CODE MIXING AND CODE SWITCHING IN SIMULTANEOUS Vs SUCCESSIVE BILINGUAL CHILDREN

Harrini   *(N.V)*

Register No.06SLP007

A Dissertation Submitted in part fulfillment of
Master's Degree (Speech Language Pathology)
University of Mysore
Mysore.

ALL INDIA INSTITUTE OF SPEECH AND HEARING
MANASAGANGOTHRI
MYSORE- 570 006

APRIL- 2008.

I dedicate this
small piece of
my work
to my
Lovely parents,
Caring brothers
&
Cute sis-in-law

CERTIFICATE

This is to certify that this dissertation entitled **"CODE MIXING AND CODE SWITCHING IN SIMULTANEOUS Vs SUCCESSIVE BILINGUAL CHILDREN"** is the bonafide work in part fulfillment for the degree of master of (Speech Language Pathology) of the student with Register No. 06SLP007. This has been carried out under the guidance of a faculty of this institute and has not been submitted earlier to any other University for the award of any other Diploma or Degree.

Dr. Vijayalakshmi Basavaraj

Director

Mysore

April, 2008.

All India Institute of Speech and Hearing

Manasagangothri, Mysore-570006.

CERTIFICATE

This is to certify that the dissertation entitled **"CODE MIXING AND CODE SWITCHING IN SIMULTANEOUS Vs SUCCESSIVE BILINGUAL CHILDREN"** has been carried out under my supervision and guidance. It is also certified that this has not been submitted earlier to any other University for the award of any other Diploma or Degree.

Guide

Shyamala whappp

Mysore

April, 2008

(Dr. K. C. Shyamala)
Professor of Speech Language Pathology
Department of Speech & Language Pathology
All India Institute of Speech and Hearing,
Mysore-570006.

DECLARATION

I hereby declare that this dissertation entitled **"CODE MIXING AND CODE SWITCHING IN SIMULTANEOUS Vs SUCCESSIVE BILINGUAL CHILDREN"** is the result of my own study and has not been submitted earlier in any other University for the award of any other Diploma or Degree.

Mysore,

April, 2008.   **Register No. 06SLP007**

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

A special thanks and hug to **Subha aunty** *for whatever u have done till now. The mere presence of you made us to forget our homesickness, u were there was for us as our second mother in this place. Thank you so much for all. Luv u lots…*

Sree, Asha, Anagha, Shasha, Sumi, Anu, Prasi *- My precious friends in AIISH. Be it two years or 6 years, days are not important to make a perfect bond between hearts. V guys make a perfect bond of friendship. Don't v???? Miss u guys esp the fun v had during tea time, pulling each other legs…..*

Arya & Rajesh *– Without you both, I wouldn't have completed my study. Thanks for being with me to clear all my doubts and supports for me whenever I required. To* **Jayashree ma'am,** *a special thanks for your motivation and timely help.*

Radhu, Bhavya *– My intern batch mates, the fun v had especially staying together in Hyd hostel, be it Babli's silly doubts/curiosity or Radhu's greatest fall or pillow fights…Memorable Happy Days in my college days. Ummah to both of u.*

Ranji, Sabari, Ayeesha, Pappu , Bharath & Naveen *– My childhood friends & closest pals. You all were there for me whenever I needed help, support, company or even advices. We still remained good friends even we are far away in distance, that's the real attachment of true frndship. Thank you guys for accepting me as how I am...*

Sangu, Santosh, Abhi, Swati, Selvi & other classmates- *The moments we spent together during our class trips, canteen, security, hostel galatas are sweet memories which needs to be cherished in my life. Miss u all.*

Special chottu juniors (Navi, Viji, Arun, Antu, Meera, Devi, Shruthy, Kuppu, Sriram, Gnanavel) and my dearest cute Seniors (Ramya, Shereen, Sneha,

Rahana, Priya, K.D & Radheesh) – You all made my stay at AIISH fun. Thank you for all your love, affection and valuable advices.

Vasanthalakshmi ma'am…You made me smile by giving me the most beautiful graphs…Thank you ma'am for all the help you have given me….

To the teachers and the *li'il angels of Pushkarni* …thank you so much for being patient with throughout my data collection…without you my li'il angels my dissertation would have never been what it is today!!! Thank you all so much…

To *Shivappa and Co*…Thank you so much for all the help and Xeroxes…The final copy of this work would have been, if not for your work!!!

To *library staffs*…Thank you for all the help you have rendered…

Last but not the least…**To God**…It's the faith I had in you always that has molded me into the person I am today…You have given me everything I need in my life and I thank you for that with all my heart….

CHAPTER I

INTRODUCTION

Bilingualism is an integral product of globalization and social mobility. Bloomfield, (1933) defined bilingualism as "native like control of two languages". India has been a multilingual country right from the earliest times and now English bilingualism has become an integral part of India's global consciousness. Individuals thinking have been changed from the past, i.e. speaking in English is considered to be a prestigious issue in the society as well as at home. So, irrespective of culture and religion, people tend to communicate more in English than their mother tongue and children are exposed to English from the time of birth. This results in rapid growth in the incidence of bilingual population.

Researchers classify bilinguals depends on age of acquisition as simultaneous and successive. Mc Laughlin, (1978) set up an age criterion which was adopted by many scholars, that acquisition of two languages before the age of 3 is referred as simultaneous acquisition whereas introduction of second language after the age of 3 is termed as successive acquisition.

Bilingual acquisition is a complex phenomenon. Monolingual children usually learn language from parents. But bilingual children may learn languages not only from parents but also from grandparents, playmates, babysitters and others. Bridges of communication between two individuals or groups are established through verbal and/or non-verbal means. When two individuals speaking two different languages come into contact with one another, communication between them is carried on either

through one or both of these languages and/ or through a third language, keeping each of these languages apart and distinct, or using a code, mixing items of these languages. This is called as bilingual context.

Interference may be viewed as the transference of elements of one language to another at various levels including phonological, grammatical, lexical and orthographical (Berthold, Mangubhai & Batorowicz, 1997). Crystal (1987) suggests that code, or language, switching occurs when an individual who is bilingual alternates between the two languages during his/her speech with another bilingual person. Code mixing and code switching are phenomena which occur because of the interaction of two or more languages. Code mixing has been described as intrasentential, code switching as intersentential mixing (Ritchie & Bhatia, 1996).Code switching is the alternative use by bilinguals of 2 or more languages in the same conversation & requires a greater deal of linguistic competence (Milroy & Muysken, 1995).

NEED FOR THE STUDY:

- In spite of being a multilingual country, only limited studies have been carried out on code mixing & switching in children. There is a dearth of literature on code mixing and code switching in bilingual children.

- When two individuals speaking two different languages come into contact with one another, communication between them is carried on either through one or both of these languages, and/ or using a code mixing items of these languages. This behavior is seen in children too in the context of exposure to two languages from birth (Simultaneous).

- Only limited studies are there which investigates code mixing pattern in bilingual children who are exposed to the second language (successive) when they enter the formal educational system. But not much is known about the code-switching patterns of these bilingual children

- So, the present study attempted to compare the code mixing and switching in simultaneous Vs successive bilingual children and also explore the difference in their processing abilities in both the languages.

AIMS OF THE STUDY:

- Comparison of type and extent of code mixing and code switching in simultaneous and successive bilingual children

- Investigation into similarities and differences between code mixing and code switching seen in simultaneous and successive bilingual children

- To describe in detail the type and level of code mixing and code switching evidenced in simultaneous and successive bilingual children using matrix language frame model (Myers-Scotton, 1993) and Perecman's (Perecman, 1984) levels of code mixing and code switching

- Comparison of effects of contexts (monolingual Kannada, monolingual English and bilingual) on code mixing and code switching.

CHAPTER II

REVIEW OF LITERATURE

An attempt is made here to review the literature pertaining to code mixing and code switching in simultaneous and successive bilingual children and related topics. The literature is reviewed under the following headings.

- Defining Bilingualism

- Types of Bilingualism

- Nature of Bilingualism

- Code mixing and Code switching in children

- Code mixing and Code switching in simultaneous and successive bilingual children.

Defining Bilingualism:

Bilingualism is an integral product of globalization and social mobility. The phenomenon is so widely prevalent and multifaceted that it is, indeed, very difficult to define bilingualism in a manner covering all aspects. One could, however, characterize the phenomenon in a more or less comprehensive manner.

An individual's knowledge of more than one language may be viewed from the point of his/ her proficiency in each language skills, various linguistic components, and uses to which each language is put and the contexts that control the choice and use of each of these languages. Thirumalai and Chengappa, 1986 have given below a list of concepts that are generally found in literature when a definition of bilingualism is attempted.

i)   If language is the property of the group, bilingualism is the property of the individual.

ii)   An individual's use of two languages supposes the existence of two different language communities; it need not necessarily suppose the existence of a bilingual community.

iii)   Bilingualism is not a phenomenon of language. It is a characteristic of its use.

iv)   Bilingualism has been widely viewed as the equal mastery of two languages. Bloomfield, (1933) defined bilingualism as "native like control of two languages". Haugen, (1953) defined as the ability to produce complete meaningful utterances in the other language. Diebold, (1961) defined as including simply passive knowledge of the written language or any contact with a second language and the ability to use it in the environment of the native language. Macnamara, (1967) defined as the possession even to a minimal degree of any one language skill (speaking, writing, listening and reading and their various complexities).

v)   Bilingualism is also viewed as including the various stages of incipient bilingualism, such as the ability to give lexical equivalents, the change from one language to the other. It involves also the question of interference: to what extent does a bilingual keep his languages apart or fuse them together, and how does one language influence his use of the other and under what conditions. Thus, bilingualism is defined as a behavioral pattern of mutually modifying linguistic practices, varying in degree, function, alternation and interference (Mackey, 1970).

vi) Bilingualism is viewed as contact between cultures and social groups. Viewed this manner, bilingualism is defined as the ability, on the part of the individual, to express himself in a second language, adhering faithfully to the concepts and structures which are appropriate to this purpose, instead of paraphrasing something expressed in his native language.

Types of bilingualism:

India has been a multilingual country right from the earliest times and now English bilingualism has become an integral part of India's global consciousness. Individuals thinking have been changed from the past, i.e. speaking in English is considered to be a prestigious issue in the society as well as at home. So, irrespective of culture and religion, people tend to communicate more in English than their mother tongue and children are exposed to English from the time of birth. This results in rapid growth in the incidence of bilingual population.

Researchers classify bilinguals in different ways. Few types of bilinguals are as follows:

1. Compound Vs Coordinate bilinguals: (Weinreich, 1953; Ervin & Osgood, 1954)

Compound: Has one semantic system but two linguistic codes. Usually refers to someone whose two languages are learnt at the same time, often in the same context.

Coordinate: Has two semantic systems and two linguistic codes. Usually refers to someone whose two languages are learnt in distinctively separate contexts.

Subordinate: The weaker the language is interpreted through the stronger language.

2. Early Vs Late bilinguals: (Lambert 1985):

Early: Someone who has acquired two languages early in childhood (usually got systematic training/learning of a second language before age 6).

Late: Someone who has become a bilingual later than childhood (after age 12).

3. Balanced Vs Dominant bilinguals: (Romaine, 1995).

Balanced: Someone, whose mastery of two languages is roughly equivalent.

Dominant: Someone with greater proficiency in one of his or her languages and uses it significantly more than the other language.

Semilingual: Someone with insufficient knowledge of either language.

4. **Successive Vs Simultaneous:** (McLaughlin, 1984)

Successive: Learning one language after already knowing another. This is the situation for all those who become bilingual as adults, as well as for many who became bilingual early in life.

Simultaneous: Learning two languages as "first languages". That is, person who is a simultaneous bilingual goes from speaking no languages at all directly to speaking two languages. Infants who are exposed to two languages from birth will become simultaneous bilinguals.

Mc Laughlin, (1978) set up an age criterion which was adopted by many scholars, that acquisition of two languages before the age of 3 is referred as simultaneous acquisition whereas introduction of second language after the age of 3 is termed as successive acquisition.

5. Additive Vs Subtractive bilinguals: (Lambert, 1985)

Additive: The learning of a second language does not interfere with the learning of a first language. Both languages are well developed.

Subtractive: The learning of a second language interferes with the learning of a first language. The second language replaces the first language.

6. Elite Vs Folk Bilinguals: (Skutnabb-Kangas, 1981)

Elite: Individuals who choose to have a bilingual home, often in order to enhance social status

Folk: Individuals who develop second language capacity under circumstances that is not often of their own choosing and in conditions where the society does not value their native language.

Bilingual acquisition is a complex phenomenon. Monolingual children usually learn language from parents. But bilingual children may learn languages not only from parents but also from grandparents, playmates, babysitters, childcare/day care workers, school teachers, neighbors and TV. Their exposure to languages fluctuates over time and situation/ environment. Childhood bilingualism is poorly understood by many and regarded with skepticism by others.

Code mixing and Code switching:

Bridges of communication between two individuals or groups are established through verbal and/or non-verbal means. When two individuals speaking two different languages come into contact with one another, communication between them is carried on either through one or both of these languages and/ or through a third

language, keeping each of these languages apart and distinct, or using a code, mixing items of these languages. This is called as bilingual context.

Interference may be viewed as the transference of elements of one language to another at various levels including phonological, grammatical, lexical and orthographical (Berthold, Mangubhai & Batorowicz, 1997). Berthold et al (1997) define phonological interference as items including foreign accent such as stress, rhyme, intonation and speech sounds from the first language influencing the second. Grammatical interference is defined as the first language influencing the second in terms of word order, use of pronouns and determinants, tense and mood. Interference at a lexical level provides for the borrowing of words from one language and converting them to sound more natural in another and orthographic interference includes the spelling of one language altering another.

Crystal (1987) suggests that code, or language, switching occurs when an individual who is bilingual alternates between two languages during his/her speech with another bilingual person. Mangubhai and Bartorowicz (1997, pg 2.13) supplement the definition of code switching thus far with the notion that it occurs where 'speakers change from one language to another in the midst of their conversations'. Code switching allows a speaker to convey attitude and other emotive using a method available to those who are bilingual and again serves to advantage the speaker, much like holding or underlining in a text document to emphasize points. Utilizing the second language, then, allows speakers to increase the impact of their speech and use it in an effective manner.

To ensure the effective use of code switching there are however two main restrictions, as developed by Poplack (1980), cited in Cook (1991). The first of these is the free morpheme constraint. This constraint suggests that a 'speaker may not switch language between a word and its endings unless the word is pronounced as if it were in the language of the ending' (Cook, 1991, pg 65). The second constraint is referred to as the equivalence constraint. This constraint is characterized by the notion that 'the switch can come at a point in the sentence where it does not violate the grammar of either language' (Cook, 1991, pg 65).

Switching languages during a conversation may be disruptive to the listener when the speaker switches due to an inability to express her/himself; it does provide an opportunity for language development. As may be derived from discussion above, language development takes place through samples of language which are appropriate and code switching may be signaling the need for provision of appropriate samples. The listener, in this case, is able to provide translation into the second language thus providing learning and developing activity. This, in turn, will allow for a reduced amount of switching and less subsequent interference as time progresses. These principles may also be applied in the second language classroom.

Cook (1991) asserts that code switching may be integrated into the activities used for the teaching of a second language. He describes the Institute of Linguistics' examinations in Languages for International Communication test as one which utilizes code switching. At beginner's level, students may use the second language for obtaining information from material such as a travel brochure or a phone message to answer comprehension questions in the first language. At advanced stages, the student

may be required to research a topic and provide a report in the first language. This approach is one which uses code switching as a foundation for the development of a second language learner who can stand between the two languages and use whichever is most appropriate to the situation rather than becoming an imitation native speaker (Cook, 1991).

Code switching may be viewed as an extension to language for bilingual speakers rather than interference and from other perspectives it may be viewed as interference, depending on the situation and context in which it occurs. This conclusion is drawn from the notions that switching occurs when a speaker needs to compensate for some difficulty, express solidarity, convey an attitude or show social respect (Crystal, 1987; Berthold, Mangubhai and Bartorowicz, 1997). Code switching may facilitate language development as a mechanism for providing language samples and may also be utilized as a teaching method for teaching second languages (Cook, 1989; 1991). Again, scope for code switching to cause interference in a language exists if it is not utilized carefully as a teaching method. It may be concluded then, that when code switching is to compensate for a language difficulty it may be viewed as interference and when it is used as a socio-linguistic tool, it should not.

In bilingual children:

The alternate use of two languages in the same utterance or conversation begins early in bilingual children. However, it is different from adult code-switching in a number of ways, and recent research has started to isolate these differences. McClure, (1977) observed different kinds of code-switching behavior in Mexican-American bilingual children, depending on their age. Young bilinguals tended to

code-mix more, that is, to insert single items from one language into the other. These tended to be nouns and, to a lesser degree, adjectives, and to be English words in a Spanish utterance. On the older hand, bilingual children over the age of nine code-changed, that is, switched languages for at least a phrase or a sentence, as often as they code mixed.

Code-switching, therefore, occurs early in children but at first is used mainly to express a word or an expression that is not immediately accessible in the other language. With time it is used as a verbal or communicative strategy and ultimately as a marker of group membership.

Genesee, Nicoladis and Paradis (1994) examined language differentiation in five bilingual children prior to the emergence of functional categories. They were observed with each parent separately and both together, on separate occasions. The results indicate that while these children did code mix, they were able to differentiate between their two languages. The authors also examined the possibility of children's mixing due to a) language dominance, and b) parent's rate of mixing. They found that language dominance did play some role but there was no evidence of mixing due to parental input.

Simultaneous bilinguals:

Much of the information about simultaneous acquisition has come from diaries kept by parents who brought up their child bilingually, most often with one person-one language strategy. One of the best-known and best documented case studies is that by Leopold (1970) who studied his daughter. The results about the aspects of her

daughter's development of the two languages were found repeatedly in bilingual children: the initial mixed language stage; the slow separation of the two language systems and increasing awareness of bilingualism; the influence of one language on the other when the linguistic environment favored one language; the avoidance of difficult words and constructions in the weaker languages; the rapid shift from one language dominance to the other when the environment changes; the final separation of the sound and grammatical systems but the enduring influence of the dominant language on the other in the domain of vocabulary and idioms.

Bergman (1976) and Padilla and Liebman (1975), studied the children who acquired two languages simultaneously and pointed to the fact that they have studied produced very few mixed utterances. Also, their sound systems appeared to be differentiated from the onset of language.

Lanza (1991) investigated Siri's language mixing who was two-year old bilingual, acquired Norwegian and English simultaneously in Norway. An investigation into the formal aspects of the child's mixing revealed that the child did differentiate her language use in contextually sensitive ways and hence she could code switch. The results also indicated that there was no qualitative difference between Siri's language mixing and that of older bilinguals.

Thirumalai and Chengappa (1986) examined code mixing and code switching in a 3 yr old girl who acquired Kannada and Kodava simultaneously. They identified that code mixing results from inadequate mastery and the occurrence of code switching presupposes the conscious separation of the two languages of exposure.

Successive bilinguals:

Not all bilingual children acquire their two languages in a simultaneous or quasi-simultaneous manner. In fact, most are members of linguistic minorities who acquire their first language in the home and immediate community and their second language when they enter school.

Milon (1974) observed that a seven-year-old Japanese child acquiring the English negation progressed through the same developmental stages as English-speaking children and did not transfer the Japanese negation system into English.

Mulford and Hecht (1979) reported that the phonological development of English by Steinar, a six year-old native speaker of Icelandic, could not be accounted for by either the transfer position or the developmental position alone; it was best explained by a systematic interaction between the two types. First he mastered the sounds which were common to both languages and later did he master sounds not present in Icelandic and those involving some phonetic or allophonic adjustment of Icelandic phonemes. Mulford and Hecht (1979) concluded that their subject developed English phonology which was best accounted for by both transfer and developmental factors

CHAPTER III

METHOD

Subjects:

Twenty children in the age range of 4-8 yrs who being native speakers of Kannada who also acquired English were grouped into two groups (simultaneous and successive) based on their age of language acquisition of both the languages
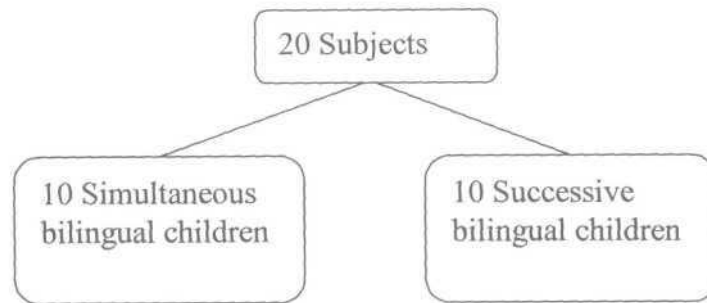
Criteria for subject selection:

- 4-8 yrs subjects who acquired English & Kannada at the same time (before 3 yrs) with mid/high socio economic status were considered into Simultaneous bilingual children group.

- 4-8 yrs subjects who acquired Kannada first and acquired English after 3 yrs with mid/high socio economic status were considered into Successive bilingual children group.

- All the subjects were ruled out for any language or any sensory impairment with an informal questionnaire.

- All ethical standards were met for subject selection and their participation.

Test materials:

1. A questionnaire developed regarding exposure to language was used to identify simultaneous and successive bilinguals **(Appendix 1**).

2. Socio economic status was checked using SES scale given by Venketasan (2004) **(Appendix 2**).

3. International second language proficiency rating scale (ISLPR, Ingram 1985) was administered to check the language proficiency of the subjects **(Appendix 3).**

4. Picture description task was carried out to examine code switched and mixed utterances **(Appendix** 4).

5. Subject's utterances was transcribed and was analyzed using Myers-Scotton 4M & MLF models **(Appendix 5**) and Perecman's levels of code mixing and code switching (Perecman, 1984).

Test environment:

Subjects were made to sit comfortably and the testing was carried out on a quiet environment without any distractions.

Procedure:

A questionnaire prepared (Tool 1) regarding the exposure to language was administered to the parents or care givers of the children to identify the acquisition pattern of the children i.e, simultaneous or successive. Socio economic status was checked using the socio economic scale (Tool 2) given by Venketasan (2004). ISLPR, (Ingram, 1985) (Tool 3) was used to check the subject's language proficiency in terms

of speaking, listening, writing and reading. It was divided into primary (speaking and listening) and secondary skills (reading and writing). The scale has 8 ratings which includes 0,0+, 1,1,2,3,4,5 as rated from a continuum zero proficiency to native-like proficiency.

Few pictures were taken and a pilot study was conducted to study children and their verbal interactions. Later on a picture was selected based on the results of the pilot study and was used for the present investigation. The subjects were asked to describe the picture in 3 different contexts. The three different contexts were monolingual Kannada, monolingual English and bilingual (English & Kannada) contexts.

Transcription:

Subject's utterances were audio recorded and the utterances were transcribed using International Phonetic Alphabet (IPA).

Analysis:

I) Qualitative analysis:

Qualitative analysis of the data was derived from the results of statistical analysis. Statistical analysis was used to find the difference in the language proficiency levels (primary and secondary) which was obtained from ISLPR for Kannada and English across and within successive and simultaneous groups. Descriptive analysis was carried out to depict the difference between the code mixing and code switching across simultaneous and successive groups in three different contexts.

II) Quantitative analysis or Linguistic analysis:

a) *Matrix language frame model:* The recorded and transcribed sample was subjected to linguistic analysis for the presence of code switching and code mixing as well as the nature of code switching using Matrix language frame model (MLF, Myers-Scotton, 1992). With modification proposed by Munoz et al. (1999).The principle from MLF were used to identify code switched and mixed instances. The code switched and mixed instances were compared between simultaneous and successive groups.

MLF model analyzes code switching in terms of two interacting hierarchies (1) the differential roles of the languages participating in code switching and (2) the differences in patterns of occurrence of types of morphemes.

These hierarchies are the Matrix language (ML) versus Embedded language (EL) distinction and the content versus system morpheme distinction. When code switching occurs, the participating languages do not play equal roles. The ML constraints the role of the other languages, called the Embedded languages. The distribution of the ML Vs EL morphemes can be predicted using the content versus system morpheme distinction.

Content morphemes are specified as [+ thematic role assigner/ receiver]. Prototypical thematic role assigners are mostly verbs and some prepositions. Prototypical role receivers are nouns, although other types of morphemes can also receive thematic roles. System morphemes neither assign nor receive thematic roles:

they are [- thematic role assigner/ receiver]. Prototypical system morphemes are inflections and mostly function words. The thematic role criterion applies universally, but not necessarily with uniform results across languages.

All system morphemes in bilingual constituents come from the ML. In contrast, the EL can provide singly occurring content elements/ full constituent called EL islands.

Four of the constituents of the MLF model categories have their basis in the hierarchical relationship between the ML and EL. The ML is the base language of conversation, contributes the most system morphemes to the interaction and sets the morphosyntactic structure of the utterance. It is expected that the system morphemes will occur in the ML, while content morphemes can be accessed in either language. The ML can change between utterances or clausal boundaries in single utterances. The EL is the less active language inserted into the structure established by the ML.

The first category, ML Islands consist of utterances or clauses containing only ML lexemes structured around the morpho syntax of the ML. The second category, ML shifts identify changes in the ML between utterances or clauses. The EL is inserted into the ML to form the constituents of EL islands and ML+EL. The constituents in the third category, EL islands are multiword EL elements (comprised of atleast two words exhibiting a hierarchical structure) which follow the syntactic structure of the EL. The fourth category consists of ML+EL constituents which are comprised of single EL elements inserted in the syntactic rules of the ML.

Table 1

Definition of MLF model constituents adopted from Myers-Scotton (1992) and

modified by Munoz et al (1999).

Constituents	Definitions
ML Islands	Well formed constituent consisting entirely of ML morphemes demonstrating syntactic structure of ML
ML shifts	Change in ML in consecutive utterances or clausal structure
EL Islands	Well formed constituent consisting of atleast 2 EL morphemes showing syntactic structure of EL which has been inserted into ML
ML+EL	A single EL lexeme inserted into the syntactic frame of any number of ML morphemes
Borrowed forms	A lexeme from one language incorporated into morpho syntactic structure of the second language and is widely accepted by the mono linguistic speaker of that language.
EL Insertions	Multiple EL lexemes demonstrating no syntactic structure inserted into the syntactic frame of any number of ML morphemes.
Revisions	Lexical insertions that do not contribute to the meaning of the utterance including speech errors, restatements, circumlocutions & are indicators of word finding problems.

Key: ML- Matrix language, EL- Embedded language.

b) *Code mixing and code switching across groups:*

Subject's utterances were transcribed and classified as code mixing and code

switching. Code mixing has been described as intrasentential, code switching as

21

intersentential mixing (Ritchie & Bhatia, 1996). Number of code mixing and code switching was calculated for each child in both the groups for different contexts and compared. The total number of code mixing and code switching exhibited by two groups (simultaneous and successive) was calculated separately for different contexts (Monolingual English, monolingual Kannada and bilingual context). Later it was compared to find out the difference between the two groups.

c) Perecman's (Perecman, 1984) levels of code mixing and code switching:

Subject's utterances were transcribed and classified into lexical-semantic (words and phrasal level), syntactic, morphological and phonological levels. Further these levels of code mixing and code switching was compared between the two groups of subjects across three different contexts.

CHAPTER IV

RESULTS AND DISCUSSION

The aims of the present study were:

- Comparison of type and extent of code mixing and code switching in simultaneous and successive bilingual children

- Investigation into similarities and differences between code mixing and code switching seen in simultaneous and successive bilingual children

- To describe in detail the type and level of code mixing and code switching evidenced in simultaneous and successive bilingual children using matrix language frame model (Myers-Scotton, 1993) and Perecman's (Perecman, 1984) levels of code mixing and code switching

- Comparison of effects of contexts (monolingual Kannada, monolingual English and bilingual) on code mixing and code switching.

Subject description:

Twenty children in the age range of 4-8 yrs who being native speakers of Kannada yet they acquired English were grouped into 2 groups (simultaneous and successive) based on their age of language acquisition of both the languages. Subjects who acquired English & Kannada at the same time/ simultaneously (before 3 yrs) were considered into simultaneous bilingual children group and subjects who acquired Kannada first and acquired English after 3 yrs were considered into successive bilingual children group. Subjects were checked for their socio economic status and subjects with mid/high socio economic status only were selected for the study.

Efforts were made to control variables like age, socio economic status. All the subjects were ruled out for any language or any sensory impairment. Ethical standards were met for subject selection and their participation.

Data collection & Analysis:

Picture description task was carried out and subject's utterances were transcribed using IPA. These utterances were analyzed using MLF model (Myers-Scotton, 1993) and Perecman's (Perecman, 1984) levels of code mixing and code switching. Wilcoxon signed rank test and Man Whitney test was carried out to find the significance between the language proficiency across groups in different contexts. For the sake of convenience, the result section is divided into different levels with sub-levels as outlined below:

I. <u>Qualitative analysis:</u>

    a) Comparison of language proficiency and code mixing & code switching.

    b) Comparison of mean & S.D. across proficiency levels and across groups.

II. <u>Quantitative analysis:</u>

    a) Comparison of MLF constituents across contexts and two groups

    b) Code mixing and code switching across two groups

    c) Perecman's levels of code mixing and code switching

I) <u>Qualitative analysis:</u>

a) Comparison of language proficiency and code mixing & code switching:

Table 2

ISLPR scores for successive bilingual group

Language proficiency scores on ISLPR-successive bilingual children				
	Primary skills (PS)		Secondary skills (SS)	
Subjects	Kannada (PS K)	English (PS E)	Kannada (SS K)	English (SS E)
1.	5	4	4	5
2.	4	4	4	4
3.	5	4	5	5
4.	4	3	4	3
5.	4	4	5	4
6.	4	3	4	4
7.	5	3	4	4
8.	4	3	4	3
9.	5	4	4	5
10.	5	5	5	5

Legend: PS-K: Primary skill in Kannada, PS-E: Primary skill in English, SS-K: Secondary skill in Kannada, SS-E; Secondary skill in English

Table 3

Wilcoxon signed ranks test within successive group

	Z	Asymp. Sig. (2-tailed)
PS-E- PS-K	-2.530	**.011***
SS-E- SS-K	-.447	.655
SS-K- PS-K	-1.000	.317
SS-E- PS-E	-2.236	**.025***

*Significance at 0.05 level.

Table 2 depicts ISLPR scores of primary and secondary skills for each child in successive group for Kannada and English separately. Scores range between 3-5 (Minimum vocational proficiency to Native-like proficiency) in primary skills and secondary skills in English and 4-5 (Vocational proficiency to native-like proficiency) in primary and secondary skills in Kannada. Wilcoxon signed rank test was carried out to find out the significant difference between primary and secondary skills and languages within successive group. Table 3, reveal that there is significant difference between primary skill in English (PS-E) & Kannada (PS-K) and primary skill in English & secondary skill in English (SS-E) ($p<0.05$). There is no significant difference between secondary skill in English & Kannada and primary skill in Kannada and secondary skill in Kannada (SS-K).

The difference in speaking and listening (primary skills) in English & Kannada and reading and writing (secondary skills) in English may de due to the exposure and usage of English with peers, parents, teachers, formal learning of English and medium of instruction at school. There is no difference in primary and secondary skills in Kannada because firstly, these children were exposed to Kannada from birth and it is their exposure to English after 3 years that makes a difference in primary and secondary skills. Secondly, even though they learnt secondary skill in Kannada later, the influence of native language (Kannada) helped them.

Various educational researchers (Krashen, 1976, 1981, 1982; Krashen, Long & Scarcella, 1979) suggest that there is a distinction between unconscious language acquisition and conscious language learning. The present study supports these findings.

Table 4

ISLPR scores for simultaneous bilingual children

Language proficiency scores on ISLPR-simultaneous bilingual children				
	Primary skills (PS)		Secondary skills (SS)	
Subjects	Kannada (PS K)	English (PS E)	Kannada (SS K)	English (SS E)
1.	4	4	5	3
2.	5	5	5	4
3.	5	5	5	4
4.	5	5	5	5
5.	4	4	4	4
6.	5	4	5	4
7.	4	5	5	4
8.	5	5	5	5
9.	4	5	5	5
10.	5	4	4	4

Legend: PS-K: Primary skill in Kannada, PS-E: Primary skill in English, SS-K: Secondary skill in Kannada, SS-E; Secondary skill in English

Table 5

Wilcoxon signed ranks test within simultaneous group

	Z	Asymp. Sig. (2-tailed)
PS-E- PS-K	.000	1.000
SS-E- SS-K	-2.121	.034*
SS-K- PS-K	-1.000	.317
SS-E- PS-E	-2.000	.046*

* Significance at 0.05 level.

Table 4 depicts the ISLPR scores of primary and secondary skills for each child in simultaneous group for Kannada and English separately. Scores ranges between 4-5 (Vocational proficiency to native-like proficiency) in primary skills in Kannada, English and secondary skills in Kannada and 3-5 (minimum vocational

proficiency to native-like proficiency) in secondary skills in English. Wilcoxon signed rank test was carried out to find out the significant difference between primary and secondary skills and languages within simultaneous group. Table 5 reveals that there is significant difference between secondary skill in English & Kannada and primary skill & secondary skills in English (p<0.05). There is no significant difference in primary skills in English & Kannada and primary & secondary skills in Kannada.

There is no difference in speaking and listening (primary skills) in Kannada and English because the children in this simultaneous group are exposed to both the languages from birth and they were using these languages from birth but there is a difference in secondary skills in English and Kannada as these children learnt reading and writing once they enter the school/ formal education unlike speaking and listening.

Various educational researchers (Krashen, 1976, 1981, 1982; Krashen, Long & Scarcella, 1979) suggest that there is a distinction between unconscious language acquisition and conscious language learning.

Table 6

Mann- Whitney Test across two types

	Z	Asymp. Sig. (2-tailed)
PS-K	-.438	.661
PS-E	-2.690	**.007***
SS-K	-2.190	**.028***
SS-E	-.083	.934

Significance at 0.05 level

Table 6 shows the results of Mann-Whitney test across both the groups. It reveals that there is significant difference in the primary skills in English and secondary skills in Kannada across both the groups (p<0.05). There is no significant difference in primary skills in Kannada and secondary skills in English across the groups. This may be due to the formal education of reading and writing unlike speaking & listening which do not require any formal training.

Educational and linguistic theorists (Cummins, 1980; Krashen, 1976, 1981, 1982; & Krashen et al., 1979) suggest that in the case of Hispanic English language learners, these students may become quite proficient in the grammar, vocabulary and sentence structure of the English language. In other words, these students may be proficient in their English communication skills but might not have the cognitive academic language proficiency (CALP) required for learning science or other academic subject matter.

b) Comparison of mean & S.D. across proficiency levels and across groups:

Table 7

Comparison of mean & S.D of two groups

*across proficiency levels of Kannada & English*

TYPE		P S K	P S E	S S K	S S E
Simultaneous	N	10	10	10	10
	Mean	4.6000	**4.6000**	**4.8000**	4.2000
	Std. Deviation	.5164	.5164	.4216	.6325
Successive	N	10	10	10	10
	Mean	4.5000	**3.7000**	**4.3000**	4.2000
	Std. Deviation	.5270	.6749	.4830	.7888

Legend: PS-K: Primary skill in Kannada, PS-E: Primary skill in English, SS-K: Secondary skill in Kannada, SS-E; Secondary skill in English

Table 7 shows the calculated mean and standard deviation across the groups and across primary and secondary skills. It reveals that there is a significant decline in the mean in primary skills in English and secondary skill in Kannada of successive group when compared to simultaneous group. This clearly shows that speaking and listening skills in English are more dominant in simultaneous group than successive group and decreased trend in reading and writing in Kannada is due to less practice of reading and writing in Kannada than English at school or home. But reading and writing in English in simultaneous group is in consonance with successive group as children tend to start it once they enter formal education at school. The scores of primary skills in both the languages are analogous since their mother tongue is Kannada for both the groups.

Canale, (1981) and Cummins, (1981 & 1991) concluded in their study that English language proficiency is presumed to be one important contributor to the unexplained variance of the differences in academic achievement between Hispanic English language learners and native English language speaking students.

Figure 1: Comparison of skills and languages
across proficiency levels.
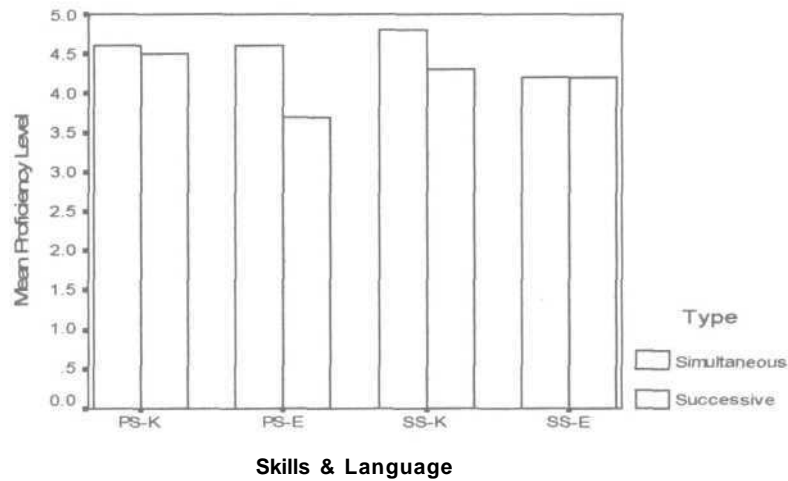
Skills & Language

Legend: PS-K: Primary skill in Kannada, PS-E: Primary skill in English, SS-K: Secondary skill in Kannada, SS-E; Secondary skill in English

Mean proficiency skills with respect to primary and secondary skills are calculated for Kannada and English across simultaneous and successive group. Figure 1, depicts that all the skills are better in simultaneous group than successive group except secondary skills in English which is in consonance with successive group. So, children who acquire English and Kannada simultaneously may be superior in their proficiency levels (both primary and secondary skills) than those children who acquire both these languages successively. In simultaneous group, superior language proficiency than successive group could probably be helpful in their performance of academic skills.

31

According to Cummins (1982), high order English language proficiency or cognitive academic language proficiency enables the student to learn in a context, which relies heavily on oral explanation of abstract or de- contextualized ideas. The findings of the present study support this study.

II. Quantitative analysis:

 a) Comparison of MLF constituents across contexts and two groups:

Table 8

Subjects exhibiting code switching and code mixing

Code switch	Monolingual Kannada context		Monolingual English context		Bilingual context	
	Simultaneous	Successive	Simultaneous	Successive	Simultaneous	Successive
ML Islands English	1/10	1/10	10/10	10/10	2/10	1/10
ML Islands Kannada	10/10	10/10	0/10	1/10	8/10	9/10
EL Islands	0/10	1/10	0/10	2/10	1/10	1/10
EL Insertion	7/10	9/10	4/10	5/10	5/10	6/10
ML+EL constituent	10/10	10/10	3/10	5/10	8/10	7/10
ML shift & Revision	4/10	0/10	0/10	3/10	2/10	1/10
Borrowed forms	10/10	10/10	0/10	5/10	10/10	9/10

Table 8 represents number of subjects exhibiting code switching and code mixing classified according to MLF model (Myers-Scotton, 1993). The different parameters like ML Islands English, Kannada, ML Shifts etc. taken separately are discussed with respect to simultaneous and simultaneous group across different types in the following sections.

1) ML Islands:

Matrix language islands (ML Islands) are constituents entirely of ML morphemes. They must follow the grammatical structure of a particular language (Myers-Scotton, 1993) that is ML islands are constituents with morphemes solely from the ML and they are well formed according to the ML grammar.

Figure 2: Number of subjects exhibiting code mixing and switching, (ML Islands-English) in different contexts.
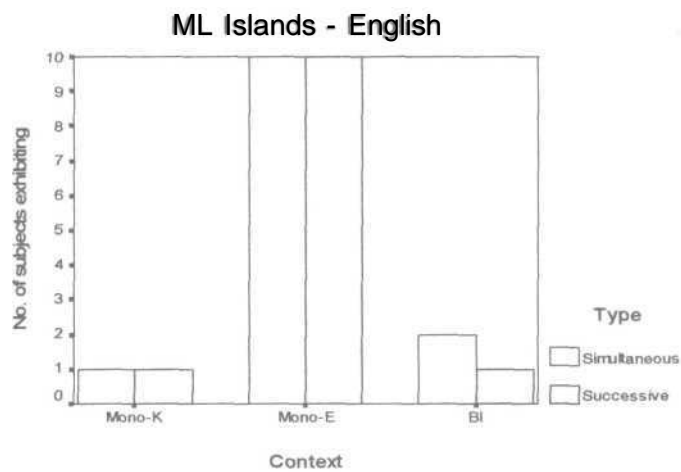
Legend: Mono-K: Monolingual Kannada context, Mono-E: Monolingual English context, BI-Bilingual context

Table 8 shows the number of subjects exhibiting code mixing and switching, in different contexts. ML islands were in the language established by the interlocutor in monolingual English context in all the children (see Table 8) in both simultaneous and successive group. It shows that both simultaneous and successive group exhibited

code mixing in monolingual Kannada context i.e. one child out of 10 children in both the groups but in bilingual context, 2/10 in simultaneous and 1/10 in successive group (see Table 8) exhibited code mixing. The results reveal that both Kannada & English are equally dominant in simultaneous group than successive group. Figure 2 show the graphical representation of number of subjects exhibiting code mixing and switching, (ML Islands-English) in different contexts across both the groups

Chervala Nirmala (1981, 1982) examined Telugu-Hindi bilingual child's data on language mixing from 3 years that is from the time the child was first exposed to the second language, Hindi. The results showed that language mixing is not same for co-ordinate and compound bilingual children. For compound bilingual children, language mixing is found in both the languages to which the children are exposed to. But for a child learning a second language after a fair mastery over the first (coordinate bilingual) language, mixing is not mutual.

Figure 3: Number of subjects exhibiting code mixing and switching, (ML Islands-Kannada) in different contexts.
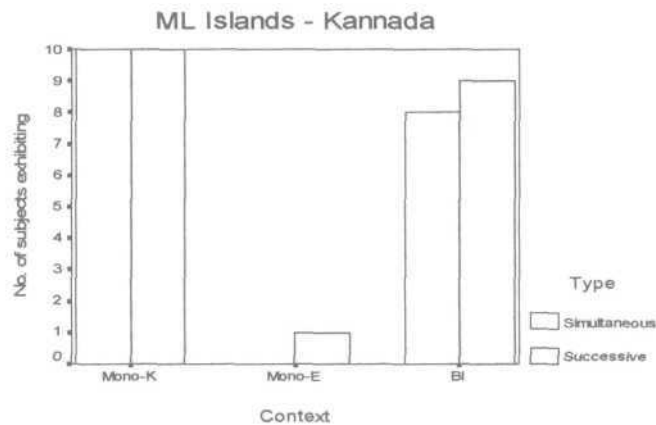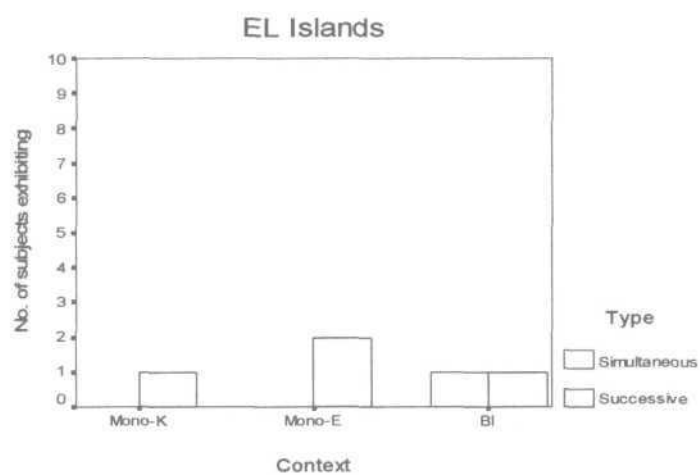

Legend: Mono-K: Monolingual Kannada context, Mono-E: Monolingual English context, BI-Bilingual context

Table 8 shows the number of subjects exhibiting code mixing and switching, in different contexts. ML islands were in the language established by the interlocutor in monolingual Kannada context in all the children (see Table 8) in both simultaneous and successive group. In monolingual English context, one child in successive group mixed Kannada lexeme into English, which was not found in simultaneous group. In bilingual context, 9/10 in successive group spoke in Kannada and 8/10 in simultaneous group. Figure 3 show the graphical representation of number of subjects exhibiting code mixing and switching, (ML Islands-Kannada) in different contexts across both the groups.

2) EL Islands:

Embedded language islands are formed when syntactic procedures of embedded language are activated and these of matrix language are inhibited.

Figure 4: Number of subjects exhibiting code mixing and switching, (EL Islands) in different contexts.

Legend: Mono-K: Monolingual Kannada context, Mono-E: Monolingual English context, BI-Bilingual context

EL islands were present in all the contexts for successive/sequential group (1/10 in monolingual Kannada, 2/10 in monolingual English and 1/10 in bilingual context - See Table 8) whereas in simultaneous group, it is absent in monolingual Kannada & English contexts and 1/10 subject exhibited in bilingual children. The instances of EL islands in the utterances was more in monolingual English context for successive group which may be due to limited vocabulary in English or lexical retrieval problem or easy accessibility in English at that moment.

Boeschoten, H.E & Verhoeven, L.T (1987) examined Dutch language use in Turkish discourse in bilingual children and gave few reasons for language mixing. They are limited vocabulary, and to fill lexical gaps, borrowing from the second language, secondly the child may not have learned a word in his/her first language and thirdly the word in the second language may be more easily available at that moment. The present study supports these findings.

Thirumalai and Shyamala Chengappa,(1986) concluded that code mixing is due to interference from the other language and interference from one's own inadequate or incomplete learning of a single language. The present study supports these findings.

3) EL insertion:

When multiple EL lexemes demonstrating no syntactic structure are inserted into the syntactic frame of any number of ML it is called EL insertion.

Figure 5: Number of subjects exhibiting code mixing and switching, (EL Insertion) in different contexts.
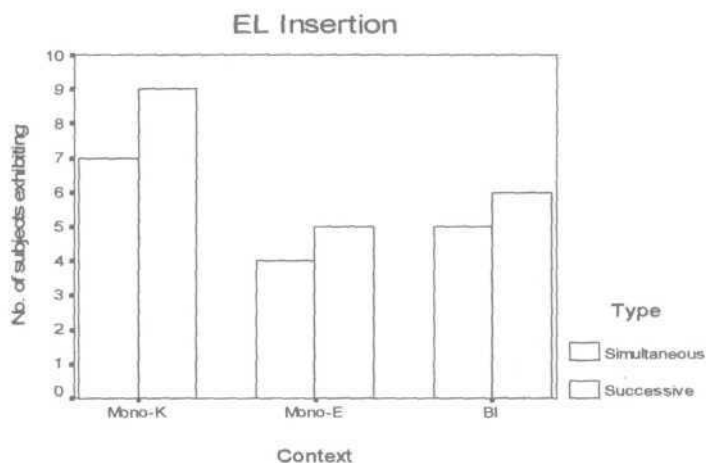
Legend: Mono-K: Monolingual Kannada context, Mono-E: Monolingual English context, BI-Bilingual context

From the graph, it is clear that EL insertion is more evident in successive group in all contexts (9/10 in monolingual Kannada, 5/10 in monolingual English and 6/10 in bilingual context) than simultaneous group (7/10 in monolingual Kannada, 5/10 in monolingual English and 6/10 in bilingual context). It is evident that successive group is still in learning phase when compared to simultaneous group, who acquired grammatical rules from birth.

4) ML + EL constituents:

ML+EL are constituents where embedded language lexemes are inserted into the syntactic structure of matrix language. They follow the syntactic rules of the matrix language and the content morphemes can be form the EL.

37

Figure 6: Number of subjects exhibiting code mixing and switching (ML + EL constituents) in different contexts.
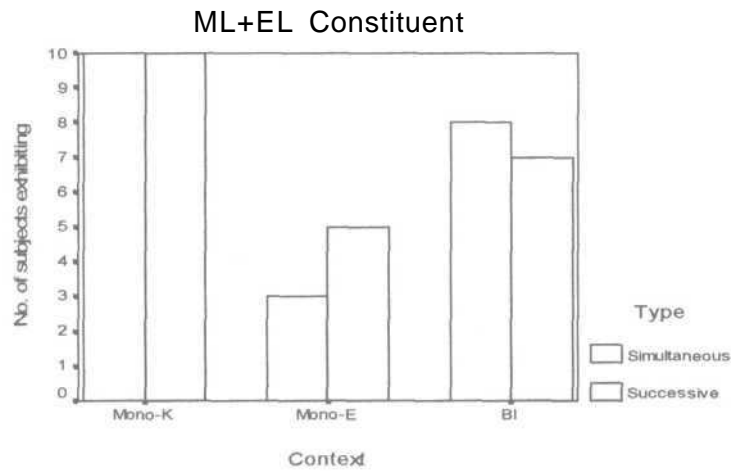
ML+EL Constituent

Legend: Mono-K: Monolingual Kannada context, Mono-E: Monolingual English context, BI-Bilingual context

ML+EL constituents were produced by all ten children in simultaneous and successive in monolingual Kannada context and 3/10 and 5/10 in monolingual English in simultaneous and sequential respectively. In bilingual context, 8/10 and 7/10 produced them in simultaneous and successive group respectively.

5) ML shifts & Revisions:

ML shift is change in the matrix language in consecutive utterances of clausal structure preceded by a pause of two or more seconds or change in pitch. Thus it represents change from one language to another. It represents code switching as it indicates shift of languages.

Revisions include lexical insertion that does not contribute to the meaning of the utterance such as speech errors.

Figure 7: Number of subjects exhibiting code mixing and switching, (ML Shifts &
Revisions) in different contexts

Legend: Mono-K: Monolingual Kannada context, Mono-E: Monolingual English
context, BI-Bilingual context

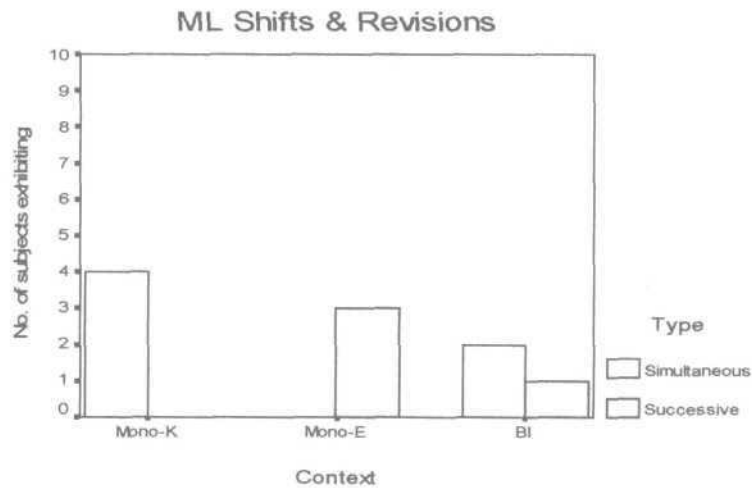ML shifts and revisions are seen in monolingual Kannada context (4/10) and
bilingual contexts (2/10) and absent in monolingual English contexts in simultaneous
group. Whereas, it is absent in monolingual Kannada context and present in
monolingual English (3/10) and bilingual contexts (1/10) in successive group. When
compared to code mixing, code switching is less prevalent in these two groups of
children.

McClure and Wentz (1975) showed that children's code switching is related to
situation, role and style, exactly as it is with adults; however, no single parameter
seems to be capable of predicting code choice consistently. He cited that although
roles governing language-mixing are supposed to be much more variable during
acquisition than are rules of grammar.

6) Borrowed forms:

Borrowed forms are lexemes from one language integrated into the morpho-phonological system of the second language.

Figure 8: Number of subjects exhibiting code mixing and switching (Borrowed forms) in different contexts.

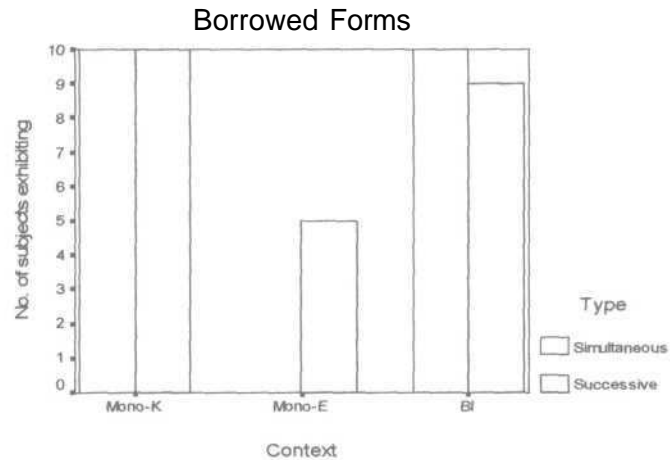Legend: Mono-K: Monolingual Kannada context, Mono-E: Monolingual English context, BI-Bilingual context

It is evident that it is present in all the contexts in successive group (10/10 in monolingual Kannada, 5/10 in monolingual English and 9/10 in bilingual contexts). But in simultaneous group, all the children (10/10) exhibited it in monolingual Kannada and bilingual contexts while it is absent in monolingual English context.

b) Code mixing and code switching across two groups:

Table 9

Number of code mixing and code switching behavior

with respect to each child in simultaneous bilingual group

Subjects	Code mixing			Code switching		
	Monolingual English context	Monolingual Kannada context	Bilingual context	Monolingual English context	Monolingual Kannada context	Bilingual context
1.	1	2	5	0	1	0
2.	2	6	3	0	0	0
3.	1	12	**7**	0	0	1
4.	0	6	9	0	0	0
5.	0	6	7	0	0	0
6.	0	3	3	0	0	0
7.	0	3	3	0	0	0
8.	0	2	0	0	0	0
9.	2	2	2	0	0	0
10.	0	7	5	0	0	0

Table 10

Number of code mixing and code switching behavior

with respect to each child in successive bilingual group.

Subjects	Code mixing			Code switching		
	Monolingual English context	Monolingual Kannada context	Bilingual context	Monolingual English context	Monolingual Kannada context	Bilingual context
1.	0	8	9	0	0	0
2.	2	4	5	1	0	0
3.	2	5	7	0	0	0
4.	1	5	5	0	0	0
5.	3	10	9	0	0	0
6.	1	6	9	1	0	0
7.	3	2	4	2	0	0
8.	0	5	6	0	0	0
9.	1	5	3	0	0	0
10.	0	7	0	0	0	0

Number of code mixing and code switching for each child in successive and simultaneous group across different contexts are disclosed in the table 9 & 10 respectively. It is clear that code mixing is more than code switching and mixing is more evident in monolingual Kannada context. The results disclose that children tend to mix English lexemes into Kannada more than mixing Kannada lexemes into English. This would be due to dominancy of English over Kannada and children tend to communicate in English with their peers, parents and at school than Kannada.

Chervela Nirmala (1981, 82) examined Telugu-Hindi bilingual child's data on language mixing from 3 years that is, from the time the child was first exposed to the second language, Hindi. The child mixed Telugu while speaking Hindi but the

interference of Telugu with Hindi while speaking Hindi was negligible. The author cited language dominance in Hindi to be a major factor. Besides language dominance, the use of mixed language alone while attempting to speak Telugu could be due to the awareness that the child would not have been able to communicate if she mixed Telugu with Hindi while speaking with her peer group and other neighbors who had absolutely no knowledge of Telugu.

Shyamala and Thirumalai (1986) identified that code mixing results from inadequate mastery and the occurrence of code switching presupposes the conscious separation of the two languages of exposure.

Table 11

Total number of code mixing and code switching

with respect to different contexts for both the groups.

	Simultaneous group			Successive group		
	Monolingual English context	Monolingual Kannada context	Bilingual context	Monolingual English context	Monolingual Kannada context	Bilingual context
Code mixing	6	49	44	13	57	57
Code switching	0	1	1	4	0	0

Figure 9: Code mixing and code switching

across contexts in simultaneous group
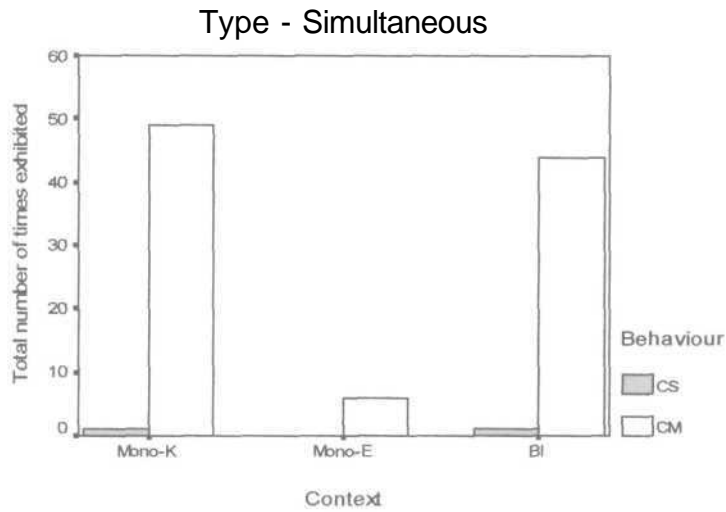
Legend: Mono-K: Monolingual Kannada context, Mono-E: Monolingual English
context, BI-Bilingual context

Figure 10: Code mixing and code switching

across contexts in successive group.
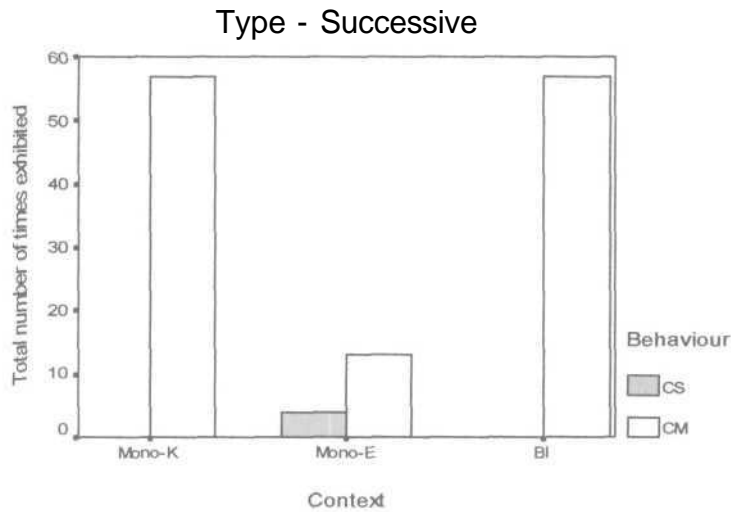
Legend: Mono-K: Monolingual Kannada context, Mono-E: Monolingual English
context, BI-Bilingual context

Table 11 shows the average value of code mixing and code switching across
contexts are calculated for simultaneous and successive group. It shows that code
mixing and code switching are more prevalent in successive than simultaneous group.

44

Within code mixing, monolingual Kannada context has the highest value of mixing which is followed by bilingual context and then monolingual English context. Within code switching, monolingual English has the maximum value. Overall it clearly represents that children who acquire two languages successively will end up in high rate of code mixing due to unequal mastery of two languages, thus supporting Thirumalai and Shyamala Chengappa (1986).

In simultaneous acquisition, children master both the languages equally due to their early exposure. Both the languages are equally dominant in simultaneous than in successive group. In successive bilingual, dominant language (English in this present study) interfered with non-dominant language (Kannada) and thus resulted in high rate of code mixing of English in Kannada and Bilingual contexts.

Chervela Nirmala (1981, 82) examined Telugu-Hindi bilingual child's data on language mixing from 3 years that is from the time the child was first exposed to the second language, Hindi. The results showed that language mixing was not the same for co-ordinate and compound bilingual children. For compound bilingual children, language mixing is found in both the languages to which the children are exposed to. But for a child learning a second language after a fair mastery over the first (co-ordinate bilingual) language, mixing is not mutual. The dominant language (Hindi in the case under study) interfered at all levels with the child's first language (Telugu) and the unconscious effort of the child to retain the first language resulted in language mixing only when the child spoke Telugu. The present study supports these findings.

Figures 9 and 10 showed that code mixing was higher than code switching irrespective of the groups and contexts. This may be due to the picture description task, in which there is no change in topic and no change in communication partner. So, children tend to use code mixing than code switching.

McClure and Wentz (1975) and Shyamala Chengappa, (1986) showed that children's code switching is related to situation, role and style, exactly as it is with adults; however, no single parameter seems to be capable of predicting code choice consistently. He cited that although roles governing language-mixing are supposed to be much more variable during acquisition than are rules of grammar.

The present study also supports Shyamala Chengappa (1986), who concluded that the occurrence of conscious differentiation of two languages in the bilingual exposure and the awareness of socially accepted usage of one language in place of the other. These elements of code-switching are evident in the bilingual's speech behavior at 3:3-3:10 years itself and would be predicted to continue with better efficiency as the socialization process continues.

C) Perecman's level of code mixing:

Table 12

Comparison ofPerecman 's level of code mixing

across contexts and two groups.

	Simultaneous			Successive		
	Mono lingual English	Mono lingual Kannada	Bilingual context	Mono lingual English	Mono lingual Kannada	Bilingual Context
Lexical-semantic a) word level	4/10	10/10	9/10	5/10	8/10	7/10
b) Phrase level	0/10	4/10	2/10	3/10	0/10	1/10
Syntactic level	1/10	0/10	0/10	1/10	0/10	0/10
Phonological level	0/10	0/10	0/10	0/10	0/10	0/10
Morphological level	1/10	0/10	5/10	0/10	0/10	4/10

Table 12, shows that lexical-semantic level is more prominent which is followed by morphological level and syntactic level in both the groups. Irrespective of the two groups, within lexical-semantic level, word level (9/10, 4/10 and 10/10 in bilingual context, monolingual English context and monolingual Kannada contexts respectively in simultaneous and 7/10, 5/10 and 8/10 in bilingual context, monolingual English and monolingual Kannada contexts respectively in successive group) are more evident than phrase level. There is no morphological level of code

mixing in this study. In this study, an attempt to compare age and levels of code mixing was not made. Studies carried out on this same line would give more insight on the interaction between levels of code mixing and age. Levels of code mixing is more evident in simultaneous group than successive group which is probably due to early acquisition of grammatical levels and rules of language in simultaneous group while successive group is probably still in learning phase.

Nirmala Chervala (1981,82) examined Telugu-Hindi bilingual child's data on language mixing from 3 years that is from the time the child was first exposed to the second language, Hindi. She concluded in her study that lexical level of mixing is more evident when the child was less than 3 years and till 6 years, syntactic and morphological levels was prevalent and above 6 years, code mixing was absent. The findings of the present study agree with this.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study intended at comparing code mixing and code switching behavior across simultaneous and successive bilingual children. Though many studies have targeted code mixing and code switching in normal bilingual children in western context, studies on comparing simultaneous and successive bilingual children are only a few. There is a dearth in the literature in the study of code mixing and code switching in bilingual children in Indian context.

Hence the aims of study were to compare the type and extent of code mixing and code switching in simultaneous and successive bilingual children, investigate similarities and differences between code mixing and code switching noticed in simultaneous and successive bilingual children. The effects of code mixing and code switching were looked into.

Twenty children in the age range of 4-8 yrs who were native speakers of Kannada and later acquired English were grouped into 2 groups (simultaneous and successive) based on their age of language acquisition of the two languages. Questionnaire regarding exposure to language was used to identify simultaneous and successive bilinguals. Socio economic status was checked using SES scale given by Venketasan, 2004. International second language proficiency rating scale (ISLPR, Ingram, 1985) was administered to check the language proficiency of the subjects further into the proficiency of primary (speaking and listening) and secondary skills

(reading and writing). Language proficiency was compared across and within the two groups.

A picture description task was carried out to examine code switched and mixed utterances. Subject's utterances were transcribed and subjected to detailed analysis. The analyses were based on the overall guidelines of matrix language framework (MLF, Myers-Scotton 1993) and description of level of code switching and code mixing (Perecman, 1984).

> The results obtained from proficiency levels (primary and secondary skills) revealed that higher proficiency was indicated in primary and secondary skills in simultaneous when compared to the successive group. This proficiency may probably be helpful to perform better in their academic performance.

> When comparing the total number of code mixing and code switching across the two groups in different contexts, they were more prominent in successive group than simultaneous group. This could be probably due to unequal mastery of two languages in successive group. Children tend to mix English lexemes into Kannada which could be possibly due to limited vocabulary and easy availability of English words at that moment.

> ML Islands (Kannada and English) are more obvious in successive group than in simultaneous group in almost all the contexts except in bilingual context, where simultaneous group has exhibited more ML Islands-Kannada.

> EL Islands which depict the true code mixing behaviour is more marked in successive group in all contexts than in simultaneous group.

> EL insertion was present in higher rates in successive bilingual children than simultaneous bilingual group. It could be possibly that successive group is still in learning phase when compared to simultaneous group, who acquired grammatical rules early.

> The presence of ML shifts is less when compared to other constituents. When compared to code mixing, code switching is less prevalent in these two groups of children. This could be probably due to limited variation in communication partners and in topics.

From the above mentioned results, it is clear that code mixing and code switching are more prevalent in successive group than simultaneous which could be probably due to unequal mastery of languages. Insertion of English lexemes into Kannada are more than those of Kannada lexemes into English which could be possibly due to increased usage and exposure to English at school, home and even with peers.

> In Perecman's (Perecman, 1984) levels of code mixing, it is clear that lexical-semantic mixing is higher in order which is followed by morphological and syntactic level of mixing. Levels of code mixing is more evident in simultaneous group than successive group which is probably due to early acquisition of grammatical levels and rules of language in simultaneous group while successive group is probably still in learning phase.

51

Inferences could be drawn from these above mentioned results and could be concluded that code mixing and code switching are not abnormal phenomena, and could be recommended for children with language inadequacies. This could perhaps decrease their pressures/ demands to communicate in this demanding bilingual society in India. It would be interesting to study these in language disordered group.

Limitations:

> Only limited number of subjects was taken.

> Comparison of age with code mixed and code switched utterances was not made

Future suggestions for research:

> Large group of subjects can be taken and compared between simultaneous and successive bilingual children.

> Comparison of code mixed and code switched utterances with age can be made.

> Similar study can be carried out in other Indian languages

> Similar study may be attempted with cross linguistic comparison

> Similar study may be attempted in different language impaired groups as Mental retardation, Autistic, Specific language impairment and learning disability etc.

References

Bergman, C. (1976). Interference Vs Independent development in Infant Bilingualism. In D.Keller, R.Teschner and S.Viera (Eds.), *Bilingualism in the Bicentennial and Beyond,* (pp. 86-96). New York: Bilingual Press/ Editorial Bilingue.

Berthold, M., Mangubhai, F., & Batorowicz, K. (1997). *Bilingualism & Multiculturalism: Study Book.* Distance Education Centre, University of Southern Queensland: Toowoomba, QLD.

Bhatia, T.K. (1989). Bilingual's linguistic creativity and syntactic theory: Evidence for emerging grammar. *World Englishes, 8(3),* 265-276.

Bhatia, T.K. & Ritchie, W.C. (1996). Bilingual language mixing, universal grammar and second language acquisition. In W.C. Ritchie and T.K. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 627-689). San Diego: Academic Press.

Bloomfield, L. (1933). Language. New York: Holt, Rinehart and Winston. In *Simultaneous acquisition of two languages: An overview* (pp. 3). Nashik: Govt of India Press.

Canale, M. (1981). On some theoretical frameworks for language proficiency. In C. Rivera (Ed.). *Language proficiency and academic achievement.* Avon, England: Multilingual Matters, Ltd.

Chamot, A.U. (1981). *Applications of second language acquisition research to the bilingual classroom.* Wheaton, MD: National Clearinghouse for Bilingual Education.

Connor, U. and Kaplan, R.B. (1987). *Writing across languages: Analysis ofL2 text. Reading,* MA: Addison-Wesley.

Cook, V. (1991). *Second Language Learning and Language Teaching.* Edward Arnold/ Hodder Headline Group: Melbourne.

Crystal, D. (1987). Towards a "bucket" theory of language disability: Taking account of interaction between linguistic levels. *Clinical Linguistic and Phonetics. 1,* 7-22.

Cummins, J. (1980). Teaching English through content-area activities. In P. Rigg and V. Allen (Eds.), *When they don't speak English* (pp. 139-151). Urbana, IL: National Council of Teachers of English.

Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. In California State Department of Education (Ed.). *Schooling and language minority students: A theoretical rationale* (pp. 3-49). Los Angeles, CA: California State University.

Cummins, J. (1982). *Interdependence and bicultural ambivalence: Regarding the pedagogical rationale for bilingual education.* Rosslyn, VA: National Clearinghouse for Bilingual Education.

Cummins, J. (1991). Language development and academic learning (pp. 161-75). In L.M. Malave and G. Duquette (Eds.). *Language, Culture, and Cognition.* Clevedon, England: Multilingual Matters, Ltd.

Damen, L. (1987). *Culture learning: The fifth dimension in the language classroom. Reading,* MA: Addison-Wesley.

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

Diebold, A.R. Jr. (1961). Incipient Bilingualism. *Language, 37,* 97-112.

Ervin, S., & Osgood, C. (1954). Second language learning and bilingualism. *Journal of Abnormal and Social Psychology Supplement. 49,*139-146

Genesse, F. (1989). Early bilingual development, one language or two? *Journal of child language,* 16, 161-79

Grosjean, F. (1982). *Life with two languages: An Introduction to bilingualism.* Cambridge: Harward University Press.

Haugen, E. (1953). *The Norwegian Language in America: A study in Bilingual Behavior,* Vol.1, Philadelphia: University of Pennsylvania Press.

Krashen, S. (1976). Formal and informal linguistic environments in language acquisition and language learning. *TESOL Quarterly:* 10, 157-68.

Krashen, S. (1981). *Second language acquisition.* Oxford, England: Pergamon.

Krashen, S. (1982). Accounting for child/adult differences in second language rate and attainment. In S. Krashen, R.C. Scarcella, and M.H. Long (Eds.). *Issues in second language research* (pp. 161-172). Rowley, MA: Newbury House.

Krashen, S.D., Long, M.A., and Scarcella, R.C. (1979). Age, rate and eventual attainment in second language acquisition. *TESOL Quarterly* 13, 573-82.

Lanza, E., (1992). Can bilingual two-year-olds code-switch? *Journal of Child Language, 19,* 633-658

Lambert, S., & Lambert, W.E. (1985). "Physiology: A questionnaire." *Meta. 30,* 68-72.

Leopold, W. F. (1970). *Speech development of a bilingual child: a linguist's record, Vols. I-IV.* New York: AMS

Mackey, W.F. (1970). The Description of Bilingualism. In Fishman, J.A. (Eds.), *Readings in the Sociology of Language.* The Hague: Mouton.

Macnamara, J. (1967). The Linguistic Independence of Bilinguals. *Journal of Verbal Learning and Verbal Behavior,* 6, pp. 729-736.

McClure, E.F. (1977). *Aspects of code-switching in the discourse of bilingual Mexican-American children* (Tech. Rep. No. 44). Cambridge, MA: Bernacek and Newman.

McLaughlin, B. (1978). *Second Language Acquisition in Childhood.* Hills Dale: Lawrence Erlbaum associates.

McLaughlin, B. (1984). *Second-language acquisition in childhood. Vol. 1:* Preschool children. Hillsdale, NJ: Lawrence Erlbaum.

Milon, J. (1974). The development of negation in English by a second language learner. *TESOL Quarterly, 8,* 137-143.

Milroy, L., & Muysken, P. (1995). *One speaker, two languages: Cross-disciplinary perspectives on code switching.* Cambridge: Cambridge University Press.

Mulford & Hecht. (1979). The Acquisition of Second Language Phonology: Interaction of Transfer and Development Factors. *Applied Psycholinguistics,* 3,313-328.

Munoz, M.L., Marquardt, T.P., & Copeland, G. (1999). A comparison of code switching patterns of aphasics and neurologically normal bilingual speakers of English and Spanish. *Brain and Langauge,* 62 (2), 249-274.

Myers-Scotton, C. (1993). *Duelling languages: Grammatical structure in code switching.* Oxford University Press.

Myers-Scotton, C, & Jake, J.L. (1995). Matching Lemmas in a bilingual language competence and production model: Evidence from intrasentential code switching. *Linguistics,* 34, 981-1024.

Perecman, E. (1984). Spontaneous translation and language mixing in a polyglot aphasic. *Brain and language,* 23, 43-63.

Pert, S., & Letts, C, (2006). Code switching in Mirpuri speaking Pakistani heritage preschool children: Bilingual language acquisition. *International Journal of Bilingualism,* 10, 349-374.

Poplack, S. (1980). 'Sometimes I'll start a sentence in English y termino en espanol', *Linguistics,* 18, 581-616.

Richard-Amato, P.A. and Snow, M.A. (1992). *The multicultural classroom.* White Plains, NY: Longman.

Ritchie & Bhatia, (1996). *Handbook of second language acquisition.* New York: Academic Press.

Romaine, S. (1995). *Bilingualism.* Oxford: Blackwell.

Rosenthal, J.W. (1996). *Teaching science to language minority students.* England: Multilingual Matters Ltd.

Skutnabb-Kangas & Tove. (1981). *Bilingualism or not: The education of minorities.* Translated by Lars Malmberg and David Crane. Clevendon, Avon, England: Multilingual Matters.

Thirumalai, M.S., & Chengappa, S. (1986). *Simultaneous acquisition of two languages: An overview.* Mysore: Central Institute of Indian Languages.

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

Appendix 1-Questionnaire

Child's name:

Age/sex:

Class:

Date of birth:

Mother tongue:

Mother's language:

Father's language:

Caretaker's language:

Neighbor's language:

With whom will the child spend more time?

Languages known by the child (Rate it in the order of proficiency for e.g. most proficient to least proficient): 1.————— 2.————— 3.————— 4.——

How many languages does the child know before joining the school?———

After joining the school:————

Does your child mix two languages and speak? If so, which two languages?

1.   2.

Siblings (How many brothers/sisters):

Parent's education: Father's—————Mother's—————————

Speech and motor development:

- First word:—————**Months/years**

- First sentence:—————**years**

- Walking:—————**years**

Family history of any speech and language related problems:

Medical history:

Address and Phone number:

Appendix 2

	I	II	III	IV	V
1.Pooled monthly income					
2.Highest education					
3.Occupation					
4.Property					

5. Status of ration card:
    1. White card
    2. Pink card
    3. Yellow card

Appendix 3

INTERNATIONAL SECOND LANGUAGE PROFICIENCY RATING (ISLPR)

| SPEAKING	LISTENING	WRITING	READING
S: 0 Zero Proficiency Unable to function in the language.	**L: 0 Zero proficiency** Unable to comprehend the spoken language.	**W: 0 Zero proficiency** Unable to function in the written language.	**R: 0 Zero proficiency** Unable to comprehend the written language.
S: 0 + Initial proficiency Able to operate only in a very limited capacity within very predictable areas of need.	**L: 0 + Initial proficiency** Able to comprehend only a very restricted range of simple utterances within the most predictable areas of need and only in face to face situations with people used to dealing with non-native speakers.	**W: 0 + Initial proficiency** Able to write clearly a limited number of words or short formulae pertinent to the most predictable areas of everyday needs.	**R: 0 + Initial proficiency** Able to read only a limited range of essential sight words and short sentences whose forms have been memorized in response to immediate needs.
S: 1 Elementary proficiency Able to satisfy basic survival needs and minimum courtesy needs.	**L: 1 Elementary proficiency** Able to comprehend readily only utterances which are thoroughly familiar or are predictable within the areas of immediate survival needs.	**W: 1 Elementary proficiency** Able to write with reasonable accuracy short words and brief familiar utterances.	**R: 1 Elementary proficiency** Able to read short simple sentences and short instructions.

S: 1 Minimum survival proficiency
  Able to satisfy survival basic needs and minimum courtesy requirements.
	L: 1 Minimum survival proficiency
	  Able to comprehend enough to meet basic survival needs.
		W: 1 Minimum survival proficiency
		  Able to satisfy basic survival needs.
			R: 1 Minimum survival proficiency
			  Able to read personal and place names, street signs, office or shop designations, numbers, isolated words and phrases and short sentences.

S: 2 Minimum social proficiency
  Able to satisfy routine social demands and limited work requirements.
	L: 2 Minimum social proficiency
	  Able to understand in routine social and limited work situations.
		W: 2 Minimum social proficiency
		  Able to satisfy routine social demands and limited work requirements.
			R: 2 Minimum social proficiency
			  Able to read simple prose, in a form equivalent to typescript or printing, on subjects within a familiar context.

S: 3 Minimum vocational proficiency
  Able to speak the language with sufficient structural accuracy and vocabulary to participate effectively in most formal and informal conversations on practice, social and vocational topics.
	L: 3 Minimum vocational proficiency
	  Able to comprehend sufficiently readily to be able to participate effectively in most formal and informal conversations with native speakers on social topics and on those vocational topics relevant to own interest and experience.
		W: 3 Minimum vocational proficiency
		  Able to write with sufficient accuracy in structures and spelling to meet all social needs and basic work needs.
			R: 3 Minimum vocational proficiency
			  Able to read standard newspaper items addressed to the general reader, routine correspondence, reports and technical materials in his special field and other everyday materials (e.g. best selling novels and similar recreational literature).

S: 4 Vocational proficiency Able to use the language fluently and accurately on all levels normally pertinent to personal, social, academic or vocational needs.	**L: 4 Vocational proficiency** Can comprehend easily and accurately in all personal and social contexts and in all academic or vocational contexts relevant to own experience.	**W: 4 Vocational proficiency** Able to write fluently and accurately on all levels normally pertinent to personal, social, academic or vocational needs.	**R: 4 Vocational proficiency** Able to read all styles and forms of the language pertinent to personal, vocational, social, academic or vocational needs.
S: 5 Native like proficiency Speaking proficiency equivalent to that of a native speaker of the same socio-cultural variety.	**L: 5 Native like proficiency** Listening proficiency equivalent to that of a native speaker of the same socio-cultural variety.	**W: 5 Native like proficiency** Writing proficiency equivalent to that of a native speaker of the same socio-cultural variety.	**R: 5 Native like proficiency** Reading proficiency equivalent to that of a native speaker of the same socio-cultural variety.

Primary skills: Speaking and listening
Secondary skills: Reading and writing

IN THE PARK
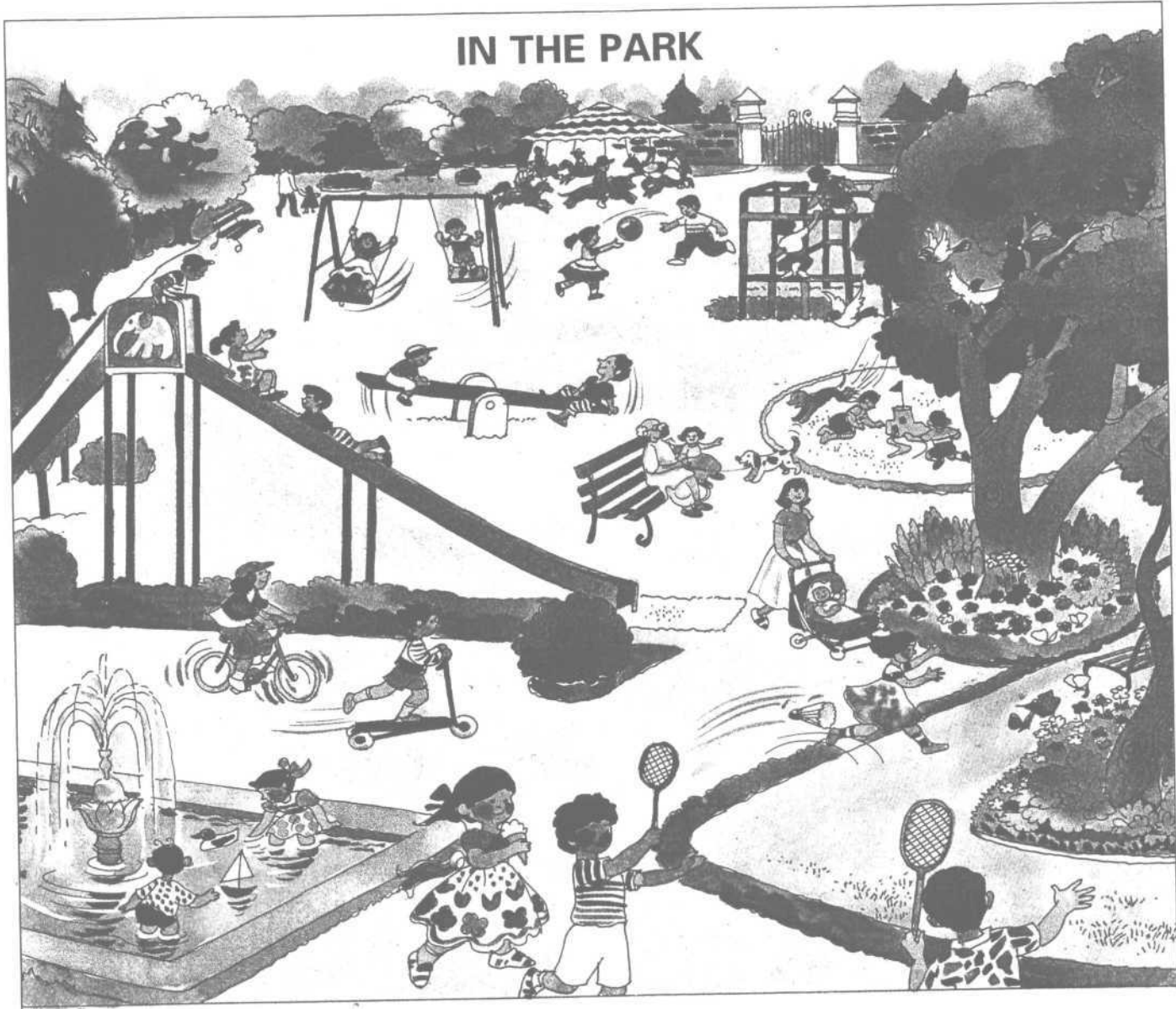
Appendix 5

Definition of MLF model constituents adopted from Myers-Scotton (1992) and modified by Munoz et al (1999).

Constituents	Definitions
ML Islands	Well formed constituent consisting entirely of ML morphemes demonstrating syntactic structure of ML
ML shifts	Change in ML in consecutive utterances or clausal structure
EL Islands	Well formed constituent consisting of atleast 2 EL morphemes showing syntactic structure of EL which has been inserted into ML
ML+EL	A single EL lexeme inserted into the syntactic frame of any number of ML morphemes
Borrowed forms	A lexeme from one language incorporated into morpho syntactic structure of the second language and is widely accepted by the mono linguistic speaker of that language.
EL Insertions	Multiple EL lexemes demonstrating no syntactic structure inserted into the syntactic frame of any number of ML morphemes.
Revisions	Lexical insertions that do not contribute to the meaning of the utterance including speech errors, restatements, circumlocutions & are indicators of word finding problems.

Key: ML- Matrix language, EL- Embedded language.