Code-Switching and Code-Mixing in Children: A Sign of Bilingual Competence

Fahima Ayub Khan

Abstract

There is a misconception that code-switching and mixing in child language, unlike adults', is not rule governed. Recent studies, however, have noted that code-switching in children is not a result of confusion but a rule-governed phenomenon. There are differing perspectives on the development of code-switching and mixing patterns in children. It is unclear whether code-switching in children is structurally different from adult code-switching and to what extent it is rule governed. To show code-switching in children as a sign of bilingual competence, this article reviews existing studies on child code-switching in relation to the theoretical frameworks that explain code-switching in bilingual adults.

Keywords: Child language development, bilingualism, code-switching, code-mixing

Code-switching and code-mixing are pervasive in bilingualism. While research has extensively investigated code-switching in adult language, it has been considered a sign of confusion in children (Deuchar, 2006; Pollack, 1980; Poplack et al., 2012) and slow development (Chiocca, 1998; Watson, 1996). In this article, the term code-switching is used to refer to interstitial switches, and code-mixing is used here to refer to extrasentential switching between languages exclusively. The problem with studying code-switching in bilingual children arises from comparing the patterns in children and adults. Early childhood cognitive and linguistic developments are not comparable to the abilities that underlie adult code-switching. So, there is a need to see the nature of code-switching in child bilinguals. Exploring the phenomenon of code-

switching and mixing in children also allows for examining factors other than linguistic competence that encourage the mixing of languages. Often, children code-switch due to various functional reasons such as context and the interlocutor's choice of language (Nicoladis & Genesee, 1996; Paradis et al., 2000). The nature of code-switching in child language poses implications for understanding the nature of language development (Paradis, 2007; Tucker, 1997).

Bilingual Acquisition and Code-Switching

Bilingual development in children has been widely debated (Grosjean, 1989; Sorace, 2011). Research shows that bilingual acquisition does not negatively affect language development in children compared to monolingual development (Bialystok, 2015; Paradis & Genesee, 1996). On the other hand, there is a general perception that code-switching is a sign of confusion between languages. Studies on code-switching try to find whether bilingual children have different systems of linguistic representations for different languages or a fused system (Lanza, 1997; Petitto et al., 2001). Although the literature on the unitary system hypothesis does not explicitly regard a fused linguistic representation as a sign of confusion between two or more languages, it does not illustrate the rule-governed nature of code-switching. The first part of this article will explore the theoretical approaches to linguistic representations of child bilingual repertoire. Studies pertinent to code-switching and mixing patterns in bilingual children will be reviewed to illustrate its rule-governed nature. Furthermore, this article will discuss the sociolinguistic and psycholinguistic factors regulating code-switching in bilingual children.

Two different patterns of acquisition: simultaneous (exposed to two languages before the age of 3 years) and sequential (the new language is introduced after three years of age) have been distinguished. Studies testing the hypotheses of unitary and differentiated language systems concern simultaneous bilingual development. Volterra and Taeschner (1978) proposed the unitary language system hypothesis. According to this hypothesis, the simultaneous exposure to language leads to a fused lexical system in the initial stages, followed by a separation later. This position draws upon the principle of mutual exclusivity (Markman et al., 2003) in word learning, according to which children do not produce synonyms of the same word in the initial stages. Contrary to

the principle of mutual exclusivity, studies have shown that bilingual children produce translated equivalents of words as early as eight months (Genesee et al., 1995; Healey & Skarabela, 2008; Nicoladis, 1998; Nicoladis & Genesee, 1996; Petitto et al., 2001; Quay, 1995). The violation of the mutual exclusivity principle invalidates the claim for a fused lexical system in early bilinguals. Thus, the claims of the differentiated language system hypothesis are confirmed.

Empirical evidence on the relationship between the rate of code-switching in adult and child are inconsistent (Goodz, 1989; Nicoladis & Genesee, 1996; Paradis & Genesee, 1996), and these studies are not generalizable as they are based on individual case studies (Meisel, 1994; Petersen, 1988). The relevance of the modelling hypothesis was studied by Comeau et al. (2003). Six English French bilingual children with an average age of 2;4 showed that the bilingual children were sensitive to the code-switching in the interlocutor's input. The key finding of this study was that the code-switching rates of bilingual children were regulated by the rate of code-switching in the input received from adults.

Code-switching and mixing in children have also been interpreted as bilingual children's strategies to navigate meaning and fill gaps in the lexicon (Moore, 2002). It serves as a learning tool in bilingual classrooms to help students engage with the meaning of the text. Code-switching marks the speaker's identity as the interlocutor and the wider linguistic community (Auer, 2013; Gardner-Chloros, 2009). Chung (2006) observed that two Korean American children exposed to Korean and English simultaneously from an early age switched based on the other members' language preferences. Thus, code-switching in children demonstrates grammatical competence and an understanding of language socialization patterns. Additionally, discourse-related code-switching for topic shift and emphasis has been noted in bilingual children (Genesee & Nicoladis, 2007; Lanvers, 2001; Vihman, 1998).

Grammatical Constraints in Adult and Child Bilingual Code-Switching

Studies on the underlying pattern of code-switching in adult bilinguals have found that the interaction between two languages in code-switched utterances is grammatical (Myers-Scotton, 1993; Poplack, 1980). Various grammatical constraints such as equivalence and free morpheme constraints have been theorized from the linguistic perspective. According to the equivalence constraint, code-switching is possible

when the surface structure of two languages maps on to each other. For instance, English has an SVO word order while it is SOV in Tamil. In line with the equivalence constraint, only a switch in the subject position is possible in Tamil-English code-switched utterances. The free morpheme constraint claims that code-switching cannot occur between a free morpheme and a bound morpheme unless the free morpheme is phonologically integrated into the language of the bound morpheme (McClure, 1981; Pfaff, 1976; Sankoff & Poplack, 1981). The constituency size constraint states that code-switching is more likely between larger constituents than smaller constituents and lexical items (Osborne, 2008). However, these constraints were violated in a few languages, like Spanish-Hebrew (Berk-Seligson, 1986). The code-switching patterns in child bilinguals are based on grammatical categories available to them at a given point in language development. This hypothesis is supported by data from longitudinal studies (Meisel, 1994; Paradis et al., 2000). Meisel (1994), studying the French-German code-switching, observed that grammatical constraints operate only at the developmental stage. Nonetheless, the fact that the data informing this study (Meisel, 1994) is drawn from observations of only two bilingual children limits the validity of the observations. Insufficient empirical evidence to validate the constraint-based approach to code-switching led to the Matrix Language Frame Model (Myers-Scotton, 1993, 1997).

Language Dominance and Matrix Language Frame Model

The Matrix Language Frame (MLF) is a more efficient way of understanding the structural integrity of code-switched utterances. MLF model assumes that one language is used to a greater extent (i.e. the Matrix Language, ML) than the other language (i.e. Embedded Language, EL) in code-switched utterances. The grammatical framework of code-switched utterances is informed by ML grammar, while EL contributes lexical items such as content morphemes. A study on word-internal code-switching investigated the impact of language dominance on the types of code-switched utterances found in the English-Danish child language (Petersen, 1988). The findings illustrate the dominance hypothesis, which states that grammatical morphemes of the dominant language can mix with lexical morphemes of dominant and non-dominant morphemes. However, non-dominant grammatical morphemes cannot mix with dominant lexical morphemes.

Paradis et al. (2000) examined the French-English code-mixing of 15 children (age range 2;0-3;6) for instances of violation of constraints set by the MLF model. The results showed that code-mixing violations mainly occurred in the context of the System Morpheme Principle (SMP). The late external system morphemes (for instance, third-person singular in English) in the ML+EL constituents are usually from ML (Myers-Scotton & Jake, 1995). Paradis et al. (2000) noted that violation of the SMP was found in the early stages of bilingual development when children had not acquired system morphemes such as agreement and tense. Although SMP violation reduces over time, they claim that this developmental trend is observed only in the case of SMP. This observation does not corroborate a general developmental shift in child bilingual code-mixing. In conclusion, the study by Paradis et al. (2000) claimed that code-mixing in child bilinguals follows the constraints found in adult bilingual code-mixing. This finding highlights the similarity of linguistic representations underlying code-switching and mixing patterns in bilingual adults and children.

Conclusion

This article has revisited studies on child bilingual code-switching and mixing to demonstrate the rule governed nature of the code-switching phenomenon. A review of the unitary and differentiated language systems hypothesis clarified that code-switching in child language does not reflect confusion. Rather, it is a phenomenon of bilingual development reflecting the interaction between two languages. Moreover, the communicative intentions of code-switching in bilingual classrooms highlight code-switching as a conversational tool for efficient and creative language use. Existing frameworks of code-switching, such as grammatical constraints and MLF models, were reviewed. The findings of the studies reviewed in this article demonstrate that the code-switching performance of child bilinguals is like that of adult bilinguals. Instances of constraint violations noted in this article are an exception in the performance of bilingual children whose language development is not complete. Therefore, code-switching among children is indicative of bilingual competence.

Finally, it is essential to consider the limitations of the existing approaches to code-switching, as research on this phenomenon accounts for bilingual but not trilingual code-switching. Bilingual code-switching does not

fully represent the intricacies of interaction between the languages of multilingual populations (Stavans & Muchnik, 2008). Furthermore, most studies that empirically validate existing frameworks of code-switching have primarily examined English and typologically similar languages. The study of code-switching will benefit from investigating the linguistic competencies of people in postcolonial countries, as they often constitute highly multilingual communities.

References

Auer, P. (Ed.). (2013). *Code-switching in conversation: Language, interaction and identity*. Routledge.

Berk-Seligson, S. (1986). Linguistic constraints on intrasentential code-switching: A study of Spanish/Hebrew bilingualism. *Language in Society, 15*(3), 313-348.

Bialystok, E. (2015). Bilingualism and the development of executive function: The role of attention. *Child Development Perspectives*, *9*(2), 117-121.

Chiocca, E.M. (1988, January-February). Language development in bilingual children. *Pediatric Nursing, 24*(1), 43-47. PMID: 9555444.

Chung, H.H. (2006, July). Code-switching as a communicative strategy: A case study of Korean–English bilinguals. *Bilingual Research Journal*, *30*(2), 293-307. http://dx.doi.org/10.1080/15235882.2006.10162878.

Comeau, L., Genesee, F., & Lapaquette, L. (2003). The modeling hypothesis and child bilingual codemixing. *International Journal of Bilingualism, 7*(2), 113-126. DOI:10.1177/13670069030070020101.

Deuchar, M. (2006). Welsh-English code-switching and the matrix language frame model. *Lingua, 116*(11), 1986-2011. https://doi.org/10.1016/j.lingua.2004.10.001.

Gardner-Chloros, P. (2009). *Code-switching*. Cambridge University Press. https://doi.org/10.1017/CBO9780511609787.

Genesee, F., Paradis, J., & Wolf, L. (1995). *The nature of the bilingual child's lexicon*. Unpublished research report, Psychology Department, McGill University, Montreal.

Genesee, F., & Nicoladis, E. (2007). Bilingual first language acquisition. In E. Hoff & M. Shatz (Eds.), *Blackwell handbook of language development* (pp. 324-342). Blackwell Publishing. https://doi.org/10.1002/9780470757833.

Goodz, N.S. (1989). Parental language mixing in bilingual families. *Infant Mental Health Journal, 10*(1), 25-44. https://doi.org/10.1002/1097-0355(198921)10:1.

Grosjean, F. (1989). Neurolinguists, beware! The bilingual is not two monolinguals in one person. *Brain and Language*, *36*(1), 3-15. https://doi.org/10.1016/0093-934X(89)90048-5

Healey, E., & Skarabela, B. (2008). Are children willing to accept two labels for a single object? A comparative study of mutual exclusivity in monolingual and bilingual children. In T. Marinis, A. Papangeli & V. Stojanovik (Eds.), *Proceedings of 2007 child language seminar 30 anniversary* (pp. 48-58). University of Reading. Proceedings of the 2007 Child Language Seminar.

Lanvers, U. (2001). Language alternation in infant bilinguals: A developmental approach to codeswitching. *International Journal of Bilingualism, 5*(4), 437-464. https://doi.org/10.1177/13670069010050040301

Lanza, E. (1997, September). Language contact in bilingual two-year-olds and code-switching: Language encounters of a different kind? *International Journal of Bilingualism, 1*(2), 135-162. https://doi.org/10.1177/136700699700100203.

Markman, E.M., Wasow, J.L., & Hansen, M.B. (2003). Use of the mutual exclusivity assumption by young word learners. *Cognitive Psychology*, *47*(3), 241-275. https://doi.org/10.1016/S0010-0285(03)00034-3.

McClure, E. (1981). Formal and functional aspects of the code-switched discourse of bilingual children. In R. Duran (Ed.), *Latino language and communicative behavior* (pp. 69-94). Ablex.

Meisel, J.M. (1994, December). Code-switching in young bilingual children: The acquisition of grammatical constraints. *Studies in Second Language Acquisition, 16*(4), 413-439. https://www.jstor.org/stable/44487780.

Moore, D. (2002). Code-switching and learning in the classroom. *International Journal of Bilingual Education and Bilingualism*, *5*(5), 279-293. https://doi.org/10.1080/13670050208667762.

Myers-Scotton, C. (1993). Common and uncommon ground: Social and structural factors in codeswitching. *Language in Society*, *22*(4), 475-503. https://doi.org/10.1017/S0047404500017449.

Myers-Scotton, C. (1997). *Duelling languages: Grammatical structure in codeswitching*. 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, 33*(5), 981-1024. https://doi.org/10.1515/ling.1995.33.5.981.

Nicoladis, E. (1998). First clues to the existence of two input languages: Pragmatic and lexical differentiation in a bilingual child. *Bilingualism: Language and Cognition, 1*(2), 105-116. https://doi.org/10.1017/S1366728998000236.

Nicoladis, E., & Genesee, F. (1996). A longitudinal study of pragmatic differentiation in young bilingual children. *Language Learning, 46*(3), 439-464. DOI:10.1111/j.1467-1770. 1996.tb01243.x.

Osborne, T. (2008). Major constituents and two dependency grammar constraints on sharing in coordination. *Linguistics, 46*(6), 1109-1165. DOI:10.1515/LING.2008.036.

Paradis, J. (2007, April). Early bilingual and multilingual acquisition. In P. Auer and Li Wei (Eds.), *Handbook of multilingualism and multilingual communication* (pp. 15-44). Mouton de Gruyter. https://doi.org/10.1515/9783110198553.1.15

Paradis, J., & Genesee, F. (1996, March). Syntactic acquisition in bilingual children: Autonomous or interdependent? *Studies in Second Language Acquisition*, *18*(1), 1-25. https://doi.org/10.1017/S0272263100014662.

Paradis, J., Nicoladis, E., & Genesee, F. (2000). Early emergence of structural constraints on code-mixing: Evidence from French–English bilingual children. *Bilingualism: Language and Cognition*, *3*(3), 245-261. https://doi.org/10.1017/S1366728900000365.

Petersen, J. (1988). Word-internal code-switching constraints in a bilingual child's grammar. *Linguistics, 26*(479-493). https://doi.org/10.1515/ling.1988.26.3.479.

Petitto, L.A., Katerelos, M., Levy, B.G., Gauna, K., Tétreault, K., & Ferraro, V. (2001, June). Bilingual signed and spoken language acquisition from birth: Implications for the mechanisms underlying early bilingual language acquisition. *Journal of Child Language, 28*(2), 453-496. DOI: 10.1017/s0305000901004718.

Pfaff, C.W. (1976). Hypercorrection and grammar change. *Language in Society, 5*(1), 105-107.

Poplack, S. (1980). 'Sometimes I start a sentence in English y termino en Espanol': Toward a typology of code-switching. *Linguistics, 18*(7-8),581-618. DOI:10.1515/ling.1980.18.7-8.581.

Poplack, S., Zentz, L., & Dion, N. (2012, April). Phrase-final prepositions in Quebec French: An empirical study of contact, code-switching, and resistance to convergence. *Bilingualism: Language and Cognition, 15*(2), 203-225. DOI:10.1017/S1366728911000204.

Quay, S. (1995, June). The bilingual lexicon: Implications for studies of language choice. *Journal of Child Language, 22*(2), 369-387. https://doi.org/10.1017/S0305000900009831.

Sankoff, D., & Poplack, S. (1981). A formal grammar for code-switching. *Research on Language & Social Interaction, 14*(1), 3-45. DOI:10.1080/08351818109370523.

Sorace, A. (2011). Cognitive advantages in bilingualism: Is there a 'bilingual paradox'*?* In P. Valore (Ed.), *Multilingualism: Language, power, and knowledge* (pp. 335-358). Edistudio. http://www.lel.ed.ac.uk/~antonell/Sorace2011-Gargnano.pdf.

Stavans, A., & Muchnik, M. (2008, June). Language production in trilingual children: Insights on code switching and code mixing. *Sociolinguistic Studies, 1*(3), 483-511. DOI:10.1558/sols.v1i3.483.

Tucker, G.R. (1997, March). Multilingualism and language contact: An introduction. *Annual Review of Applied Linguistics, 17*, 3-10. DOI: https://doi.org/10.1017/S026719050000324X.

Vihman, M.M. (1998, March). A developmental perspective on codeswitching: Conversations between a pair of bilingual siblings. *International Journal of Bilingualism, 2*(1), 45-84. DOI:10.1177/136700699800200103.

Volterra, V., & Taeschner, T. (1978). The acquisition and development of language by bilingual children. *Journal of Child Language, 5*(2), 311-326. https://doi.org/10.1017/S0305000900007492.

Watson, C. (1996). Helping families from other cultures decide on how to talk to their child with language delays. *Wig-Wag: The Newsletter for Hanen Certified Speech-Language Pathologists and Therapists [Online].* http:\\www\\hanen.org\Onetwo. html.

Fahima Ayub Khan *is a PhD candidate in Linguistic, Department of Philosophy, Linguistics and Theory of Science, University of Gothenburg. She is interested in affordances in code-switched and multimodal interaction.*

fahima.ayub.khan@gu.se