

EARLY BILINGUALISM AND CODE MIXING: A CASE STUDY

Dohun Kim* and Taejin Koh**

Abstract: The potential impact of bilingualism on children's development has attracted increasing attention during the past decades. Building on the previous studies on language acquisition and bilingualism, this study investigates the simultaneous acquisition of multiple languages by Indian children who are born and brought up in Korea and who are using either Hindi or English at home and either Korean or English or Hindi as a medium of instruction at school. The multi-dimensions of code mixing in language acquisition are also explored, while focusing on the influence of the bilingual first language acquisition on cognitive ability, fluency and strength of lexical property. Specifically, this study looks into the cognitive and linguistic outcome of bilingual children through an experiment with eight children of different age and gender groups. For the experiment, three different kinds of materials were used. First, the experiment used reading papers: Hindi, English and Korean poems and stories in common words, along with selected words from food items, toys, games and some from television cartoons which are popular among Indian children. Second, it used 20 words of three different languages (Hindi, Korean and English): words were of toy names, chocolates, games, poems, etc. Third, a small interview was carried out based on general questions related to their home, school, friends, etc. Similar questions were posed in English, Korean and Hindi.

Keywords: Early bilingualism, code mixing, language acquisition, language learning, linguistic competence

INTRODUCTION

A major question in the research of bilingual first language acquisition is whether the developmental path of bilingual children is equivalent to that of monolingual ones. Underlying this question is the theoretical and experiential issue of whether children's ability to learn language is challenged in any way by the acquisition of two languages at the same time. Evidences that the pace of language development is slower in bilingual language learners would argue that children's language acquisition is compromised by the challenge of learning more than one language during the same development period. The possibility that early bilingualism affects children's language and cognitive development has long been a concern for parents and educators. In the first half of the 20th century, the prevailing view posited that bilingualism and second language acquisition in early life confound children and interfere with their ability to develop cognitive functions. Such an interpretation stemmed from the fact that bilinguals display higher frequency of dysfluencies, stuttering and code mixing compared with monolinguals. Code mixing

* First Author, Graduate School of Interpretation and Translation, Busan University of Foreign Studies, Busan, Korea. *Email: kdh8377@bufs.ac.kr*

** Corresponding Author, Department of Indian Studies, Busan University of Foreign Studies, Busan, Korea. *Email: tjindia@bufs.ac.kr*

in the early bilingual development stage has been employed as a key evidence to support a unitary-language system with similar phonological, lexical and syntactic substructures (Genesee, 2000, p. 309). The main suspects of code mixing in the early bilingualism are (i) the lack of appropriate lexical items, (ii) the overly restricted employment of specific lexical items and (iii) the simpler and more salient use (Genesee, 2000, pp. 311-312). Nevertheless, Poplack (1985) claims that code mixing is a common but neglectable phenomenon found in bilingualism, which does not stem from imperfect linguistic competence. In a similar context, Byers-Heinlein (2013, p. 97) analyzes that infants recognize the discrepancies between the two languages they acquire and that code mixing is attributable to linguistic habits, preference for the use of dominant language or environmental factors, not to poor linguistic competence. In fact, bilingual children are highly likely to be affected more by their parents and the surrounding environment (Byers-Heinlein, 2013).

Since the question regarding the potential impact of bilingualism on children's development has always been important—which has also emerged as a crucial concern for psycholinguistics—this paper sets out to add to the current literature by investigating the simultaneous acquisition of two languages by Indian children who are born and brought up in Korea and who are using either Hindi or English at home and either Korean or English or Hindi as the medium of instruction at school. Emphasis has also been placed on investigating how bilingual first language acquisition affects their cognitive ability, fluency and vocabulary competence. Special attention was paid to investigate how and when bilingual children engage in code mixing—this is particularly interesting as children may display different patterns of code mixing compared with adults, and they may be affected by psychological and environmental factors (Koh, 2012, p. 86). According to Genesee (2000, p. 307), most studies on bilingual development state that code mixing can be triggered at practically all levels: phonological, lexical, morphological, syntactic and semantic subsystems. Nonetheless, a number of empirical studies find that the phenomenon is generally restricted to lexical items (e.g. Redlinger & Park, 1980; Vihman, 1999; Goodz, 1989). Hence, this study purports to explore the correlations between the language exposure and switching competence of early Indian bilinguals residing in Korea. To this end, code mixing frequency is investigated and reading skills are examined for Hindi, English and Korean.

A. Concept of Bilingualism and Code Mixing

Despite the absence of a universally-agreed definition of bilingualism, most scholars agree that bilingualism range from a minimal proficiency in two languages to a high level of proficiency which enable a person to be regarded as a native-like speaker of two languages. Bilingual acquisition can be simultaneous, consecutive or receptive: the first refers to the acquisition of two languages as L1; the second is the acquisition of one language after another; and the last references to the linguistic

competence of a person who understands two languages but expresses himself in only one language (Halsband, 2006, p. 356). Bilinguals are also categorized into balanced, dominant and little interlingual interference users (Grosjean, 1982, p. 234; Lambert, 1990, p. 203). In the case of bilingual children, home language tends to be dominant; however, school language also prevails in a number of cases, which disables the dichotomy between the two.

Mixed utterances displayed by bilingual children reflect their linguistic competence (Redlinger & Park, 1980). In the early stage of bilingualism, mixed utterances are frequent, but tends to reduce with the development of linguistic competence. Nevertheless, code switching has been considered as the means to prevent pauses while switching from one language to another (Karniol, 1992). However, these studies assume that the burden imposed on children trigger and aggravate stuttering. From a theoretical perspective, stuttering locations and mixed utterances are functionally associated; however, mixed utterances refer to the inevitable interactions between bilingual children's developing language systems (Genesee, 2000, p. 306). Some scholars use the term to explain the co-occurrences of phonological, morphological, lexical or syntactic elements from two or more languages in a single utterance.

B. Problems

Information about the language, cognitive and educational development of children with varied language backgrounds is essential to interpret the performance of the children in school and to assess their development. Children with limited proficiency in the language of schooling or of home are more likely to experience increased difficulty in acquiring proficiency in any language. A particular environment where one is continuously subject to living with social and educational inputs in one's early period of learning greatly—and positively, in most cases—affects the degree of language acquisition. In particular, in order to draw a logical conclusion of children's language acquisition, we need to look into code mixing, which is often regarded as a transitional phenomenon used by imperfect bilinguals whose L1 leaves traces on (or affects) the imperfect L2. Hammer et al. (2007) conducted a research on the reading ability of Spanish-English bilingual children to conclude that English competence showed improvements regardless of home language. While Hammer et al.'s (2007) research focuses on the learning of L2, this research looks into a more authentic bilingual environment where children are naturally exposed to two or more languages.

C. Research Context

The experiment was conducted at children's home and in school in 2014. Interview and experiments were implemented three times per each child. The context in

which the bilingualism or second language acquisition takes place is of significant importance, even though it is not always included as a formal aspect of research investigation. There is evidence that whether the child's home language is in a majority or minority situation, is valued in the community and is used as a medium for literacy tasks affects the child's linguistic and cognitive ability. Therefore, the implications of the child's language experience should ideally be examined with careful attention to the social and linguistic factors that describe the child's social and educational environment.

D. Guiding Questions

The important issues in the present paper concern the cognitive and linguistic outcome regarding code mixing behaviors in bilingual children. The following questions guided the study.

1. Is the level of proficiency the same between the children who are acquiring English and Hindi and those acquiring Hindi and Korean simultaneously?
2. Are children able to acquire reading skills at school if they are either bilingual or learning a second language, especially if their home language is not the language of instruction?
3. Are there consequences on normal cognitive development in terms of the children's ability to acquire new concepts, especially if the school instruction is in the child's weaker language?
4. Is code mixing a phenomenon caused by imperfect linguistic competence in children's acquisition?

E. Literature Review

While one third of the world's population is bilingual or multilingual (Wei, 2000, pp. 3-4), there is a dearth of studies on early bilingualism (Byers-Heinlein et al., 2013, p. 96). Nevertheless, some precious studies have been carried out on the issue of bilingualism and second language acquisition and the effect of second language on the proficiency of first language. This research builds on Snow (1993), Bialystok (2001) and Schwartz and Kroll (2006). Snow (1993) argues that bilinguals suffer no obvious disadvantages from learning two languages simultaneously. She further states that there might be some initial delays in learning vocabulary items in one language, but the delay is soon made up, and of course, the total bilingual vocabulary of those children is much greater. Bialystok (2001) states that bilinguals tend to have a slight deficit in cognitive processing and working memory for the tasks carried out in L2. He goes on to claim that bilinguals gain superior verbal fluency. Schwartz and Kroll (2006) report on an empirical study of English and

Spanish speaking bilinguals, and concludes that proficiency of both languages were the same among English- and Spanish-speaking bilinguals.

It should be noted that scholars have somewhat different terms and definitions of code switching (Koh, 2012, p. 85). Borrowing, code insertion, code mixing and code alternation are also used. Nevertheless, code insertion is limited to vocabulary while code alternation is the switching of larger units (e.g. clause, phrase, sentence); meanwhile, code switching encompasses all the four (Milroy & Muysken, 1995, p. 9).

THE STUDY

A. Participants

To carry out the experiment, 8 children of different age groups were selected. Out of 8, 3 children were 3 years of age, 3 children of 4 years and 2 children of 5 years. 3 children were going to international school where medium of instruction was English and at home mostly they used either their mother tongue or English. 3 children were going to private school where the medium of instruction was Korean. Those children used to stay in the school for 7 hours. 2 children were taking private tuition for 3 hours by a Hindi speaking teachers and the medium of instruction was Hindi. Prior to the experiment, this study conducted a simple interview to test their linguistic competence. The result showed that they were proficient in both English and Hindi. Although they may display discrepant language developments due to varied levels of exposure to different languages, their exposure to Hindi is the highest, followed by English. Their proficiency in Hindi and English is similar to that of the children belonging to the same age group. The parents of the children do not speak Korean. The demographic profile of the participants is as follows (M: Male; F: Female; H: Hindi; E: English; K: Korean).

TABLE 1: PARTICIPANT PROFILE

<i>Name</i>	<i>Gender</i>	<i>Age (Month)</i>	<i>Mother Tongue</i>	<i>School</i>	<i>Stay Period (Month)</i>
Ra**	M	39	H	E	39
Saura**	M	48	H	E	48
Ri**	F	47	H	E	35
Gar**	M	37	H	K	37
Sha**	F	47	H	K	47
Cha**	F	60	H	K	52
Ja**	F	38	H	T	38
So**	M	61	H	T	61

B. Materials

Three different kinds of materials were used. First, we used reading papers. They were Hindi, English and Korean poems and stories in common words. We selected words from food items, toys, games and some from television cartoons that are popular among Indian children. Second, we used a list of 20 words of three different languages (Hindi, Korean and English). Words were of toy names, chocolates, games, poems and stories of nursery standards. Third, we did a small interview which was based on general questions related to their home, school and friends.

C. Procedure

Prior to the experiment, a simple diagnostic test was conducted to verify that the subjects suffer no language development challenges or mental illnesses. The experiments were carried out in three parts, viz: Part I, Part II and Part III in three different ways, i.e. reading, writing and speaking. First, we personally visited the houses of participants (children) and did experiment with three different kinds of materials. We divided the experiment into three parts according to the experiment materials. All materials were color-printed in large fonts. For the first part of the experiment, we did with the reading materials by encouraging each child to read aloud the materials twice. We gave Hindi and English reading materials to the children who were using Hindi and English at home and English in school; we gave English materials to those using Hindi at home and Korean in school; and we gave Hindi reading materials to those using only Hindi at home and with tutor. For the second part of the experiment, we utilized some pictures related to parents, relatives, vegetables, fruits, birds and animals. While doing the second part of the experiment, we used cardboard to paste those pictures and then we asked the meaning of those pictures. The third part of the experiment was done in the form of interview. In this experiment, we called all participating children at one place and asked five questions to each. This session was recorded and transcribed later.

RESULTS

The tables below are the data showing the responses of the children during each experiment. Regarding the questions and answers for the conversation experiment (Part C), see Appendices 1, 2 and 3 (transcripts of questions and answers).

A. Experiment with Reading Material

It is very important to see that we are getting variation in the pace of reading among children learning in different language atmospheres. Results of Table 2 show that the pace of acquisition of reading skill of children is better than the children (whose

medium of instruction is Korean which is not by their parents at home) of Table 3 but worse than the children (whose medium of instruction is Hindi which is also

**TABLE 2: CHILDREN ATTENDING ENGLISH MEDIUM SCHOOL
(ENGLISH & HINDI AT HOME; ENGLISH AT SCHOOL)**

<i>First Time Reading Level</i>	<i>Second Time Reading Level</i>	<i>Total No. of Words</i>
13 words/m (English)	17 words	40 words
9 words/m (Hindi)	11 words	
18 words/m (English)	23 words	40 words
13 words/m (Hindi)	17 words	
19 words/m (English)	22 words	40 words
12 words/m (Hindi)	15 words	

**TABLE 3: CHILDREN ATTENDING KOREAN MEDIUM SCHOOL
(HINDI AT HOME; KOREAN AT SCHOOL)**

<i>First Time Reading Level</i>	<i>Second Time Reading Level</i>	<i>Total No. of Words</i>
8 words/m (Korean)	11 words	40 words
13 words/m (Hindi)	15 words	
12 words/m (Korean)	14 words	40 words
16 words/m (Hindi)	19 words	
17 words/m (Korean)	21 words	40 words
22 words/m (Hindi)	26 words	

**TABLE 4: CHILDREN ATTENDING PRIVATE TUITION
(ENGLISH & HINDI AT HOME AND IN TUITION)**

<i>First Time Reading Level</i>	<i>Second Time Reading Level</i>	<i>Total No. of Words</i>
21 words/m (Hindi)	27 words	40 words
33 words/m (Hindi)	39 words	40 words

used by their parents) in Table 4. It is clearly shown that two different bilingual linguistic atmospheres affect the processes of acquisition in a different manner. Children whose medium of instruction in school is English and languages used at home are Hindi and English are able to read between 17 to 22 words of English and between 11 words to 15 words of Hindi. Children whose medium of instruction is Korean in school and Hindi used at home are able to read words between 11 to 21 words of Korean and 15 to 26 words of Hindi. Children who are using Hindi both at home as well as in tuition are able to read between 27 words to 39 words. This clearly shows that bilingual linguistic atmosphere affects the reading speed.

B. Experiment with Vocabulary

It is important to see that the acquisition of lexical items among children of almost the same age shows a different pace of language acquisition. It is clear that the

children who are getting primary education in Hindi and where Hindi is used by parents at home are showing better linguistics developments compared with those being tutored in two different language, i.e. L1 at home and L2 at school.

**TABLE 5: CHILDREN GOING TO ENGLISH MEDIUM SCHOOL
(ENGLISH & HINDI AT HOME; ENGLISH IN SCHOOL)**

	<i>First Time Reading Level</i>	<i>Second Time Reading Level</i>	<i>Total No. of Words</i>
Ra**	11 words (English)	13 words	20 words
Saura**	15 words (English)	16 words	20 words
Ri**	16 words (English)	15 words	20 words

**TABLE 6: CHILDREN GOING TO KOREAN MEDIUM SCHOOL
(ENGLISH & HINDI AT HOME; KOREAN IN SCHOOL)**

	<i>First Time Reading Level</i>	<i>Second Time Reading Level</i>	<i>Total No. of Words</i>
Gar**	7 words/m (Korean)	9 words	20 words
Sha**	11 words/m (Korean)	12 words	20 words
Cha**	13 words/m (Korean)	13 words	20 words

**TABLE 7: CHILDREN GOING TO PRIVATE TUITION
(ENGLISH & HINDI AT HOME AND IN TUITION)**

	<i>First Time Reading Level</i>	<i>Second Time Reading Level</i>	<i>Total No. of Words</i>
Ja**	16 words/m (Hindi)	17 words	20 words
So**	18 words/m (Hindi)	20 words	20 words

Experiment with conversation

Code mixing did not take place in the responses for the first and second questions, as the questions were relatively easy (see Appendix 1). Nevertheless, the occurrence of code mixing was witnessed in the rest of the responses. Simple code insertion is often found; meanwhile, sentence alternation also took place occasionally. It should be noted that the answer of Ri** consists of two sentences of which one is in English, while the other in Hindi; So** first answered in English and repeated the answer in Hindi to emphasize his intention (see Q&A 5 in Appendix 1). Ra**, Saura** and Ri** who attend English school engaged in sentential and lexical mixing of Hindi. Cha**, who is fluent in English, also answered in Hindi or displayed code mixing through lexical alternation when asked in English.

TABLE 8: CHILDREN'S RESPONSE TO ENGLISH QUESTIONS

<i>English Questions</i>	<i>English School Children (sentences/percentage)</i>	<i>Korean School Children (sentences/percentage)</i>	<i>Home Tuition Children (sentences/percentage)</i>
Frequency of Code Mixing	7 38.8%	8 44.4%	5 41.6%

When asked in Korean, children not attending Korean school had difficulties in understanding the questions (See Appendix 2). For these children, code mixing occasionally took place. This may be the consequences of the influence of imperfect linguistic competence, as children who attend Korean school did not engage in code mixing. Of course, in the light of the fact that they know Korean, their efforts to answer in Korean may have led to the consequences.

TABLE 9: CHILDREN'S RESPONSE TO KOREAN QUESTIONS

<i>Korean Questions</i>	<i>English School Children (sentences/percentage)</i>	<i>Korean School Children (sentences/percentage)</i>	<i>Home Tuition Children (sentences/percentage)</i>
Frequency of Code Mixing	9 50%	0 0%	7 58.3%

It should be noted that children are answering but their answers are limited to either a word or a phrase. Children are not answering in complete sentences. Most of the time, they dropped pronouns and nouns. There may be an argument that children are dropping pronouns because Korean is a pro-drop language, but this argument does not fit with noun dropping and verb dropping phenomena. It shows that the acquisition of Korean is not as fast as Hindi or English. The reason is that unlike other children (who are using English and Hindi in school and tuition respectively) children rarely had the opportunities to converse in Korean with their parents and friends. Hence, their linguistic development is hampered, as proper linguistic growth is not being nurtured, which may affect their mental development. It is worth noting that even when the children were asked in Korean, they (except for those attending Korean schools) answered in English or Hindi in most cases—sentential alternation is displayed while code alternation is not (see Appendix 2). While Hindi and English are the languages of acquisition for them, Korean falls into the category of learning; hence, although they comprehend Korean questions, they lack the ability to spell out Korean. We may logically conclude that their responses need more perfection at lexical and syntactic levels. And it is a great problem for Indian children who are going to the schools where the medium of instruction is Korean and where there is no atmosphere of Korean at all at home.

TABLE 10: CHILDREN'S RESPONSE TO HINDI QUESTIONS

<i>Hindi Questions</i>	<i>English School Children (sentences/percentage)</i>	<i>Korean School Children (sentences/percentage)</i>	<i>Home Tuition Children (sentences/percentage)</i>
Frequency of Code Mixing	3 16.6%	4 22.2%	0 0%

When asked in Hindi, code mixing did not take place, except for some minor and neglectable cases. While frequent lexical alternations, as well as sentential

ones, occurred when children were asked in English and Korean, only minor lexical alternations were witnessed in the answers (see Appendix 3). The fact that children's Hindi competence outperforms English and Korean may have led to this result, which is line with the findings of Bialystok & Craik (2010) which conclude that bilingual children, as well as monolinguals, can detect grammatical errors in meaningful sentences. In other words, bilinguals do not make more grammatical mistakes compared with monolinguals in simple sentences. This study also found that utterances of bilingual children displayed code mixing in their answers to simple questions in Hindi, English and Korean, but they did not make grammatical errors.

We can see that unlike the ones being tutored either through English or through Korean, the children who are tutored through Hindi and whose parents also use Hindi at home are showing better language acquisition. They are making proper sentences which are expected to be used by the children of three to five age groups. They are seen more confident in giving response as their answers are well up to the mark. It shows that education in mother tongue in early days is important for linguistic development as well as mental growth.

SUMMARY OF KEY FINDINGS

Four key findings should be underlined. First, children who are acquiring English and Hindi simultaneously are more proficient than those acquiring Hindi and Korean at the same time. Second, the acquisition of reading skills in the children depends on the relationship between the two languages and the level of proficiency in L2. Specifically, children learning to read in two languages that share a large number of vocabulary (e.g. Hindi and English) show accelerated progress in learning to read; children whose two languages do not share a large number of vocabulary. (e.g. Hindi/English and Korean) show no special advantage. The benefit of learning to read in two languages, however, requires that children be bilinguals and not second language learners whose competence in one of the languages is weak. Third, while bilingual children between four and five years old seem to mix up the vocabulary of two languages which are often used in their surroundings, those frequently using one language and instrumentally using second language are not mixing vocabulary of two languages. Lastly, this study revealed that children frequently engage in code mixing due to their imperfect linguistic competence. When children were asked in English and Korean, code mixing was prevalent; meanwhile, when the questions were in Hindi, their mother tongue, the phenomenon was rarely witnessed.

TABLE 11: FREQUENCY OF CODE MIXING

<i>School</i>	<i>Name</i>	<i>English</i>	<i>Korean</i>	<i>Hindi</i>	<i>Sum (individual)</i>
English School	Ra**	3	3	0	6
	Saura**	1	4	2	7
	Ri**	3	2	1	6
Korean School	Gar**	4	0	1	5
	Sha**	0	0	1	1
	Cha**	4	0	2	6
Home Tuition	Ja**	4	2	0	6
	So**	1	5	0	6
Sum		20	16	7	

CONCLUSION

As the research findings suggest, childhood bilingualism is a significant experience that has the power to influence the course and efficiency of children's development. While most studies on early bilingualism focus on L2 learning, this study investigated the code mixing frequency and reading skills of bilingual Indian children who acquire L2 at home. The participant children engaged in code mixing in a very natural manner, without any stuttering. The most surprising outcome is that these influences are not confined to the linguistic domain, where such influence would be expected, but extend as well to non-verbal cognitive abilities. In most cases, the child's degree of involvement with a second language, defined as the difference between bilingualism and second language acquisition, is an important variable that determines both the degree and type of influence. Four patterns of influence are noted in this study. One outcome is that bilingualism disadvantages children in some way as we have found differences in the reading skills as well as in the knowledge of vocabulary. It is also found that there is a development of vocabulary in each language. The second pattern, and the most prevalent one in the study, is that the success rate differs in language acquisition among the bilinguals of two different languages in which one is common to the children's environment and the other is not. And third, bilingualism is a positive force that enhances children's cognitive and linguistic development, improving access to literacy if one of their languages is lexically influenced by the other. Another crucial point is the phenomenon of code mixing in children's language acquisition stage.

While the present study adds to the current research on bilingualism through an empirical investigation, some limitations must be acknowledged for future research. First, the study analyzed a relatively small sample of children. A larger sample would generate more reliable results. Second, the study did not include children's long-term academic performance. A comprehensive and long-term research would

yield more insights into the phased cognitive development of bilingualism. As such, the findings of this study should be considered as tentative and open to revision; and more studies need to be accumulated to explore the cognitive and linguistic competence of early bilingual children.

Acknowledgments

This work was supported by the research grant of the Busan University of Foreign Studies in 2017. We express our gratitude to the anonymous reviewers for their valuable comments.

References

- Bialystok, E. S. (2001). *Bilingualism in development: Language, literacy, and cognition*. New York: Cambridge University Press.
- Bialystok, E. & Craik, F. (2010). Cognitive and linguistic processing in the bilingual mind. *Current Directions in Psychological Science*, 19(1), 19-23.
- Byers-Heinlein, K. (2013). Bilingualism in the early years: What the science says. *Learning Landscapes*, 7(1), 95-112.
- Genesee, F. (2000). Early bilingual language development: one language or two?. In L. Wei (ed.), *The bilingualism reader*. New York: Routledge, 306-321..
- Goodz, N. S. (1989). Parental language mixing in bilingual families. *Journal of Infant Mental Health*, 10, 25-44
- Grosjean, F. (1982). *Life with two languages: An introduction to bilingualism*. Cambridge: Harvard University Press.
- Halsband, U. (2006). Bilingual and multilingual language processing. *Journal of Physiology Paris*, 99, 355-369.
- Hammer, C. S., Lawrence, F. R. & Miccio, A. W. (2007). Bilingual children's language abilities and early reading outcomes in head start and kindergarten. *Language, Speech, and Hearing Services in Schools*, 38, 237-248.
- Harley, T. A. (2014). *The Psychology of Language: From data to theory*. Hove: Psychology Press.
- Hymes, D. (1974). *Foundations in Sociolinguistics: An Ethnographic Approach*. Philadelphia: University of Pennsylvania Press.
- Karniol, R. (1992). Stuttering out of bilingualism. *First Language*, 12(36), 255-283.
- Koh, T. J. (2012). Some aspects of code switching in Hindi. *Journal of Indian Studies*, 17(2), 83-125.
- Lambert, W. (1990). Persistent issues in bilingualism. In B. Harley, P. Allen, J. Cummins & M. Swain (eds.), *The development of second language proficiency*. Cambridge: Cambridge University Press, 201-218.
- Lebrun, Y., Bijleveld, H. & Rousseau, J. J. (1990). A case of persistent neurogenic stuttering following a missile wound. *Journal of Fluency Disorders*, 15, 251-258.
- Milroy, L. & Muysken, P. (1995). Introduction: code-switching and bilingualism research. In L. Milroy, & P. Muysken (eds.), *One Speaker Two Languages: Cross-disciplinary Perspectives on Code-switching*. New York: Cambridge University Press, 1-14.

- Poplack, S. (1985). Contrasting patterns of code-switching in two communities. In H. Warkentyne (ed.), *Methods V: Papers from the V International Conference on Methods in Dialectology*. Victoria, BC: University of Victoria Press, 363-386.
- Redlinger, W. E. & Park, T. Z. (1980). Language mixing in young bilingual. *Journal of child language*, 7(2), 337-352.
- Schwartz, A. I. & Kroll, J. F. (2006). Bilingual lexical activation in sentence context. *Journal of Memory and Language*, 55, 197-212.
- Snow, C. E. (1993). Bilingualism and second language acquisition. In J. B. Gleason & N. B. Ratner (eds.), *Psycholinguistics*. Fort Worth, TX: Hartcourt Brace Jovanovich, 391-416.
- Vihman, M. M. (1999). The transition to grammar in a bilingual child: Positional patterns, model learning, and relational words. *International Journal of Bilingualism*, 3, 267-299.
- Wei, L. (2000). Dimensions of bilingualism. In L. Wei (ed.), *The bilingualism reader*. New York: Routledge, 3-25.

APPENDIX 1: CHILDREN'S RESPONSE TO ENGLISH QUESTIONS

<i>English Questions</i>	<i>Responses</i>		<i>Code Mixing</i>
Hello, what is your name?	Ra **	Ra **. Thank you.	X
	Saura **	My name is Saura ** .	X
	Ri **	My name is Ri ** .	X
	Gar **	Gar ** .	X
	Sha **	My name is Sha ** .	X
	Cha **	My name is Cha ** .	X
	Ja **	My name is Ja ** .	X
	So **	So **, uncle.	X
Do you go to school?	Ra **	Yes.	X
	Saura **	Yes, I go to school.	X
	Ri **	Yes, I go.	X
	Gar **	Yes.	X
	Sha **	Yes, I go to school.	X
	Cha **	Yes, I go.	X
	Ja **	No.	X
	So **	No, I don't go to school.	X
How is your school?	Ra **	achhā nahīn hae <i>good not is</i> 'It's not good.'	√
	Saura **	My school is very good.	X
	Ri **	bilkul new hai <i>absolutely new is</i> 'It's absolutely new.'	√

<i>English Questions</i>	<i>Responses</i>	<i>Code Mixing</i>
	Gar ** acchā hae <i>good is</i> 'It's good.'	√
	Sha ** I don't like my school.	X
	Cha ** patā nahin <i>know not</i> 'I don't know.'	√
	Ja ** mujhe malūm nahīn <i>to me know not</i> 'I don't know.'	√
	So ** Uncle, I don't go to school.	X
How many friends do you have in school?	Ra ** das friend <i>ten friend</i> 'Ten friends.'	√
	Saura ** I have six good friends.	X
	Ri ** I have no friends.	X
	Gar ** mere friend nahīn hae <i>my friend not is</i> 'I don't have a friend.'	√
	Sha ** I have many.	X
	Cha ** hae, jiyoung merī friend hae <i>is, Jiyoung my friend is</i> 'Yes, Jiyoung is my friend.'	√
	Ja ** merā do dost haen <i>my two friend are</i> 'I have two friends.'	√
	So ** I have many friends.	X
Do you like playing or studying?	Ra ** playing.	X
	Saura ** study boring kān hai <i>study boring work is</i> 'Study is boring work.'	√
	Ri ** I like both. donon acchā hai <i>I like both. both good is</i> 'I like both. Both are good.'	√
	Gar ** I don't like donon study and play <i>I don't like both study and play</i> 'I don't like both studying and playing.'	√
	Sha ** playing.	X

<i>English Questions</i>	<i>Responses</i>	<i>Code Mixing</i>
Do you know any rhyme?	Cha ** study karnā pasand nahīn hae <i>study do like not pres.</i> 'I don't like studying.'	√
	Ja ** khelnā pasand hae <i>play like pres.</i> 'I like playing.'	√
	So ** I like playing, khelnā acchā hae <i>I like playing, play good is</i> 'I like playing, playing is good.'	√
	Ra ** nahīn, don't know <i>no, don't know</i> 'No, I don't know.'	√
	Saura ** Yes, I know many rhymes.	X
	Ri ** yes, mujhe english rhyme ātā hai <i>yes, to me English rhymes come pres.</i> 'Yes, I know English rhymes.'	√
	Gar ** patā nahīn <i>know not</i> 'I don't know.'	√
	Sha ** Yes, I know.	X
	Cha ** nahīn <i>no</i> 'No.'	√
	Ja ** No.	X
	So ** I know many rhymes.	X

APPENDIX 2: CHILDREN'S RESPONSE TO KOREAN QUESTIONS

<i>Korean Questions</i>	<i>Responses</i>	<i>Code Mixing</i>
이름이 뭐예요? (What is your name?)	Ra ** ra ** (라 **) Ra ** 'Ra .'	X
	Saura ** je iremūn saura ** imnida (제 이름은 수라 ** 입니다) <i>my name Saura ** is</i> 'My name is Saura **.'	X
	Ri ** ri ** imnida (리 ** 입니다) Ri ** is 'Ri .'	X

<i>Korean Questions</i>	<i>Responses</i>	<i>Code Mixing</i>
	Gar** gar** (거르**) Gar** 'Gar**.'	X
	Sha** je ireumûn sha** eyo (제 이름은 샤** 예요) my name Sha** is 'My name is Sha**.'	X
	Cha** cha** (짜**) Cha** 'Cha**.'	X
	Ja** ja** (자**) Ja** 'Ja**.'	X
	So** so** (소**) o** 'So**.'	X
학교에 가요? (Do you go to school?)	Ra** yes, main jātā hun yes, I go pres. 'Yes, I go.'	√
	Saura** yes	√
	Ri** hān, main school jātī hun yes, I school go pres. 'Yes, I go to school.'	√
	Gar** ne (네) yes 'Yes.'	X
	Sha** ne, hakyō-e gayo (네, 학교에 가요) yes, to school go 'Yes, I go to school.'	X
	Cha** gayo (가요) go 'I go.'	X
	Ja** nahīn, nahīn no, no 'No, no.'	√
	So** jī nahīn, school ... sir no, school ... 'No, sir, school ...'	√
학교가 어때요? (How is your school?)	Ra** achhā nahīn hae good not is 'It's not good.'	√

<i>Korean Questions</i>	<i>Responses</i>	<i>Code Mixing</i>
	Saura ** merā school is good my school is good 'My school is good.'	√
	Ri ** (no response)	-
	Gar ** joa-yo (좋아요) <i>good is</i> 'It's good.'	X
	Sha ** hakyo sirô (싫어) <i>school dislike</i> 'I don't like school.'	X
	Cha ** molla (몰라) <i>don't know</i> 'I don't know.'	X
집이 어때요? (How is your home?)	Ja ** (no response)	-
	So ** My house is good	√
친구들 있어요? (Do you have friends?)	Ra ** merā friend hae <i>my friend is</i> 'I have a friend.'	√
	Saura ** I have chinku (친구) <i>I have friend</i> 'I have a friend.'	√
	Ri ** no friend	√
	Gar ** ne, ôbsôyo (네, 없어요) <i>yes, not have</i> 'No, I don't have.'	X
	Sha ** mani issôyo (많이 있어요) <i>many are</i> 'I have many.'	X
	Cha ** ne, jiyoung (네, 지영) yes, Jiyoung 'Yes, I have Jiyoung.'	X
	Ja ** dost ? friend ? 'Friend ?'	√
	o ** dost bahut haen <i>friend many are</i> 'I have many friends.'	√

<i>Korean Questions</i>	<i>Responses</i>		<i>Code Mixing</i>
공부하기	Ra **	(no response)	-
좋아해요?	Saura **	study pasand nahīn hae	√
놀기를		<i>study like not pres.</i>	
좋아해요?		‘I don’t like studying.’	
(Do you like playing or studying?)	Ri **	(no response)	-
	Gar **	sirôyo (싫어요) <i>dislike</i> ‘I don’t like.’	X
	Sha **	(no response)	-
	Cha **	gongbu sirô (공부 싫어) <i>study dislike</i> ‘I don’t like studying.’	X
	Ja **	(no response)	-
	So **	khelnā <i>^play</i> ‘Playing.’	√
한국어 시	Ra **	(no response)	-
알아요?	Saura **	si? (시?) <i>^poem</i> ‘Poem?’	X
(Do you know any rhyme?)	Ri **	(no response)	-
	Gar **	(no response)	-
	Sha **	ne (네) <i>yes</i> ‘Yes.’	X
	Cha **	aniyo (아니요) no, ‘No.’	X
	Ja **	(no response)	-
	So **	āpkī bāt samajh mein nahīn āyī hae <i>your word understanding in not came</i> ‘I can’t understand what you said.’	√

APPENDIX 3: CHILDREN’S RESPONSE TO HINDI QUESTIONS

<i>Hindi Questions</i>	<i>Responses</i>		<i>Code Mixing</i>
(What is your name?)	Ra **	ra ** hae <i>Ra ** is</i> ‘Ra ** is.’	X

<i>Hindi Questions</i>	<i>Responses</i>	<i>Code Mixing</i>
	Saurā ^{**} merā nām saurā ^{**} hae <i>my name Saurā^{**} is</i> 'My name is Saurā ^{**} .'	X
	Ri ^{**} ri ^{**} hae <i>Ri^{**} is</i> 'Ri ^{**} .'	X
	Gar ^{**} merā nām gar ^{**} hae <i>my name Gar^{**} is</i> 'My name is Gar ^{**} .'	X
	Sha ^{**} merā nām sha ^{**} hae <i>my name Sha^{**} is</i> 'My name is Sha ^{**} .'	X
	Cha ^{**} ch ^{**} hae <i>Cha^{**} is</i> 'Cha ^{**} .'	X
	Ja ^{**} ja ^{**} <i>Ja^{**}</i> 'Ja ^{**} .'	X
	So ^{**} merā nām so ^{**} hae <i>my name So^{**} is</i> 'My name is So ^{**} .'	X
(Do you go to school?)	Ra ^{**} hān, main jātā hun <i>yes, I go pres.</i> 'Yes, I go.'	X
	Saurā ^{**} jī hān, main school jātā hun <i>sir yes, I school go pres.</i> 'Yes sir, I go to school.'	X
	Ri ^{**} hān. main jātī hun <i>yes, I go pres.</i> 'Yes, I go.'	X
	Gar ^{**} yes , main jātā hun <i>yes, I go pres.</i> 'Yes, I go.'	√
	Sha ^{**} yes uncle , main vidyālaya jātī hun <i>yes uncle, I school go pres.</i> 'Yes uncle, I go to school.'	√
	Cha ^{**} jī hān, main vidyālaya jātī hun <i>sir yes, I school go pres.</i> 'Yes sir, I go to school.'	X

<i>Hindi Questions</i>	<i>Responses</i>	<i>Code Mixing</i>
	Ja ** jī nahīn <i>sir no</i> 'No sir.'	X
	So ** jī, main vidyālaya nahīn jātā hun <i>sir, I school not go pres.</i> 'Sir, I don't go to school.'	X
(How is your home?)	Ra ** bahut sundar hae <i>very beautiful is</i> 'It's very beautiful.'	X
	Saura ** acchā to hae <i>good emph is</i> 'It's good.'	X
	Ri ** merā ghar bilkul acchā hae <i>my house absolutely good is</i> 'My house is absolutely good.'	X
	Gar ** acchā hae <i>good is</i> 'It's good.'	X
	Sha ** thīk hae, uncle <i>fine is, uncle</i> 'It's fine, uncle.'	X
	Cha ** acchā lagtā hae <i>good feel pres.</i> 'I feel good.'	X
	Ja ** patā nāīn <i>know not</i> 'I don't know.'	X
	So ** merā ghar bahut sundar aur badā hae <i>my house very beautiful and big is</i> 'My house is very beautiful and big.'	X
(How many friends do you have?)	Ra ** das dost haen <i>ten friend are</i> 'There are ten friends.'	X
	Saura ** six friends haen <i>six friends are</i> 'There are six friends.'	√
	Ri ** merā koī dost nahīn hae yahān <i>my any friend not is here</i> 'I don't have any friends here.'	X

<i>Hindi Questions</i>	<i>Responses</i>	<i>Code Mixing</i>
	Gar ** koī nahīn hae <i>any not is</i> 'There is no one.'	X
	Sha ** bahut hae <i>many is</i> 'There are many.'	X
	Cha ** hān, ek best friend hae, jiyoung <i>yes, one best friend is, Jiyoung</i> 'Yes, there is my best friend, Jiyoung.'	√
	Ja ** merā do dost hein <i>my two friends are</i> 'I have two friends.'	X
	So ** mere bahut dost haen <i>my many friends are</i> 'I have many friends.'	X
(Do you like playing or studying?)	Ra ** khelnā pasand hae <i>play like pres.</i> 'I like playing.'	X
	Saura ** study boring hae, khelnā bahut pasand hae <i>study boring is, play very like pres.</i> 'Studying is boring but I like playing.'	√
	Ri ** mujhe donon pasand hae <i>to me both like pres.</i> 'I like both.'	X
	Gar ** khelnā bhī padnā bhī pasand nahīn hae <i>^play also study also like not pres.</i> 'I don't like both playing and studying.'	X
	Sha ** mujhe khelnā bahut pasand hae <i>to me play very like pres.</i> 'I like playing.'	X
	Cha ** study karnā pasand nahīn hae <i>study do like not pres.</i> 'I don't like studying.' lekin khelnā acchā lagtā hae <i>but play good feel pres.</i> 'But I like playing.'	√
	Ja ** khelnā <i>^play</i> 'Playing.'	X

<i>Hindi Questions</i>	<i>Responses</i>	<i>Code Mixing</i>
(Do you remember any poems?)	So ** mujhe khelanā acchā lagtā hae <i>to me play good feel pres.</i> 'I like playing.'	X
	Ra ** nahīn, mujhe koī kavītā malūm nahīn <i>no, to me any poems know not .</i> 'No, I don't know anything.'	X
	Saura ** jī hān, main kavītā jāntā hun <i>sir yes, I poem know pres.</i> 'Yes sir, I know poem.'	X
	Ri ** hān, mujhe english rhymes ātā hae <i>yes, to me English rhymes come pres.</i> 'Yes, I know English rhymes.'	√
	Gar ** nahīn, mujhe nahīn ātā <i>no, to me not come</i> 'No, I don't know.'	X
	Sha ** jī uncle, koī kavītā yād hae <i>yes uncle, any poem remember pres.</i> 'Yes uncle, I remember some poems.'	X
	Cha ** jī nahīn <i>sir no</i> 'No sir.'	X
	Ja ** nahīn <i>no</i> 'No.'	X
	So ** mujhe sārī kavītā ātī hae <i>to me entire poem come pres.</i> 'I know many poems.'	X