sitting)</p> <p>has-na (smiling)</p> <p>pee-ni (drinking)</p> <p>sat-nay (throwing)</p> <p>seh-na (sleeping)</p> <p>tak-nay (looking)</p> <p>tak-ni (looking)</p> <p>to-na (washing)</p> <p>tur-na (walking)</p>	<p>9 (1 + 8)</p> <p>brush mar-ni (brushing)</p> <p>clap kar-ni (clapping)</p> <p>clean kar-na (cleaning)</p> <p>climb kar-nay (climbing)</p> <p>colour kar-na (colouring)</p> <p>cut-ni (cutting)</p> <p>hoover mar-ni (hoovering)</p> <p>point kar-ni (pointing)</p> <p>smell kar-na (smelling)</p>

APPENDICES

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
<p>9. Male</p> <p>T1 : 3;9.24</p> <p>T2 : 4;10.20</p>	No response at T1	-	<p>12</p> <p>bana-ni (making)</p> <p>beh-ti (sitting)</p> <p>chai (pick-up)</p> <p>char-na (climbing)</p> <p>khal-ta (standing)</p> <p>kha-na (eating)</p> <p>khel-na (playing)</p> <p>par-ni (reading)</p> <p>pee-ni (drinking)</p> <p>pundz-na (drying)</p> <p>su-ta (sleeping)</p> <p>tariya mar-ni (clapping)</p>	<p>4 (1 + 3)</p> <p>bath kar-na (doing bath)</p> <p>brush mar-ni (brushing)</p> <p>colour kar-na (colouring)</p> <p>cut-ni (cutting)</p>

APPENDICES

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
<p>10. Female</p> <p>T1: 5;9.2</p> <p>T2: 6;11.2</p>	<p>2</p> <p>beh-ndi (sitting)</p> <p>khel-da (playing)</p>	<p>10 (10 + 0)</p> <p>brushing</p> <p>clapping</p> <p>cleaning</p> <p>colour</p> <p>cutting</p> <p>eating</p> <p>laugh</p> <p>looking</p> <p>pushing</p> <p>walking</p>	<p>13</p> <p>bana-ndi (making)</p> <p>beh-ti (sitting)</p> <p>char-da (climbing)</p> <p>denk-di (looking)</p> <p>den-da (giving)</p> <p>has-da (smiling)</p> <p>ja-nda (going)</p> <p>kha-nda (eating)</p> <p>khar-a (standing)</p> <p>khel-da (playing)</p> <p>pee-ndi (drinking)</p> <p>saf kar-da (cleaning)</p> <p>su-ta (sleeping)</p>	<p>8 (0 + 8)</p> <p>brush kar-da (brushing)</p> <p>colouring kar-da (doing colouring)</p> <p>cut-di (cutting)</p> <p>point kar-di (pointing)</p> <p>push kar-di (pushing)</p> <p>rub kar-di (rubbing)</p> <p>smell kar-da (smelling)</p> <p>walking kar-da (walking doing)</p>

APPENDICES

Child	T1 Unique L ₁ Verbs	T1 Inserted English / codeswitched / compound verbs	T2 Unique L ₁ Verbs	T2 Inserted English / codeswitched compound verbs
<p>11. Female</p> <p>T1: 4;5.2</p> <p>T2: 5;5.7</p>	<p>12</p> <p>beht rahi je (sitting)</p> <p>chari-ja va (climbed)</p> <p>dehk ri (looking)</p> <p>eda kar-di je (is doing that)</p> <p>has raha hea (smiling)</p> <p>ja reha hea (going)</p> <p>kha raha hea (eating)</p> <p>khar-a (standing)</p> <p>khel raha hea (playing)</p> <p>lay raha hea (taking)</p> <p>pee rahi hea (drinking)</p> <p>pundz raha hea (drying)</p>	<p>3 (1 + 2)</p> <p>colour kar (colouring)</p> <p>cut rehi hea (cutting)</p> <p>hoover mar ri je (hoovering)</p>	<p>11</p> <p>beh-ti (sitting)</p> <p>karan-da (giving)</p> <p>kha-nda (eating)</p> <p>khar-a (standing)</p> <p>pakan-di (preparing)</p> <p>par-di (reading)</p> <p>pee-ndi (drinking)</p> <p>pundz-da (drying)</p> <p>sut-da (throwing)</p> <p>tari mar-di (clapping)</p> <p>tor-da (walking)</p>	<p>9 (1 + 8)</p> <p>brush kar-di (brushing)</p> <p>clean kar-di (cleaning)</p> <p>colour kar-da (colouring)</p> <p>cut-di (cutting)</p> <p>point kar-di (pointing)</p> <p>sleep kar-da (sleeping)</p> <p>smell kar-da (smelling)</p> <p>smile kar-da (smiling)</p> <p>walk kar-da (walking)</p>